

CVB Feed Table 2018

Chemical composition and nutritional values
of feedstuffs

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PREFACE

In this edition of the CVB Feed Table, the chemical composition of grass for clay soils, sandy soils, and peat soils for the various growth seasons (before 21 June, 21 June – 21 August, and after 21 August) is modelled based on a grass growth model of Wageningen Livestock Research. Furthermore, the formula for predicting fecal digestibility values for organic matter and crude protein of the grass products fresh grass, grass silage, grass hay, and grass meal have been updated. Previous chemical composition values of fresh grass and grass silage in CVB Feed Tables were based on model calculations carried out in 2003. In the period between 2003 and now the protein content in grass has decreased considerably due to lower nitrogen application rates. These lower protein contents in grass was also the reason to model the chemical composition of grass again. Based on the data available a strong correlation was observed between the concentration of fosfor and crude protein in grass products. The fosfor concentrations of the various grass products in this Feed Table edition were therefore calculated as a function of the crude protein concentration.

September 2018

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CVB program

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1. GENERAL INTRODUCTION

1.1 Reader manual

1.1.1 Outline of this publication

At first, an explanation is given for several subjects:

- Chemical composition of feedstuffs (Chapter 2)
- Feed evaluation systems for ruminants (Chapter 3), pigs (Chapter 4), poultry (Chapter 5), rabbits (Chapter 6) and horses (Chapter 7)
- Overview of relevant literature (Chapter 8)
- List of abbreviations (Chapter 9)

Thereafter, Chapter 10 contains the main part of this publication, the information on separate feedstuffs (also see paragraph 1.1.2).

1.1.2 Product information

This Feed Table provides in Chapter 10 information concerning the composition and nutritional value for ruminants, pigs, poultry, rabbits and horses. Depending on the animal species, the following feedstuffs are included:

- Compound feedstuffs
- High moisture industrial co-products
- Roughages and related products
- Miscellaneous

1.1.2.1 *Compound feedstuffs and high moisture industrial co-products*

For these feedstuffs, all available information is displayed on two pages (front and back of a product sheet). The products are arranged alphabetically. Per product the following data are given:

- Chemical composition: Weende analysis components, structural and non-structural carbohydrates, minerals and trace elements (with standard deviation, when available);
- Contents of fatty acids and amino acids;
- Fermentation products;
- Contents of digestible nutrients and feeding values according to the CVB feed evaluation systems for the animal species mentioned in paragraph 1.1.2.

The contents and values of compound feedstuffs are presented on product basis; those of high moisture industrial co-products on dry matter basis.

1.1.2.2 *Roughages and related products*

For these feedstuffs the same information is provided (where available) in the same manner. Also for these feedstuffs the contents and values are given on dry matter basis.

1.1.2.3 *Miscellaneous*

This concerns mineral feedstuffs, for which the composition is stated, and some pure substances (e.g., organic acids); for both groups relevant feeding value characteristics are given.

1.1.2.4 Points of attention for feedstuffs

With several feedstuffs specific points of attention apply. These points of attention, if applicable to a feedstuff can be found underneath the second page of the productsheet of that particular feedstuff.

1.2 Encoding of feedstuffs

For the purpose of automated data processing, the feedstuffs have been given a code number. The code number consists of four numbers of four, three, one, and one digit(s), respectively. The numbers are separated by a dot (.), and twice a dash (/), respectively. Further explanation of the coding system is given in document RD001 on the CVB-website www.cvbdiervoeding.nl.

1.3 Variability of feedstuffs and feed evaluation

In many feedstuffs (mainly, but not exclusively, roughages) there is considerable variation in the content of one or more nutrients. Especially with varying amounts of crude fibre, this will also result in varying digestibility of other nutrients. Therefore, fluctuations in feeding value may be larger than expected based on variations in nutrient contents.

One of the key competences of CVB is the developing of relationships between variation in chemical composition and variation in nutrient digestibility. More information is provided in the description of the separate feed evaluation systems.

It is emphasized that the product information in this table can only be regarded as a guideline, and not as a faultless representation of contents of the feedstuffs mentioned. To determine the correct contents of a certain batch of a feedstuff, laboratory analysis of samples of that batch is required. This is especially the case for feedstuffs where the standard deviation (sdc) is high.

Furthermore, it is pointed out that in many cases in this table, recalculations have been made from product-based to dry matter-based contents and values, and vice versa. When recalculating the feeding values of the individual feedstuffs, small deviations may occur due to rounding of values.

2 CHEMICAL COMPOSITION OF FEEDSTUFFS

2.1 General

In this chapter, concise information is given on the chemical composition, as stated for the individual feedstuffs. More elaborate information is given in document RD002 on the CVB-website www.cvbdiervoeding.nl

2.2 Origin of data

Since 1985, CVB collects on a continuous and systematic basis data concerning the chemical composition and digestibility of feedstuffs. Before data on chemical composition of feedstuffs are entered in the CVB database, the data are checked for several criteria, like:

- The analytical method(s) used.
- Whether the analytical data fall within the range established for each chemical parameter per feedstuff.

The composition of the feedstuffs in the Feed Table are, as much as possible, based on information from the CVB database. For some chemical parameters, in a limited number of cases, literature values have been used.

The feedstuff itself also has to meet certain criteria, before it can be included in one of the CVB tables. These criteria concerning the nature (and production method) of the feedstuff, the reliability of the available analytical results, the use of the feedstuff and information on the digestibility of chemical components for at least one animal species.

When analytical results of Weende components are available for ten or more samples, the variability (sdc) is added to the mean content. For amino acids, macro-minerals, and micro-minerals, sdc is given when at least five analytical results are available.

When no content is known for a nutrient, the table shows a dash (-). When a value 0 is given in the table, the content of this nutrient is zero.

2.3 Explanation of reported chemical parameters

2.3.1 Crude protein (CP)

To determine the crude protein content, the analyzed nitrogen (N) content is multiplied by a factor 6.25. The crude protein contents in this table are practically all based on the N content analysed according to the Kjeldahl method. Because of the polluting effects of the chemicals used in this method, laboratories nowadays switch to the method according to Dumas. In this method nitrate is included in the determination; this is only to a very limited extent the case when the Kjeldahl method is used. For feedstuffs rich in nitrate (e.g., grass and alfalfa meal), the Dumas procedure therefore results in higher analysed N contents. In other feedstuffs, the difference between the two methods is so small that data from both methods may be combined in one dataset. In this Feed Table we only included Dumas values if this resulted in more robust mean values.

2.3.2 Starch (STAam)

In the CVB feed evaluation systems, the starch content (where appropriate) is determined by using the enzyme amyloglucosidase (STAam) (ISO/DIS 15914, 2004), and not according to the polarimetric method of Ewers (STAew) (ISO/DIS 6493, 2000), as used in the past in the Netherlands, and still in many other countries). Because in practise in most cases the polarimetric method is used, the CVB database contains for almost all feedstuffs more STAew records than STAam records. The CVB database contains for some, but not yet for all, feedstuffs sufficient STAam data to calculate a representative mean value. When insufficient STAam data are available in the database, (feedstuff-specific) regression equations have been used to estimate STAam from STAew. These equations are based on samples, in which both STAam and STAew were determined. Subsequently, the relation between STAam and STAew was determined by means of regression analysis. The product sheets of this Feed Table contain the calculated STAam values based on the regression equation presented below. In cases where no regression equations were developed but analysed STAam data was available the mean of the analysed STAam is presented. The estimation equations are meant to calculate STAam from STAew (on dry matter basis). Equations without a constant may also be used directly (on product base). These regression equations may also be used in practice to calculate STAam from STAew. However, it is recommended to determine STAam according to the official analytical procedure. For some feedstuffs rich in starch (e.g. peas and horse beans) no regression equations were developed as (part of the) STAew is an artefact. This is also true for feedstuffs such as beet pulp, citrus pulp, and oil containing seeds and their by-products.

Below, the derived estimation equations are given for the various product categories. To be able to use these equations in practice, the minimum and maximum STAew in the database underlying the equations are also given, together with the explained variance and the standard error of the estimation of STAam from STAew.

The regression equations have also been included in the on-line 'CVB feeding value calculator'.

Equation					Products used to derive the equation	To be used in practice for	
nr	a* STAew	const	se	R ²	NAME	CODE	NAME
1	0.9579	0	18.0	0.992	Potato crisps	4001.664	Potato crisps
					Database: min-max value: 150-800 g/kg DM		
					Potato cuttings/chips, raw	4001.636	Potato cuttings/chips, raw
					Potato cuttings/chips, prefried	4001.611	Potatoes, dehydrated
					Potato peelings, steamed	4001.637	Potato cuttings/chips, prefried
1a	1.0389	-32.7			Potato peelings, steamed	4001.638	Potato peelings, steamed
					Database: min-max value: 154-718 g/kg DM		
2	0.9357	0	51.6	0.897	Potato starch, dehydrated	4001.201	Potato starch, dehydrated
					Database: min-max value: 350-960 g/kg DM		
					Potato starch, heat treated, dehydrated	4001.232	Potato starch, heat treated, dehydrated
					Potato starch, solid	4001.223	Potato starch, solid
					Potato starch, liquid	4001.222	Potato starch, liquid
					Potato starch, gelatinised	4001.231	Potato starch, gelatinised
3	0.7649	0	12.4	0.930	Potato pulp, dehydrated	4001.202	Potato pulp, dehydrated
					Database: min-max value: 310-475 g/kg DM		

Equation					Products used to derive the equation	To be used in practice for	
nr	a* STAew	const	se	R ²	NAME	CODE	NAME
4	0.6207	11.291	5.4	0.939	Brewer's yeast, dehydrated	9001.315	Brewer's yeast, dehydrated
Database: min-max value: 20-90 g/kg DM					Brewer's yeast	9001.314	Brewer's yeast
5	0.9597	0	22.1	0.934	Biscuits, ground	9011.001	Biscuits, ground, CFAT < 120 g/kg
Database: min-max value: 330-620 g/kg DM					Bread meal	9011,002	Biscuits, ground, CFAT > 120 g/kg
						1010.612	Bread meal
6	0.9206	0	33.6	0.956	Barley		
Database: min-max value: 50-760 g/kg DM					Barley feed, high grade	1005.112	Barley feed, high grade
					Barley mill by-product	1005.105	Barley mill by-product
6a	0.9705	0			Barley	1005.000	Barley
Comparison mean STAew and STAam over large dataset from 2005 - 2015							
7	0.9481		32.4	0.976	Oats	1004.000	Oats
Database: min-max value: 40-670 g/kg DM					Oats, peeled	1004.116	Oats, peeled
					Oats husk meal	1004.111	Oats husk meal
					Oats mill feed, high grade	1004.105	Oats mill feed, high grade
8	0.9299	0	26.6	0.981	Maize	1002.000	Maize
Database: min-max value: 160-830 g/kg DM					Maize, heat treated	1002.629	Maize, heat treated
					Maize germ expeller	1002.417	Maize germ expeller
					Maize germ meal	1002.418	Maize germ meal
					Maize germ meal feed expeller	1002.419	Maize germ meal feed expeller
					Maize germ meal feed solvent extracted	1002.420	Maize germ meal feed solvent extracted
					Maize feed flour	1002.103	Maize feed flour
					Maize feed meal, solvent extracted	1002.416	Maize feed meal, solvent extracted
					Maize bran	1002.108	Maize bran
9	0.9967	-33.83	9.4	0.991	Maize glutenfeed, fresh and ensiled	1002.240	Maize glutenfeed, fresh and ensiled
Database: min-max value: 130-450 g/kg DM					Maize glutenfeed	1002.205	Maize glutenfeed
10	1.0293	-35.5	16.6	0.997	Rice	1003.000	Rice
Database: min-max value: 210-890 g/kg DM					Rice husk meal	1003.115	Rice husk meal
					Rice feed meal	1003.122	Rice feed meal
					Rice bran meal, solvent extracted	1003.416	Rice bran meal, solvent extracted

Equation					Products used to derive the equation	To be used in practice for	
nr	a* STAew	const	se	R ²	NAME	CODE	NAME
11	0.9174	0	32.8	0.935	Rye middlings	1007.107	Rye middlings
Database: min-max value: 170-790 g/kg DM					Rye	1007.000	Rye
					Triticale	1012.000	Triticale
12	0.8698		9.0	0.535	Sorghum	1008.000	Sorghum
Database: min-max value: 740-775 g/kg DM							
13	0.9588	0	19	0.912	Tapioca, dehydrated	4007.611	Potatoes, sweet, dehydrated
Database: min-max value: 630-850 g/kg DM						4008.611	Tapioca, dehydrated
14	1.00	-29.0			Wheat	1010.000	Wheat
Comparison mean STAew and STAam over large dataset from 1990 - 2018							
14a	0.9261	-19.9	28.5	0.985	Wheat middlings	1010.107	Wheat middlings
Database: min-max value: 130-825 g/kg DM					Wheat germs	1010.102	Wheat germs
					Wheat germfeed	1010.114	Wheat germfeed
					Wheat feed flour	1010.103	Wheat feed flour
					Wheat feed meal	1010.105	Wheat feed meal
					Wheat bran	1010.108	Wheat bran
15	0.9692	0	6.0	-	Wheat gluten feed, dehydrated	1010.205	Wheat gluten feed, dehydrated
Database: min-max value: 217-240 g/kg DM							
16	1.0213	-10.75	14.5	0.992	Wheat starch	1010.234	Wheat starch
Database: min-max value: 360-670g/kg DM						1010.236	Wheat starch, French
17	0.9600	0			Pragmatic equation for less frequently used cereal grains	1001.000	Buckwheat
						7009.000	Grass seeds
						1009.000	Canaryseed
						1006.000	Millet
18	0	66				2013.000	Peanuts
						2013.401	Peanut expeller
						2013.407	Peanut extracted
19	0	12				3015.401	Cottonseed expeller
						5004.610	Alfalfa meal, dehydrated
20	0	22				3015.407	Cottonseed extracted
21	0	40				3006.407	Linseed extracted
24	1	0				1008.204	Sorghum gluten meal
						4008.201	Tapioca starch

Equation					Products used to derive the equation	To be used in practice for	
nr	a* STAew	const	se	R ²	NAME	CODE	NAME
						1010.204	Wheat gluten meal

2.3.3 Crude fat (CFAT and CFATh)

The type of crude fat (CFAT or CFATh) to be used for the calculation of energy values for animals depends on the one hand on the type of energy evaluation system and on the other hand on the type of feedstuff. For the calculation of metabolizable energy for broilers (ME_{br}), since 2011 for all feedstuffs, the ME_{br} calculated using the crude fat value that is based on a method where the sample is hydrolysed with acid before analysis on crude fat (CFATh; Method B). For the calculation of NE₂₀₁₅ values for pigs also CFATh analysis values are used. For the VEM/VEVI calculation for ruminants, the ME_{po} and ME_{la} for, respectively, adult poultry and laying hens, the ME_{rab} for rabbits, and the EW_{pa} for horses in most cases the crude fat value is used that is based on a crude fat analysis with petroleum ether as an extraction solvent, without a preceding acid hydrolysis step (CFAT; Method A). For these feedstuffs, there is (generally speaking) a small and relatively constant difference between the fat analysis without and with acid hydrolysis.

For certain feedstuffs (e.g., feedstuffs of animal origin, maize gluten feed, many high moisture industrial co-products; see also paragraph 2.4) this is not the case; the energy value is then based on the fat content analysed after acid hydrolysis. An overview of the feedstuffs (only first two numbers of the code number (see paragraph 1.2)) is given in the Table below for which the CFATh value is used for calculation of the energy values for ruminants, horses, rabbits, adult poultry and laying hens:

Overview of feedstuffs (presented as the code number) for which the CFATh value is used for calculation of the energy values for ruminants, horses, rabbits, adult poultry and laying hens

1000.304	1005.324	4001.231	8007.000
1002.204	1010.204	4001.637	8009.000
1002.205	1010.205	4001.638	8009.626
1002.212	1010.234	4001.664	8010.000
1002.240	1010.236	4006.634	8012.000
1002.308	1010.310	8001.001	8023.000
1002.310	1010.612	8001.003	9001.315
1002.517	1010.689	8003.629	9011.001
1002.629	4001.203	8004.000	9011.002
1005.313	4001.223	8005.000	

For many compound feedstuffs, the Feed Table gives the contents of both CFAT (crude fat without acid hydrolysis) and CFATh (crude fat after acid hydrolysis). CVB has performed comparative analyses in a large number of samples of individual feedstuffs to calculate the mean difference between the two methods in order to report mutual consistent CFAT and CFATh contents. The CFAT content on the product sheets is based on analyses from the CVB database; the CFATh content is usually derived from the mean of the analysed CFAT content adding the observed difference between CFATh and CFAT to this CFAT value in order to obtain a CFATh value that is consistent with the reported mean analysed CFAT value.

2.3.4 Nitrogen-free extract (NFE and NFEh)

From the Feed Table 2004 onwards, two 'NFE contents' are distinguished: NFE and NFEh. To calculate the NFEh content, moisture, ASH, CP, CF and CFAT are subtracted from DM. In the calculation of NFEh, the CFATh content is subtracted instead of the CFAT content.

2.3.5 Cell wall parameters

In the Netherlands, as in most other European countries, the crude fibre (CF) content is mostly used as criterion for the content of cell wall components in practical animal nutrition. In document

RD003 on the website (www.cvbdiervoeding.nl) it is described which cell wall components are actually determined with this method. A better characterisation of cell wall components is obtained with the Van Soest analysis (see document RD003), in which the contents of NDF, ADF (or NDADF) and ADL are determined.

From statistical analysis on sample data on CF, NDF, ADF and/or ADL in the CVB database it appeared that for many feedstuffs there is a reasonable or good relationship between the CF content and the Van Soest parameters (mainly ADF). Because the CVB database usually contains a large number of analytical data for CF for each feedstuff, reliable mean values can be calculated. For the Van Soest parameters, the number of analytical data is relatively small; the stated Van Soest parameters are (where necessary and possible) calculated with the estimation equations developed by CVB. A correct estimation of the NDF content is important for a correct protein validation of the feedstuffs in the framework of the DVE/OEB system 2007 (see paragraph 3.4).

2.3.6 Inositol bound phosphorus (IP)

The stated content of inositol bound phosphorus (IP) is a calculated value: the content of total P is multiplied by the percentage of 'IP/P' : 100. The percentage 'IP/P' for individual feedstuffs is based on analysis of a number of samples in which (total) P and inositol bound P have been determined.

2.3.7 Electrolyte balance (EB) and Cation-anion difference (CAD)

The CAD is often used in practical ruminant feeding. The EB is mainly used for monogastric animals. EB and CAD are relevant parameters for the regulation of the pH of the blood. EB and CAD are calculated according to the following equations:

$$\text{EB (in meq per kg)} = 43.5 \text{ Na} + 25.6 \text{ K} - 28.2 \text{ Cl}$$

$$\text{CAD (in meq per kg)} = 43.5 \text{ Na} + 25.6 \text{ K} - 28.2 \text{ Cl} - 62.4 (\text{S-i} + \text{S-o})$$

For compound feedstuffs, the EB and CAD values are expressed in meq per kg of product. For high moisture industrial co-products and roughages the EB and CAD values are given in meq per kg DM.

In some feedstuffs, the content of inorganic sulphur (S-i) may vary strongly between batches. This can be seen from the standard deviation (if stated) in S-i content. For certain feedstuffs (e.g., whey powders, molasses, vinasse, and other products from fermentation processes) it is known that the S-i content may vary strongly. In general, high moisture industrial co-products to which acids have been added for conservation purposes require extra attention. An example of an added acid is sulphuric acid; if these feedstuffs containing added sulphuric acid are used to feed monogastric animals the use of the CAD equation is advised.

2.4 Analytical methods

Table 2.1 lists the analytical methods used to determine the chemical parameters as mentioned in the CVB Feed Table. In the previous English 2011 Feed Table edition of CVB references of analytical methods were provided (the so called 'WM' references) that were described in a document of the former Product Board of Animal Feed. These WM references were largely based on EC regulations. In this edition direct EC regulation references are given instead of the WM references. Analysis results will be added to the CVB database in case:

- Analyses are carried out by a certified lab;
- Analyses are carried out according the EC Regulation 152/2009, or the ISO norms specified in the EC Regulation, or adapted methods yielding equivalent results (as shown by the accreditation of the laboratory).

Table 2.1 Overview analytical methods

Analysis	Description	Reference
Dry matter (DM)	<p><u>Dry feedstuffs</u> The residue after drying at 103 °C until constant weight, except for sugar containing feeds (with > 4% sugars), in which the sample is dried until constant weight at 80 °C under vacuum</p> <p><u>Moisture rich feedstuffs</u> The residue after drying under vacuum at 80 °C until constant weight. The sample is spread out over a sand bed.</p>	EC Regulation 152/2009; ISO 6496, 1999
Crude ash (ASH)	The residue after incineration at 550 °C	EC Regulation 152/2009; ISO 5984, 2002
Crude protein (CP)	Nitrogen according to Kjeldahl or (except for leaf-rich products such as grass or alfalfa meal) Dumas, multiplied by 6.25	Kjeldahl: EC Regulation 152/2009; ISO 5983-1, 2009 and ISO 5983-2, 2009 Dumas: EC Regulation 152/2009 ISO 16634, 2008 and ISO 16634, 2009
Crude fat (CFAT; CFATh)	<p>The fat is extracted with petroleum ether, boiling range 40 to 60 °C, dried and weighed (= CFAT). Although, according to the EG method, since 1999 crude fat should be analyzed with acid hydrolysis in all feeds (= CFATh) this is not common practice. Therefore, CVB has determined CFAT with and without acid hydrolysis for each feedstuff, to calculate CFATh from CFAT by regression.</p> <p>For gluten products, soy and potato protein, feeds of animal origin, and some wet feedstuffs, CFATh has been analyzed already for many years. In these cases, only the CFATh content is reported, and feeding values should be calculated using this parameter.</p> <p>In the CVB protocols for the execution of digestibility trials, it is prescribed to determine the crude fat content of feed and faeces after pre-treatment with hydrochloric acid (when determining crude fat digestibility).</p>	EC Regulation 152/2009; ISO 6492, 1999
Crude fibre (CF)	The residue after boiling in diluted sulphuric acid and diluted caustic potash is incinerated at approximately 500 °C; the loss after incineration is the CF fraction. For fat rich products (> 100 g/kg), pre-treatment with petroleum ether, boiling range 40 to 60 °C, is required to remove the fat. Products containing more than 5% CaCO ₃ should be pre-treated with hydrochloric acid.	EC Regulation 152/2009; ISO 6865, 2000
Nitrogen-free extract (NFE and NFEh)	The content of N-free extract is not analyzed, but calculated: $NFE(h) = 1000 - (\text{moisture} + \text{ASH} + \text{CP} + \text{CFAT}(h) + \text{CF})$. This implies that all inaccuracies in the analyses of the five components accumulate	N.A.

Analysis	Description	Reference
	in the NFEh content. In some cases this may result in a negative NFEh content. A negative NFEh content may also occur if the factor 6.25 for calculating crude protein from N is not entirely correct for a specific feedstuff.	
Starch (STAew)	The reported STAew contents are based on a polarimetric method, according to the method of Ewers.	EC Regulation 152/2009; ISO 6493, 2000
Starch (STAam)	To determine starch using amyloglucosidase, a new analytical protocol is available: the sample is extracted with 40% ethanol (to remove the sugar fraction), after which the starch in the residue is gelatinized with DMSO and hydrolyzed with amyloglucosidase. The glucose released is then analysed with the enzyme hexokinase.	ISO/DIS 15914, 2004
Glucose oligo-saccharides (GOS)	<p>The amount of GOS (starch fragments up to approximately 10 glucose units) is determined by analysing the amount of glucose units in two samples, as follows:</p> <ol style="list-style-type: none"> Direct analysis of the amount of glucose units according to the Luff-Schoorl method in the 40% ethanol soluble fraction Analysis of the amount of glucose units, according to the Luff-Schoorl method in the 40 % ethanol soluble fraction, after incubation with excess amyloglucosidase <p>The content of GOS is: b - a <i>For this analysis the total content of SUG is determined as well.</i></p>	Smits et al., 1994
<p>Combined determination of STAam and Glucose oligosaccharides (GOS)</p> <p>(For the individual feedstuffs in Chapter 10, if GOS is present, the sum of STAam and GOS is given as STA_{tot})</p>	<p>The combined determination of the content of STAam and GOS is performed by analyzing the content of reducing equivalents (expressed as glucose units) in two samples of the feedstuff:</p> <ol style="list-style-type: none"> Direct determination of the content of reducing equivalents according to the method Luff-Schoorl in the 40% ethanol soluble fraction. This gives the SUG content Determination of the content of reducing equivalents, according to the method Luff-Schoorl in a <i>watery</i> solution of the feedstuff, in which, prior to analysis, all starch and glucose oligosaccharides are converted into free glucose by means of amyloglucosidase, according to ISO/DIS 15914. The difference with ISO/DIS 15914 is, that no extraction of the feedstuff with 40% ethanol takes place prior to the gelatinization with DMSO. After incubation with amyloglucosidase, an inversion takes place according to the method Luff Schoorl, followed by determination of the content of reducing equivalents. This analysis gives the sum of STAam, GOS and SUG 	See document RD004 on the website www.cvbdiervoeding.nl

Analysis	Description	Reference
	The content of STAam + GOS is: $b - a$ (see document RD005 on the website www.cvbdiervoeding.nl). The combined determination of STAam and GOS is only relevant for the calculation of the net energy value of (wet) feedstuff for pigs, and may only be applied when it is likely that the starch is digested well by enzymes of the animal itself (in other words, when DCiSTA = 100%).	
Sugars (SUG)	The content of reducing sugars, present in the 40% ethanol soluble fraction, after inversion, determined according to Luff-Schoorl.	71/250/EEC
Neutral Detergent Fibre (NDF)	After boiling in a neutral detergent, the residue is incinerated. The loss after incineration is the NDF content.	NEN-EN-ISO 16472:2006
Acid Detergent Fibre (ADF)	After boiling in an acid detergent (detergent in 0.5 M H_2SO_4), the residue is incinerated. The loss after incineration is the ADF content.	NEN-EN-ISO 13906:2008
Acid Detergent Lignin (ADL)	The ADF is treated with 72% H_2SO_4 (12 Mol H_2SO_4/l) during 3 hours at room temperature. Subsequently, the residue is incinerated and the loss after incineration is the ADL content.	
NON-STARCH POLYSACCHARIDES (NSP)	The content of NSP is not analysed, but calculated: $NSP = 1000 - (\text{moisture} + \text{ASH} + \text{CP} + \text{CFAT}(h) + \text{STAam} + \text{GOS} + \text{CF_DI} \cdot \text{SUG} + \text{Glycerol} + 0.92 \cdot \text{LA} + 0.5 \cdot (\text{AC} + \text{PR} + \text{BU}))$. This implies that all inaccuracies in the analyses of the eleven components accumulate in the NSP content. In some cases this may result in a negative NSP content. A negative NSP content may also occur if the factor 6.25 for calculating crude protein from N is not entirely correct for a specific feedstuff.	N.A.
Residual Non-Starch Polysaccharides (RNSP)	The content of RNSP is not analysed, but calculated: $RNSP = 1000 - (\text{moisture} + \text{ASH} + \text{CP} + \text{CFAT}(h) + \text{STAam} + \text{GOS} + \text{CF_DI} \cdot \text{SUG} + \text{Glycerol} + 0.92 \cdot \text{LA} + 0.5 \cdot (\text{AC} + \text{PR} + \text{BU}) + \text{NDF})$. This implies that all inaccuracies in the analyses of the eleven components accumulate in the RNSP content. In some cases this may result in a negative RNSP content. A negative RNSP content may also occur if the factor 6.25 for calculating crude protein from N is not entirely correct for a specific feedstuff. RNSP is a parameter of importance for the protein evaluation of feedstuffs for ruminants. For most of the ruminant feedstuffs CFAT is the prescribed method; for feedstuffs where CFAT _h is the prescribed method the CFAT _h value instead of the CFAT should be subtracted.	N.A.

Analysis	Description	Reference
Potassium (K)	Atomic Absorption Spectroscopy (AAS) or Atomic Emission Spectroscopy (AES) determined content after incineration and treatment of the ashes with hydrochloric acid.	ISO 7485:2000; ISO 6869:2000
Sodium (Na)	Atomic Absorption Spectroscopy (AAS) or Atomic Emission Spectroscopy (AES) determined content after incineration and treatment of the ashes with hydrochloric acid.	ISO 7485:2000; ISO 6869:2000
Phosphorus (P)	Spectral-photometrically determined content after destruction.	EC Regulation 152/2009; ISO 6491, 1998
Magnesium (Mg)	Atomic Absorption Spectroscopy (AAS) determined content after incineration and treatment of the ashes with hydrochloric acid.	EC Regulation 152/2009; ISO 6869, 2012
Sulphur (S)	<p>In this table two sulphur determination methods are given for dry compound feedstuffs and high moisture industrial co-products:</p> <ul style="list-style-type: none"> • <u>inorganic S (S-i)</u> This is analysed as sulphate (SO₄) by extracting the sample with HCl, centrifuging and filtering, after which the amount of sulphate is measured, using ion chromatography, followed by suppressed conductivity detection. The S content in sulphate is calculated by dividing by 3: $S/SO_4 = 32/(32+4*16) = 1/3$. • <u>organic S (S-o)</u> This is calculated from the S contents of the amino acids MET and CYS. The calculation is as follows: $S-o = 32/149 * MET + 32/120 * CYS$ in which: 32 = atomic mass of S 149 = molecular mass of MET 120 = molecular mass of CYS MET = MET content in g/kg CYS = CYS content in g/kg <p>N.B. It is assumed that the amount of sulphur in other organic compounds is (very) limited.</p>	N.A.
Remaining macro- and micro-elements	Depending on the element and (mainly) the concentration in the feedstuffs, various methods are used.	EC Regulation 152/2009; ISO 6869, 2012
Total inositol bound phosphorus (IP)	The content of P that is released after long-term incubation with excess microbial phytase, multiplied with a factor 1.25. If, for a certain feedstuff, it is experimentally shown that this inositol bound P content differs only slightly from the IP-6 content as determined by HPLC, or if this is likely (based on other information), all HPLC based analytical results have also been incorporated in the calculation of the	Bos et al., 1993

Analysis	Description	Reference
	content of Total inositol-P.	
Amino acids	Most amino acids are determined using an amino acids analyzer, after 22 hours of hydrolysis with 6N hydrochloric acid at 160°C. The amino acids CYS, MET and TRP are analyzed in separate runs. The S-containing amino acids CYS and MET are oxidized with hydrogen peroxide and per-formic acid prior to the hydrolysis. TRP first undergoes an alkaline hydrolysis and is then analyzed by HPLC.	EC Regulation 152/2009;ISO 13903:2005
Fatty acids	The fatty acids composition is analyzed by gas chromatography after alkaline hydrolysis of the fat fraction, followed by methylation. The contents of individual fatty acids are expressed in g/kg product or g/kg DM. The contents are calculated from the proportion of a fatty acid in the total amount of fatty acids and an estimated proportion of the total fatty acids in the crude fat fraction. This percentage is also stated.	ISO/TS 17764-1:2002 and ISO/TS 17764-2:2002
Volatile fatty acids (VFA), ethanol (ETH), lactic acid (LA), acetic acid (AC), propionic acid (PR) and buteric acid (BU)	The contents of the volatile fatty acids acetic acid (AC), propionic acid (PR), and butyric acid (BU), as well as the contents of ethanol (ETH) and lactic acid (LA) are determined by HPLC, in an extract of the fresh product, and then calculated to dry matter.	FAO Animal Production And Health manual: Quality assurance for Animal feed analysis laboratories, J. Baltrup et al., Rome, 2011.

2.5 Classification of carbohydrates

In present-day animal nutrition, more attention is given to the diversity of carbohydrates present in feedstuffs. More information is provided in document RD005 on the CVB website www.cvbdiervoeding.nl.

3 FEED EVALUATION SYSTEMS FOR RUMINANTS

3.1 Feed evaluation systems

In this chapter the feed evaluation systems of CVB for ruminants are described. Ruminants include the different categories of cattle (dairy cattle, female young stock, beef cattle), as well as sheep and goats.

For ruminants there are four feed evaluation systems established by CVB:

- A feed intake model for dairy cattle (paragraph 3.2)
- An energy evaluation system (paragraph 3.3)
- A protein evaluation system (paragraph 3.4)
- A structure value system (paragraph 3.5)

3.2 Feed intake model dairy cattle 2007

The Feed intake model 2007 is an update (developed by Wageningen UR – Livestock Research, by order of CVB) of the previous feed intake system (Zom e.a., 2002), preliminary introduced in October 2002. For more information on the Feed intake model 2007 one is referred to CVB Documentation report nr. 51 (2007) (in Dutch).

To estimate the total dry matter intake per day (TDMI) of a certain ration, the feed intake capacity (FIC) of a cow (expressed in Fill Units (“Verzadigingswaarde” in Dutch) (VW)), and the Satiety Value of the ration ($VW_{\text{diet}}/\text{kg}$) need to be calculated. The TDMI is then:

$$[\text{F.H01}] \quad \text{TDMI} = \text{FIC} / \text{VW}_{\text{diet}} \quad (\text{kg DM/day})$$

3.2.1 Feed intake capacity

To estimate the feed intake capacity of the ‘standard cow’ in the Feed intake model, the following equation is used:

$$[\text{F.H02}] \quad \text{FIC} = \{ [\alpha_0 + \alpha_1 \times (1 - e^{-\rho_\alpha \times a})] \times e^{\beta \times (1 - e^{-\rho_\beta \times d})} \} \times (1 + \delta_{220} \times (g/220)) \quad (\text{VW/day})$$

In which:

- FIC = Feed intake capacity (VW/day)
- a = Lactation age = parity - 1 + days in lactation/365
- d = Days in lactation
- g = Days in gestation
- α_0 = Initial feed intake capacity in the 1st parity (VW/day)
- α_1 = Asymptotic level (maximal increase) (VW/day)
- ρ_α = Rate parameter for the increase of the basic curve
- β = Maximal level adaptation with regard to the basic curve
- ρ_β = Rate parameter for the increase of the feed intake capacity at lactation start
- δ_{220} = Gestation parameter

From equation F.H02 it appears that the feed intake capacity, except for a number of coefficients derived from statistical analysis, depends on the following animal factors: (lactation) age (a), days in lactation (d), and the number of days that the cow is pregnant (g). These variables must be inserted for each situation to be calculated.

For $\alpha_0, \alpha_1, \rho_\alpha, \beta$ and ρ_β the following values are taken:

$$\begin{aligned}\alpha_0 &= 8.743 \text{ (VW/day)} \\ \alpha_1 &= 3.563 \text{ (VW/day)} \\ \rho_\alpha &= 1.140 \\ \beta &= 0.3156 \\ \rho_\beta &= 0.05889 \\ \delta_{220} &= -0.05529\end{aligned}$$

Inserting these values for $\alpha_0, \alpha_1, \rho_\alpha, \beta$ and ρ_β in equation F.H02 results in:

$$[\text{F.H03}] \quad \text{FIC} = [8.743 + 3.563 \times (1 - e^{-1.140 \times a})] \times e^{0.3156 \times (1 - e^{-0.05889 \times d})} \times (1 - 0.05529 \times (g/220)) \quad (\text{VW/day})$$

3.2.2 Correction of FIC for milk production, milk composition and body weight

While developing the 2007 version of the Feed intake model for dairy cattle, it appeared that the estimation of the feed intake could be improved for operational applications when the actual milk production, milk composition, and body weight were taken into account.

The Feed intake model that was introduced in 2002 (Zom et al, 2002) is in fact one of the modules in the so-called Cow model of Wageningen UR Livestock Research (WUR-LR). This Cow model contains, besides a prediction equation of feed intake capacity (FIC, below abbreviated as \hat{I}_c), also equations to predict the milk production in kg per day (\hat{M}), the body weight in kg (\hat{G}), and percentages milk fat (\hat{V}), and milk protein (\hat{E}). These equations from the Feed intake model are not given in this publication, but are available from CVB.

The *realized* feed intake I_c , milk production M , the actual weight G and the percentages for milk fat V and milk protein E often deviate from the values *predicted* for the standard cow.

To correct the feed intake, as calculated with the standard equation F.H03, for the effects of the differences between realized and predicted values, the following proportional deviations have been defined:

$$ki = 100 \left(\frac{I_c}{\hat{I}_c} - 1 \right), \quad km = 100 \left(\frac{M}{\hat{M}} - 1 \right), \quad kg = 100 \left(\frac{G}{\hat{G}} - 1 \right), \quad kv = 100 \left(\frac{V}{\hat{V}} - 1 \right) \text{ en } ke = 100 \left(\frac{E}{\hat{E}} - 1 \right).$$

In which:

$$\begin{aligned}ki &= \text{the sum of all proportional corrections (in \% units)} \\ km &= \text{the proportional correction for milk production (in \% units)} \\ kg &= \text{the proportional correction for body weight (in \% units)} \\ kv &= \text{the proportional correction for milk fat content (in \% units)} \\ ke &= \text{the proportional correction for milk protein content (in \% units)}\end{aligned}$$

It is assumed that the deviations in feed intake capacity are related to the deviations in milk production and composition, and body weight. This is reflected in the model:

$$[\text{F.H04}] \quad ki = \beta_0 + \beta_1 km + \beta_2 kg + \beta_3 kv + \beta_4 ke + \epsilon_{\text{experiment}} + \epsilon_{\text{experiment animal}} + \epsilon_{\text{rest}}$$

It is noted that this is not a prediction model to explain a Y variable, but a model developed to reduce the prediction error.

The corrected feed intake capacity (FIC_{corr}) is calculated according to:

$$[\text{F.H05}] \quad \text{FIC}_{\text{corr}} = (1 + ki/100) * \text{FIC}$$

The values for the various k-coefficients are derived from statistical analysis: For all β coefficients, with exception of β_0 , statistically significant values were obtained, when the full model, with all mentioned parameters included, was tested. The values for these β coefficients are also not given in this table, but will be made available by CVB on request.

With regard to the effect on the prediction accuracy of the feed intake capacity, it is noted that this improved by 5.2% when actual milk production, milk composition, and body weight were taken into account.

3.2.3 Satiety value of the diet

The satiety value of the diet is estimated by fractional adding of the satiety values of the diet components (VW_p) (f_p = fraction by which the component is included in the diet):

$$[F.H06] \quad VW_{\text{diet}} = \sum f_p \times VW_p \quad (\text{VW/kg DM})$$

Combining equations F.H3 (or F.H5) and F.H6 gives :

$$[F.H07] \quad TDMI = \frac{FIC}{\sum_p f_p \times VW_p} \quad (\text{kg DM /day})$$

In which:

TDMI	=	Total DM intake (kg DM/day)
FIC	=	Feed intake capacity (VW/day)
f_p	=	Fractional amount of the component in the diet
VW_p	=	Satiety value of the diet (VW per kg DM)

For calculating the satiety value of individual diet components, the following general model is used:

$$[F.H08] \quad VW_p = VW_{p0} \times e^{(\lambda_{p11}(x_{p1} - \bar{x}_{p1}) + \lambda_{p12}(x_{p1} - \bar{x}_{p1})^2 + \dots + \lambda_{pn1}(x_{pn} - \bar{x}_{pn}) + \lambda_{pn2}(x_{pn} - \bar{x}_{pn})^2)} \quad (\text{VW/kg DS})$$

In which:

VW_p	=	Satiety value of feedstuff p (VW/kg DM)
VW_{p0}	=	Satiety value of feedstuff p at a mean composition of the feedstuff as used in animal experiments on which the VW is based (VW/kg DM)
$\lambda_{pn1}, \lambda_{pn2}$	=	Linear and quadratic satiety value parameters of feedstuff p for feed component n ($n= 1, 2, \dots, n$)
x_{np}	=	Content of feed component n in feedstuff p (g/kg DM)
\bar{x}_{np}	=	Mean content of feed component n in feedstuff p in the animal experiments on which the VW is based (VW/kg DM)

3.2.4 Satiety value of forages, compound feeds, and compound feedstuffs

3.2.4.1 Satiety value of forages

For a number of individual forages, a satiety value is reported on the product sheets; this satiety value is calculated using a product-specific estimation equation combined with the chemical composition of that product (also given on the product sheet). Specific estimation equations have been derived for the following forages: Corn Cob Mix (CCM), ensiled; Whole crop silage (cereals); Grass, fresh; Grass silage; Lucerne (alfalfa), fresh; Lucerne (alfalfa), ensiled; Clover, red, fresh;

Clover, red, ensiled; Maize: CCM, ensiled; Green cereals, fresh; Green cereals, ensiled; Maize (fodder maize), fresh; Maize (fodder maize), ensiled.

For the equations concerned, the reader is referred to a separate CVB publication, in which also the calculation rules for all other feed evaluation systems for ruminants are given.

For the other products given in section 9.3 'Roughages and related products' fixed values apply; these are reported on the product sheets.

3.2.4.2 **Satiety value of compound feeds and compound feedstuffs**

For dry concentrates (all compound feeds and compound feedstuffs) the following applies:

$$[F.H09] \text{VW}_{\text{concentrate}} = 0.317 * e^{(0.001335 * (CF - 140))} \quad (\text{VW/kg DM})$$

3.2.4.3 **Satiety value of wet feedstuffs**

When deriving the satiety value of wet feedstuffs, the following (fixed) satiety values (VW/kg DM) were obtained: Beet pulp, pressed 0.70; Maize glutenfeed 0.54; Potato pulp, pressed 0.53; Brewer's grains 0.55.

Because of the minor difference between the latter three feedstuffs, it was decided to hold the following satiety values:

Product	Satiety value
Beet pulp, pressed	0.70
Maize glutenfeed	0.55
Potato pulp, pressed	0.55
Brewer's grains	0.55

For the other wet feedstuffs, also a fixed satiety value of 0.55 is assumed, with the exception of:

- Potato peelings, steamed: 0.45 (because this product contains a lot of (largely) gelatinised starch)
- High moisture industrial co-products (potato fruit-juice concentrate, potato starch, brewers' yeast, distillers solubles, cheese whey, maize solubles) and potato starch, solid: for these products a satiety value of 0.30 is assumed. This is slightly higher than calculated using the equation for dry concentrates
- For carrot peelings, steam peeled, the value for fodderbeets is taken.

3.3 **Net energy systems for ruminants**

For ruminants, two net energy systems are used, both based on the faecal digestibility of the Weende components:

- The VEM-system (VEM = "Voedereenheid Melk", Feed Unit Milk) for lactating animals and young stock thereof.
- The VEVI-system (VEVI = "Voedereenheid Vleesvee Intensief", Feed Unit Beef Cattle) for growing animals kept for beef production (with the exception of calves fed on milk replacers).

To calculate the two net energy values (VEM and VEVI value), the following aspects are important:

- The chemical composition of the feedstuff, especially the contents of crude protein, crude fat, crude fibre, and N-free extract.
- The faecal digestibility of these components.
- The general equations of the system.

3.3.1 Chemical composition of the feedstuff

Mean values for the feed components of interest for the calculation of VEM and VEVI of a feedstuff can be found on the respective product sheet. In general, chemical analysis of individual batches is recommended for a more accurate estimation of the energy value.

3.3.2 Faecal digestibility of a feedstuff

3.3.2.1 In vivo determination of the digestibility of a feedstuff for ruminants

To calculate the VEM or VEVI value of a feedstuff, the digestibility determined with wethers (castrated rams) as a model animal is used. In digestibility studies, the digestibility of crude protein, crude fat, crude fibre, and N-free extract is determined in wethers, fed on maintenance level. It is established which proportion of the ingested feed does not appear in the excreted faeces and has therefore been apparently digested. To obtain mutually comparable test results, a CVB protocol was developed for the execution of faecal digestibility studies with wethers.

3.3.2.2 Equations for the calculation of faecal digestible contents

3.3.2.2.1 Database of digestibility studies

Variation in chemical composition within feedstuffs affects the digestibility. When, for a specific feedstuff, sufficient digestibility studies with wethers are available, statistical analysis may be used to derive relationships between digestibility and chemical composition. Therefore, as many digestibility studies as possible have been collected in the CVB database.

3.3.2.2.2 Deriving equations for calculation of faecal digestible contents

For all feedstuffs where net energy values for ruminants are reported, CVB has developed equations for the calculation of the contents of the digestible components DCP, DCFAT, DCF and DNFE, required to calculate VEM and VEVI values. For most feedstuffs, these estimation equations are the result of statistical analysis (regression analysis) of datasets of digestibility studies of individual feedstuffs or combined datasets of comparable feedstuffs that may be combined in one group. For some feedstuffs, no (or not enough) digestibility studies are available to perform statistical analysis. In those cases, the digestibility was estimated by comparing the chemical composition and other characteristics of the feedstuff with other feedstuffs with known wether digestibility. The estimation equations are not given in this Table. They have been compiled in a separate CVB publication, entitled 'CVB Rekenregels Voederwaarderingssystemen Herkauwers 2011' (Documentation report no 55); this publication also contains all other equations used in the feed evaluation for ruminants. The rules for calculations are also included in the 'CVB Online feeding value calculator' and in CVB Data package B'.

When deriving estimation equations, it is continuously examined by which components the digestibility of a certain component is determined (e.g., CP digestibility is determined by the CP content of a feedstuff, but also by CF content).

When deriving equations for digestible crude protein (DCP) and digestible crude fat (DCFAT), a basal endogenous faecal excretion of 30 g CP per kg DMI and 2.5 g CFAT per kg DMI, respectively, is taken into account. For certain feedstuffs, it is not reasonable to maintain these endogenous excretions; in those cases, a value 0 (zero) is used.

On the product sheets, for each individual feedstuff, digestibility coefficients (%) are given for CP, CFAT, CF and NFE. These coefficients have been calculated by dividing the digestible content of a component (derived according to the procedure explained before) by the mean content of the component as stated on the product sheet of the feedstuff concerned; this ratio is then multiplied by 100. For feedstuff batches of which the composition differs from the mean composition on the product sheet, the digestibility coefficients on the product sheet will not be entirely correct in many cases. This applies mainly to CP and CFAT, where an endogenous excretion is taken into account. It may, however, also apply to CF and NFE, when the estimation equation also contains

other parameters. The deviation of the digestibility coefficient will increase with larger deviations from the mean content of the nutrient as stated on the product sheet. For certain chemical components and certain feedstuffs, some specific remarks - of interest for the energy value - are given below.

3.3.2.3 Products with low CFAT content

For feedstuffs with low crude fat content (≤ 15 g/kg DM) the digestibility coefficient of this component can not be established accurately in digestibility trials. For this type of products, the DCFAT is derived from the CFAT content with the following equation:

$$[\text{F.H10}] \text{ DCFAT (g/kg DM)} = a/100 \times \text{CFAT} - 2.5$$

in which:

- a = the true digestibility of the CFAT. For most feedstuffs $a=90\%$, except for leaf-rich plants (e.g., grass meal, lucerne meal), where $a = 50\%$. In leaf-rich plants, a substantial part of CFAT consists of waxes and other substances that are apparently digested, but not utilized.
- CFAT = the crude fat content in g/kg DM
- 2.5 = the above mentioned basal endogenous faecal CFAT excretion (in g/kg DMI)

3.3.2.4 Digestibility of crude fibre in products with low CF content

When the CF content of a feedstuff is low (≤ 15 g/kg DM), the digestibility coefficient of this component cannot be established accurately. The CF digestibility is kept equal to the digestibility of the NFE fraction for those low CF feedstuffs which are not part of a product group also containing feedstuffs with high CF contents, where an estimation equation for CF is derived by statistical analysis.

3.3.2.5 Animal products

Some feedstuffs of animal origin are not allowed to be fed to ruminants, due to EU-regulations. For those products, no digestibility coefficients or feeding value characteristics are reported.

3.3.2.6 Protein-rich products

For some extremely protein-rich feedstuffs, the derived content of NFE(h) is sometimes negative, because of inaccuracies in the calculation of CP from N. The reported NFE(h) digestibility of these feedstuffs is equal to the CP digestibility. The calculation of the energy value of these feeds may thus be performed in the usual manner, hence, without further corrections.

3.3.2.7 Full-fat seeds

Determining the digestibility of full-fat seeds in a digestibility trial with wethers is not easy. Because of the inhibiting action of high fat contents on cellulolytic bacteria in the rumen, only a small proportion of these seeds may be incorporated in experimental diets. Besides, the seed must undergo technological treatment to make the fat accessible for lipases; such treatment is difficult to perform on full-fat seeds. Therefore, it was decided to use the same estimation equations for the digestibility of CFAT in full-fat seeds incorporated in pelleted compound feeds (with the exception of heat treated soybeans) as for expellers and solvent extracted meals manufactured from these seeds.

3.3.3 Calculation of VEM and VEVI values

Gross and digestible contents of CP, CFAT, CF and NFE(h) are required to calculate the VEM and VEVI value. In the previous paragraphs, the chemical composition of a feedstuff and the digestibility of these components have been described.

This paragraph deals with the calculation of energy values using the general equations from the VEM and VEVI system.

The calculation of VEM and VEVI is based on the contents of metabolisable energy (ME) and gross energy (GE). The percentage ME in GE is indicated by the letter q.

3.3.3.1 Establishing GE, ME and q (general equations)

GE, ME and q are calculated as follows (Benedictus, 1977):

$$[\text{F.H11}] \quad \text{GE (kJ/kg)} = 24.14 \times \text{CP} + 36.57 \times \text{CFAT} + 20.92 \times \text{CF} + 16.99 \times \text{NFE} - 0.63 \times \text{SUG}^*$$

$$[\text{F.H12}] \quad \text{ME (kJ/kg)} = 15.90 \times \text{DCP} + 37.66 \times \text{DCFAT} + 13.81 \times \text{DCF} + 14.64 \times \text{DNFE} - 0.63 \times \text{SUG}^*$$

* correction for sugars (SUG) only for sugar contents > 80 g sugars per kg dry matter

$$[\text{F.H13}] \quad q = 100 \text{ ME} / \text{GE}$$

3.3.3.2 Establishing GE, ME and q (fresh and conserved forages)

The GE of forages is also calculated with equation F.H11, with the exception of maize silage. For maize silage, GE is calculated as follows:

$$[\text{F.H14}] \quad \text{GE (kJ/kg DM)} = 19456 - 19.456 \times \text{ASH}$$

For fresh and conserved forages, the calculation of ME is simplified, according to the following equation (from 2005 onwards):

$$[\text{F.H15}] \quad \text{ME (MJ/kg DM)} = 14.94 \text{ DOM} + 18.98 \text{ CFAT} - 1.478 \text{ CF} - 0.97 \text{ SUG}$$

3.3.4 Calculation of the net energy value for milk production and of the VEM value

The net energy value for milk production (NE_{lac}) is calculated as follows:

$$[\text{F.H16}] \quad \text{NE}_{\text{lac}} = 0.6 \times (1 + 0.004 \times (q-57)) \times 0.9752 \times \text{ME (in kJ/kg)}$$

VEM is a relative energy measure: it uses barley as a reference material. One kg of air-dried barley with a certain (standardised) composition has a mean net energy value for milk production (NE_{lac}) of 6900 kJ.

The relationship between VEM and NE_{lac} is as follows:

$$[\text{F.H17}] \quad \text{VEM} = \text{NE}_{\text{lac}} / 6900 \times 1000$$

The obtained VEM value therefore indicates how much more or less net energy a certain feed contains compared to the reference material (with a net energy of 6900 kJ per kg).

VEM may be calculated directly from ME and q as follows:

$$[F.H18] \quad VEM = 0.6 \times (1 + 0.004 \times (q - 57)) \times 0.9752 \times ME / 6.90 \\ = (0.0003392 \times q + 0.0654656) \times ME$$

Further explanation of this equation is given below.

3.3.4.1 Efficiency for the conversion of ME into NE_{lac}

In equation [F.H18] the figure 0.6 indicates, that 60% of ME supplied above maintenance is converted to net energy (= energy in milk and growth), when a ration with $q = 57$ is fed. For diets with higher q , the utilization of ME is somewhat improved, and for diets with lower q , the ME utilization is lower than 60%. This is indicated by the second part of the equation: $1 + 0.004 \times (q - 57)$.

3.3.4.2 Correction factor for feeding level

As the digestion process is somewhat less efficient for ruminants on higher feeding levels, the ME content of a diet or feedstuff decreases with increasing feeding levels. The feeding level is expressed in units compared to maintenance requirements. When an animal consumes twice as much energy as required for maintenance (feeding level = 2x maintenance), the decrease in efficiency amounts to 1.8%. When fed at a level of 3x maintenance, the decrease is $2 \times 1.8\% = 3.6\%$, et cetera.

The above mentioned ME values are derived from experiments in which animals were fed at maintenance level. Therefore, these values need to be corrected for feeding level. It was agreed to express the VEM value of feedstuffs for feeding level 2.38. This figure has been derived from standard values for a cow of 550 kg live weight, producing 15 kg 'standard' milk (containing 4% of fat). The net energy system is based on balance experiments of which the majority was executed at (approximately) this feeding level.

At a feeding level of 2.38, a correction of $-1.38 \times 1.8\% = -2.48\%$ is required. This explains the third part of the VEM equation: $1 - 0.0248 = 0.9752$.

For practical reasons, the influence of other feeding levels than 2.38x maintenance has been incorporated in the requirements (see CVB Table ruminants 2007 and CVB Tables Animal Nutrition 2007 or a later edition).

3.3.5 Calculating the net energy value for meat production and the VEVI value

For meat production, the net energy (in kJ/kg) (NE_{meat}) is calculated as follows:

$$[F.H19] \quad NE_{meat} = \frac{k_f}{\frac{k_f - k_m}{APL \times k_m} + 1} \times ME$$

VEVI is a relative energy measure; it uses barley as a reference material. One kg of air-dried barley with a certain (standardized) composition has a mean net energy value for meat production (NE_{meat}) of 6900 kJ.

The relationship between VEVI and NE_{meat} is as follows:

$$[F.H20] \quad VEVI = NE_{meat} / 6900 \times 1000$$

The obtained VEVI value, therefore, indicates how much more or less net energy the feed contains compared to the reference material (with a net energy of 6900 kJ per kg).

VEVI is calculated from ME and q as follows:

$$[F.H21] \quad VEVI = \frac{k_f}{\frac{k_f - k_m}{APL \times k_m} + 1} \times \frac{ME}{6.90}$$

Correction factors are used to account for differences in utilization of ME for maintenance (k_m) and energy deposition (k_f):

$$[\text{F.H22}] \quad k_m = 0.00287 \times q + 0.554$$

$$[\text{F.H23}] \quad k_f = 0.0078 \times q + 0.006$$

3.3.5.1 Calculating APL

The ratio between the amount of net energy for maintenance + production and the amount of net energy for maintenance is called Animal Production Level (APL):

$$[\text{F.H24}] \quad \text{APL} = (\text{NE}_{\text{maintenance}} + \text{NE}_{\text{production}}) / \text{NE}_{\text{maintenance}}$$

A growing cow weighing G kg needs $329.6 G^{3/4}$ kJ 'net energy for maintenance':

$$[\text{F.H25}] \quad \text{NE}_{\text{maintenance}} = 329.6 \times G^{3/4} \quad (\text{in kJ})$$

The 'net energy for growth' for a daily weight gain of z kg is:

$$[\text{F.H26}] \quad \text{NE}_{\text{growth}} = \text{NE}_{\text{production}} = \{(500 + 6 \times G) \times z / (1 - 0.3 \times z)\} \times 4.184 \quad (\text{in kJ})$$

At an average daily gain of 0.9 kg per day, APL is approximately 1.5; this APL is used in the calculations.

3.3.5.2 VEVI calculation: no correction of ME for feeding level

It is assumed that, with this level of production, the ME content of the diet equals the ME content at maintenance level; the error introduced by this assumption is small, since growing cattle is seldom fed at higher levels and no strong depression in digestion is to be expected.

This means that it is assumed that the feed is digested by beef cattle to the same extent as by the wethers (fed at maintenance level) used in the digestibility trials.

3.3.5.3 Correction for growth rates other than 900 g/day

The derived VEVI value is in fact only valid for a growth rate of 900 g/day. The value may also be applied to other growth rates, provided that the standards for requirements are used, which are reported for animals with growth rates as stated in paragraph 2.4 in the CVB Table ruminants 2007. In these standards, corrections have been incorporated to compensate for the error made by applying the value for a growth rate of 900 g per day to other growth rates.

Incidentally, this correction only applies to diets with a q value of around 60; for other q values, the applied correction is not fully correct.

3.3.5.4 Direct derivation of VEVI from ME for some levels of q

For some q levels VEVI can be simply derived from ME as follows:

$$q = 50 \quad \text{VEVI} = 0.08054 \times \text{ME}$$

$$q = 60 \quad \text{VEVI} = 0.08939 \times \text{ME}$$

$$q = 70 \quad \text{VEVI} = 0.09728 \times \text{ME}$$

3.3.6 Energy value of sugars, starch, organic acids and ethanol

The energy values of substances like organic acids and ethanol - mainly present in preserved feeds (forages) - cannot be established through animal experiments, since high percentages of these products are usually not accepted by the animals. By proceeding from their ATP yielding

capacity, the energy value of these products may be approximated.

The maintenance metabolism of an animal is primarily driven by ATP expenditure; in production metabolism, the ATP yielding capacity plays an important role as well.

To estimate energy values through ATP yielding capacity, a certain reference substance is used, to which all products are related. The reference substance in this calculation is “100% rumen undegraded starch” (RUSTA); the ATP yield (mol) per gram of starch is known and set at 100%. The ATP production (mol) per g material of the other substances is expressed as percentage of the ATP production of the standard starch. The energy value is calculated based on this percentage.

Example: Rumen undegraded starch yields 0.2346 mol ATP per g. Propionic acid yields 0.2432 mol/g, hence 3.7% more. Propionic acid is absorbed as such. For starch, an energy loss of 20% due to fermentation is assumed in these calculations. Proceeding from VEM and VEVI values of 1300 and 1505, respectively, the VEM and VEVI values of “100% rumen undegraded starch” are then 1625 and 1881 per kg, respectively. The VEM and VEVI values of 1 kg pure propionic acid are then $1.037 \times 1625 = 1690$ and $1.037 \times 1881 = 1950$, respectively.

As stated earlier, the net energy value of 1 kg of pure starch (the reference) is set for ruminants at 1300 VEM and 1505 VEVI, whereby it is taken into account that 20% of ATP is lost due to fermentation in the fore stomachs. For lactic acid and ethanol, an ATP loss of 10% is assumed. For glucose and saccharose an ATP loss of 30% is assumed.

For glucose, saccharose and starch, the ATP yielding capacity is the same per glucose residue. However, when glucose molecules are polymerized through glucosidic linkages, one water molecule is expelled for each molecule of glucose. Therefore, the ATP yielding capacity of a free glucose molecule is 0.90 x that of a glucose unit in a starch molecule; similarly, for saccharose, a factor of 0.95 is used.

The energy values that have been derived in this way for organic acids, ethanol, glucose and saccharose are given in the table “Other feedstuffs”, which is included in the last section of Chapter 9 (paragraph 9.5) of this publication.

3.4 Protein system for ruminants

In March 2007, a revised protein evaluation system (DVE/OEB 2007) for dairy cattle has been presented, intended as an update of the DVE system that was introduced in 1991 (CVB, 1991). For the calculation of protein values, in the 2007 system more detailed equations are used than in the 1991 system; this applies to the ‘system calculation rules’ as well as to the ‘feedstuff specific equations’. The quality of the calculations is mainly determined by the quality of the databases from *in situ* studies that underlie the product specific equations. It appears that the databases for grass silage and maize silage are of insufficient quality. Therefore, a large research project has been initiated to replace these databases by more recent ones. This is one of the reasons why the DVE/OEB 2007 system is still provisional.

3.4.1 The DVE/OEB system 1991

In 1991, the DVE system was introduced as protein evaluation system for ruminants (CVB, 1991). Per feedstuff two values are calculated:

- Intestinal digestible protein (DVE) (see paragraph 3.4.1.1)
- Rumen degraded protein balance (OEB) (see paragraph 3.4.1.2)

The DVE value represents the protein value of the feedstuff. The OEB value represents the difference between the highest possible microbial protein synthesis based on the nitrogen from rumen degraded protein on the one hand and based on available fermentable organic matter on the other hand.

3.4.1.1 Intestinal digestible protein (DVE)

Essential characteristics for calculating the DVE content are:

- The amount of protein in the feedstuff that will not be degraded in the rumen, but is digestible in the small intestine: intestinal degradable rumen undegradable protein (DRUP);
- The expected amount of intestinal digestible protein, derived from the microbial protein formed in the rumen: intestinal degradable microbial crude protein (DMCP);
- The amount of protein excreted in the faeces, derived from digestive enzymes and cells from the intestinal wall, including the amount of protein required for the biosynthesis of this endogenous protein: intestinal digestible metabolic faecal protein (DMFP):

$$[\text{F.H27}] \quad \text{DVE} = \text{DRUP} + \text{DMCP} - \text{DMFP}$$

The amount of intestinal digestible rumen undegradable dietary protein is calculated as follows:

$$[\text{F.H28}] \quad \text{DRUP} = \text{CP} * 1.11 * \% \text{RUP} / 100 * \% \text{DRUP} / 100$$

In intestinal flow studies (*in vivo*) it was found that %RUP was on average 11% higher compared to the value obtained in *in sacco* experiments. The factor 1.11 corrects for this difference.

3.4.1.1.1 Calculation of rumen undegraded protein (%RUP)

The protein 'undegradability' (%RUP) is estimated by incubating small amounts of a feedstuff in nylon bags in the rumen. In this method, the washable protein fraction and the protein fraction not degradable by rumen microbes are determined, as well as the rate of degradation of the potentially degradable fraction. From these data the undegradability can be estimated, assuming a certain rate of passage:

$$[\text{F.H29}] \quad \% \text{RUP} = U + k_p / (k_d + k_p) * D$$

(this equation does not apply to ensiled or fermented wet feedstuffs, see next paragraph)

$$[\text{F.H30}] \quad D (\%) = 100 - U - W$$

In which:

- U = undegradable protein fraction (undigestible) (%)
- D = potentially degradable protein fraction (digestible) (%)
- W = washable protein fraction (%)
- k_p = passage rate of protein from the rumen (% per hour)
- k_d = degradation rate of protein in the rumen (% per hour)

3.4.1.1.2 Calculation of %RUP for fermented feedstuffs

For ensiled feedstuffs and for high moisture industrial co-products that have been fermented at the time of delivery and feeding (even though they may be called 'fresh'), the washable fraction partly consists of microbial protein formed in this fermentation process. This protein moves along with the liquid phase and will therefore partly escape from rumen degradation. For such products it is assumed that 5% of the washable fraction escapes from rumen degradation. The equation to calculate %RUP for these feedstuffs therefore is as follows:

$$[\text{F.H31}] \quad \% \text{RUP} = U + k_p / (k_d + k_p) * D + 0.05 * W$$

3.4.1.1.3 Passage rate of feedstuffs

Many uncertainties exist with respect to the passage rate and variation therein. Estimations vary from 3 to 8% per hour. For the feedstuffs contained in this Feed Table a passage rate of 6% per

hour is assumed. For 'roughages' (products with a minimum structural value of 1.2 and a mean particle size of at least 8 mm) a passage rate of 4.5% is assumed.

3.4.1.1.4 Origin of data concerning rumen bypass protein

To derive the values reported in this Feed Table, experimental data from nylon bags incubations obtained at the IVVO-DLO research institute (now Wageningen UR – Livestock Research) were used. The results from these experiments were compared to literature data from the Netherlands and other countries. The level of the outcomes often differed, but the ranking of feedstuffs was in most cases the same as found by IVVO-DLO. Therefore, the results per research institute were calculated back to the Dutch (IVVO-DLO) level, using linear regression. Subsequently, the mean values per feedstuff were calculated (Van Straalen and Tamminga, 1990). For feedstuffs for which no information was available, an estimated value was calculated with the use of comparable feedstuffs.

3.4.1.1.5 Intestinal digestibility of the undegraded protein (%DRUP)

The intestinal digestibility of the undegraded protein (%DRUP) is, in general, derived from measurements using the so-called mobile nylon bags method: A small amount of feedstuff is incubated in the rumen for 12 to 18 hours. Thereafter, the sample is placed in a nylon bag and entered in the small intestine. After passage through the intestinal tract the nylon bag is recovered from the faeces. The amount of N that is lost during the passage through the intestinal tract is assumed to be digested.

3.4.1.1.6 Origin of data concerning %DRUP

The %DRUP values given in the tables were derived from research by the IVVO-DLO research institute (now Wageningen UR – Livestock Research) and from literature data (Van Straalen and Tamminga, 1990). The %DRUP values for forages and some wet feedstuffs have provisionally been calculated from the undegradability and the fraction that is not degraded after prolonged incubation in the rumen (Tamminga and Ketelaar, 1988). When information was missing, %DRUP was estimated from available %DRUP values of similar feedstuffs; for cell wall rich crop residues – like husks/shells – a low %DRUP (50%) was assumed. For feedstuffs of which no data for comparable products were available, the intestinal digestibility is - for now - estimated to be 75%.

3.4.1.1.7 Amount of intestinal digestible microbial protein (DMCP)

The amount of intestinal digestible microbial protein is calculated as follows:

$$\begin{aligned} \text{[F.H32] DMCP} &= 0.0956 * \text{FOM} \\ &= 0.0956 * (\text{DOM} - \text{CFAT} - (\text{CP} * \% \text{RUP}/100) - (\text{STA} * \% \text{RUSTA}/100) - 0.50 * \text{FP}) \end{aligned}$$

The rumen fermentable organic matter (FOM) is calculated by subtracting all components that do not supply energy to the micro-organisms in the rumen from DOM. These components are:

- Crude fat (CFAT)
- Rumen undegradable protein (CP * %RUP/100)
- Rumen undegradable starch (STA + %RUSTA/100)
- 50% of the fermentation products (FP = acetic acid + propionic acid + butyric acid + lactic acid + ethanol)

In some cases, where FOM becomes negative, FOM is set to 0 (zero). The DOM (= digestible organic matter) equals the (apparently) digestible crude protein + digestible crude fat + digestible crude fibre + digestible N-free extract.

In the calculation of DMCP it is assumed that 150 g microbial protein (N*6.25) may be formed per kg of fermentable organic matter, that 75% of this microbial protein consists of amino acids, and that 85% of these amino acids is digestible in the small intestine.

Therefore, DMCP may be calculated from FOM using the following factor:

$$0.150 * 0.75 * 0.85 = 0.0956$$

In the calculation of the fermentable organic matter of some feedstuffs, a correction has been included for fermentation products that are formed during treatment (e.g., ensiling). The energy value of some fermentation products (lactic acid, ethanol) is 50% of the energy value of carbohydrates. Therefore, for fermented feedstuffs, 50% of the FP is subtracted from DOM. The data used in this Table were collected by Steg et al. (1990).

3.4.1.1.8 Amount of intestinal degradable microbial crude protein (DMCP)

The amount of intestinal digestible microbial protein is calculated with the equation:

$$[F.H33] \quad DMCP = 0.075 \times iDM = 0.075 * (DM - DOM - DASH)$$

The inevitable faecal protein losses are assumed to depend on the undegraded dry matter intake (iDM). The undegraded dry matter intake may be calculated from the amount of dry matter minus the amount of digestible organic matter (DOM) and the amount of digestible crude ash (DASH).

The digestibility of crude ash (%DASH) is, depending on the feedstuff, set to 35, 50 or 65. These values were - for each feedstuff - derived from the amounts of Na, K, Cl, Ca, Mg and P in the crude ash. It is further assumed that the digestibility of Na, K and Cl is 100%, and the digestibility of Ca, Mg and P is 50%.

For the calculation method the reader is referred to CVB series nr 7 (1991). The DASH value in equation [F.H33] is calculated as follows:

$$[F.H34] \quad DASH = \%DASH/100 * ASH$$

This equation may be used provided that the resulting DASH value does not exceed the MDASH value in the CVB Feed Table. In other cases, the MDASH value should be used in the calculation. MDASH is calculated as follows:

$$[F.H35] \quad MDASH = \%DASH/100 * (1.1 * ASH_{table} + 10)$$

In which ASH_{table} is the crude ash content as given on the product sheet.

Added minerals are supposed to be 50% digestible, without upper limit. Table salt is probably 100% digestible.

The metabolic faecal protein losses are calculated under the assumption that 75 gram of DMCP is lost per kg iDM.

3.4.1.2 *The rumen degraded protein balance (OEB)*

The rumen undegraded protein balance (in Dutch: Onbestendig Eiwit Balans, OEB) represents the difference – on rumen level – between the maximum potential microbial protein synthesis, based on the available amount of degradable protein on the one hand, and the maximum potential microbial protein synthesis, based on available energy on the other hand. The OEB value of the ration should never be negative (except for beef cattle and youngstock weighing at least 250 kg and provided with above standard DVE supply; for more information see the most recent version of the CVB Tables Animal Nutrition). With a negative OEB value, there is not enough nitrogen available in the rumen to attain the calculated DMCP:

$$[F.H36] \quad OEB = \{CP * (1 - 1.1 * \%RUP/100)\} - (FOM * 0.150)$$

3.4.1.3 *Intestinal digestible amino acids*

In 1998, the CVB Working Group Nutrition Ruminants and Horses established a procedure to calculate the contents of intestinal digestible methionine and lysine (DVMET and DVLYS,

respectively) (CVB, 1998a). This report describes the various relevant aspects of a uniform calculation procedure for obtaining DVMET and DVLYS in feedstuffs for ruminants. The calculation is performed according to the calculation rules in the DVE system.

For the contribution of dietary protein to DVMET and DVLYS, the following remarks apply:

- The undegradability of these amino acids from compound feedstuffs appeared to be not significantly different from the undegradability of N or crude protein (CP). For forages, this may be different, but insufficient data are available to suggest another calculation procedure.
- The intestinal digestibility of methionine in rumen incubation residues after 12 to 18 hours of rumen incubation appeared to be – slightly but significantly – higher than the CP digestibility in these residues. For lysine, this was not the case.

To be able to calculate the contribution from microbial protein to the content of intestinal digestible methionine and lysine, an amino acid pattern of microbial protein had to be established. After a literature study of published amino acid patterns, CVB composed its own extended database. Based on this database, the content of methionine and lysine in microbial protein was set to 2.5 and 7.7 g/100 g AA, respectively.

To account for the methionine and lysine losses in DMCP, a pattern was chosen that was calculated from the endogenous excretion as determined in sheep by Van Bruchem et al. (1985). This implies that the methionine and lysine content in DMCP is assumed to be 1.5 and 5.7 g/100 g AA, respectively.

The equations for calculating the content of intestinal digestible methionine (DVMET) then become:

$$[F.H37] \quad DVMET = DRUMET + DMMET - DMFMET$$

$$[F.H38] \quad DRUMET = MET/100 * DRUP/0.96$$

$$[F.H39] \quad DMMET = 0.025 * DMP$$

$$[F.H40] \quad DMFMET = 0.015 * DMFP$$

In which:

DRUMET = methionine contribution from intestinal digestible rumen undegraded dietary protein (=DRUP)

DMMET = methionine contribution from intestinal digestible microbial protein (=DMP)

DMFMET = methionine contribution from intestinal digestible metabolic faecal protein (=DMFP)

MET = methionine content in the feedstuff (in g per 16 g N = in g per 100 g CP)

For the calculation of the intestinal digestible lysine content (DVLYS) the following equations apply:

$$[F.H41] \quad DVLYS = DRULYS + DMLYS - DMFLYS$$

$$[F.H42] \quad DRULYS = LYS/100 * DRUP/0.96$$

$$[F.H43] \quad DMLYS = 0.077 * DMP$$

$$[F.H44] \quad DMFLYS = 0.057 * DMFP$$

In which:

DRULYS = lysine contribution from intestinal digestible rumen undegraded dietary protein (=DRUP)

DMLYS = lysine contribution from intestinal digestible microbial protein (=DMP)

DMFLYS = lysine contribution from intestinal digestible metabolic faecal protein (=DMFP)

LYS = lysine content in the feedstuff (in g per 16 g N = in g per 100 g CP)

DRUP, DMP and DMFP are calculated according to the calculation rules within the DVE system.

3.4.1.4 Rumen undegraded starch (%RUSTA)

The resistance of starch against degradation in the rumen (%RUSTA) is derived from nylon bags experiments (Tamminga et al., 1989).

The differences found between *in vivo* and *in vitro* measurements call for a correction: it is assumed that 10% of the washable fraction escapes from degradation in the rumen. This washable fraction leaves the bags in the form of small starch granules and these granules are flushed out of the rumen with the liquid phase, or are stored in micro-organisms.

The method of determination also plays a role in starch validation for cattle, as for pigs. It is known that the Ewers method gives an overestimation of the true starch content of some products, like, e.g., soy products. For these types of products a method with amyloglucosidase (ISO/DIS 15814) yields better results. In cases where the Ewers method results in artefacts, this method should in fact not be used. In *in situ* experiments, an amyloglucosidase method is always used for starch analysis.

In cases where experimental information on starch undegradability is lacking, the rumen undegraded starch was estimated, mostly by comparison with similar feedstuffs. When this was also not feasible, %RUSTA was set at a low level, namely 10%.

Products for which the Ewers method (strongly) overestimates the true starch content are usually products with (extremely) low true starch content. Therefore, data from *in situ* incubations are also lacking. For such products, %RUSTA is set to 0 (zero) in the CVB Feed Table.

The %RUSTA values obtained for compound feedstuffs were multiplied by 0.875 to account for the effect of pelleting on starch undegradability.

In feedstuffs that underwent high temperature and pressure treatment (e.g., extrusion, expansion and pressure cooking), starch will be hydrolysed and %RUSTA will be very low. It is assumed that starch in such products is for 95% degradable in the rumen. %RUSTA is therefore set to 5%.

In cases where %RUSTA is not based on *in situ* incubations in nylon bags, but is estimated, %RUSTA is - after correction for pelleting - rounded to a multiple of five.

On the product sheets, %RUSTA is given, including the correction for pelleting.

3.4.1.5 Rules for the calculation of rumen undegraded protein (%RUP)

From the CVB Feed Table 2000 onwards, an equation for the calculation of rumen undegraded protein based on chemical composition was included for the product potato pulp.

For potato pulp (4001.226/0):

$$[F.H45] \quad \%RUP = 5569 * 1/[CP * (1000/(1000-STAam)) * (1000/(1000-ASH))]$$

In which:

%RUP as percentage

ASH, CP and STAam in g/kg DM

3.4.1.6 Reported values DVE/OEB system 1991 on product sheets

On the product sheets, for each individual feedstuff, the following values are given: %RUP, %DRUP, %RUSTA, %DASH, MDASH (in g per kg product or DM), and (in g per kg product or DM): FOM, DVE, OEB, DVLYS and DVMET.

3.4.2 The (provisional) DVE/OEB 2007 system

In March 2007 an updated protein evaluation system for dairy cattle (DVE/OEB 2007 system) was presented, to succeed the DVE system that was introduced in 1991 (CVB, 1991). Detailed information concerning the system is given in CVB Documentation report no 52 (CVB, 2007).

For each feedstuff, six values are calculated:

- Intestinal digestible protein (in Dutch: darmverteerbaar eiwit, DVE)
- Rumen degraded protein balance (in Dutch: onbestendig eiwit balans, OEB)
- Fermentable organic matter in the rumen (FOMr, see paragraph 3.4.2.3)
- Rumen degraded protein balance two hours after feed intake (OEB-2, see paragraph 3.4.2.2)
- Fermentable organic matter in the rumen two hours after feed intake (FOMr-2, see paragraph 3.4.2.3)

- The ratio between FOMr-2 and FOMr (FOMr-2/FOMr, see paragraph 3.4.2.3)

The DVE value represents the protein value of the feedstuff and was also included in the DVE/OEB system 1991. The same applies to the OEB value that represents the difference between the maximum potential microbial protein synthesis based on nitrogen from degraded protein on the one hand and the maximum potential microbial protein synthesis based on available fermentable organic matter on the other hand. However, both characteristics are calculated differently: FOMr is the amount of organic matter from a feedstuff that is fermented in the rumen and FOMr is calculated in a fundamentally different manner than FOM in the DVE/OEB 1991 system. The other three parameters were not included in the DVE/OEB 1991 system and provide insight in the dynamics and rate of fermentation in the rumen.

3.4.2.1 Intestinal digestible protein (DVE)

DVE in the DVE/OEB 2007 system consists of the same components as DVE in the DVE/OEB 1991 system:

- The amount of protein in the feedstuff that will not be degraded in the rumen, but is digestible in the small intestine: intestinal degradable rumen undegraded protein (DRUP)
- The amount of intestinal digestible protein from microbial protein that is produced in the rumen: intestinal degradable microbial protein (DMP)
- The amount of protein excreted with the faeces deriving from digestive enzymes and gut wall cells, including the amount of protein required to synthesize this endogenous protein: intestinal degradable metabolic faecal protein (DMFP)

$$[F.H45] \quad DVE = DRUP + DMP - DMFP$$

3.4.2.1.1 Intestinal degradable rumen undegraded protein (DRUP)

The amount of intestinal degradable rumen undegraded feed protein is calculated in the DVE/OEB 2007 system as follows:

$$[F.H47] \quad DRUP = CP * \%RUP/100 * \%DRUP/100^a$$

In which:

CP = crude protein (g/kg or g/kg DM)

%RUP = rumen undegradability of the protein (in %)

%DRUP = intestinal digestibility of the undegraded protein (in %)

This calculation slightly differs from the procedure in the DVE/OEB 1991 system (see [F.H28] in paragraph 3.4.1.1.1; the correction factor 1.11 is dropped).

3.4.2.1.2 Calculation of rumen undegradability of protein (%RUP)

The undegradability of protein in the rumen (%RUP) is estimated from the results of nylon bag incubations. Small amounts of a feedstuff are incubated in nylon bags in the rumen. In the residues after various incubation periods the remaining amount of nutrients is determined. A distinction is made between a washable (W) fraction that is washed out of the bags without rumen incubation, an undegradable (U) fraction, and a (calculated) potentially degradable fraction (D). The rate of degradation of the D fraction (k_d) is also determined. In the DVE/OEB 2007 system, the W fraction is divided into a soluble fraction (S, determined at the laboratory) and a remaining fraction consisting of small particles (W-S). The undegradability of compound feedstuffs and wet feedstuffs may be calculated from these data, according to the following equation:

a For forages and high moisture industrial co-products 'CP' should be replaced by 'CP_{in}', the CP content including ammonia. In the DVE calculation of high moisture industrial co-products it is assumed that the ammonia fraction = 0 (and, therefore, that CP = CP_{in}), although (especially after ensilation) a small amount of ammonia is present.

$$[\text{F.H48}] \% \text{RUP} = 11/(200+11)*S + 8/(8+k_{dD})*(W-S) + 6/(6+k_{dD})*D + U$$

In which:

S	=	soluble CP fraction (%)
(W-S)	=	CP in the small particles fraction
W	=	washable CP fraction (%)
D	=	potentially degradable CP fraction (%) (D = 100 – W – U)
U	=	undegradable CP fraction (%)
11	=	passage rate from the rumen of the S fraction (% per hour)
8	=	passage rate from the rumen of the (W-S) fraction (% per hour)
6	=	passage rate from the rumen of the D fraction (% per hour)
200	=	rate of CP degradation of the S fraction in the rumen (% per hour)
k _{dD}	=	rate of CP degradation of the D and the (W-S) fraction in the rumen (% per hour)

For forages the following equation applies:

$$[\text{F.H49}] \% \text{RUP} = 11/(200+11)*S + 8/(8+k_{dD})*(W-S) + 4.5/(4.5+k_{dD})*D + U$$

The only difference being the passage rate of the D fraction; for forages, this passage rate is assumed to be 4.5% per hour. For bulbs and tubulars, this rate is 6% per hour.

3.4.2.1.3 Origin of data concerning protein undegradability (%RUP)

The *in situ* data that underlie the protein values in this table are - with respect to protein undegradability - derived from a CVB dataset, mainly based on nylon bag studies executed by Wageningen UR – Livestock Research in Lelystad. The data have been supplemented by research which was done in 2004 by order of the Product Board Animal Feed on behalf of CVB. Some data from Dutch and foreign literature have also been included.

3.4.2.1.4 Intestinal digestibility of the undegraded protein (%DRUP)

The reference method for determining the intestinal digestibility of undegraded protein (%DRUP) concerns the measuring of the disappearance of the protein from nylon bags using the so-called mobile nylon bags method. In this technique, a small amount of feedstuff is, after 12 to 18 hours of rumen incubation, transferred in a nylon bag at the beginning of the small intestine. After passing through the digestive tract, the bag is collected from the faeces. The amount of N that disappeared during passage is assumed to be digested.

Although the mobile nylon bags method is the reference method, such data are not available for all feedstuffs. In those cases, the %DRUP value is based on nylon bags trials in the rumen. The %DRUP is based on the fraction that is not digested after prolonged rumen incubation.

When information was lacking, values were estimated from similar feedstuffs, if possible. Plant residues rich in cell walls (e.g., husks) were estimated low (50%). When no data on similar feedstuffs were available, the intestinal digestibility was estimated, for the time being, to be 75%.

3.4.2.1.5 Intestinal degradable microbial crude protein (DMP)

The amount of intestinal digestible microbial protein is calculated from the amount of microbial crude protein produced based on rumen available energy (MCPe), according to the same equation as in the DVE/OEB 1991 system:

$$[\text{F.H50}] \text{ DMP} = 0.75 * 0.85 * \text{MCPe}$$

In which:

0.75	=	the amount of true protein in MCPe
0.85	=	the intestinal digestibility of the true protein

MCPe = microbial crude protein produced based on the in the rumen available energy (g/kg or g/kg DM)

The calculation of the amount of MCPe in the DVE/OEB 2007 system, however, differs completely from the calculation in the DVE/OEB 1991 system. The amount of MCPe produced in the rumen during fermentation of a feedstuff depends on:

- The type of substrate that is fermented:
Certain substrates yield much more ATP per gram than others.
- The type of bacteria that ferment the substrate:
A distinction is made between LAB (= Liquid Associated Bacteria) and PAB (= Particle Associated Bacteria). The S and (W-S) fractions are fermented by LAB; the D fraction by PAB.
- The amount of ATP available for the production of bacterial mass:
This is the amount of ATP that is released with the fermentation of a certain substrate minus the amount of ATP required for 'bacterial maintenance processes'. This is determined by - on the one hand - the maintenance requirements of the bacteria, and - on the other hand - by the residence time of the bacteria in the rumen (the reciprocal of the passage rate). The maintenance requirement of LAB, expressed as mmol ATP per gram of bacteria per hour, is much higher than the maintenance requirement of PAB. On the other hand, the residence time of PAB in the rumen is much longer than the residence time of LAB, so that PAB use ATP for maintenance for a longer period of time than LAB.
- The proportion of CP per kg of bacterial mass;
- The preying upon bacteria by protozoa.

The following equation is used to calculate the amount of MCPe from an average forage:

$$[F.H51] \text{ MCPe} = 0.174 \cdot F_{S\text{SUG}} + 0.166 \cdot F_{(W-S)\text{STA}} + 0.253 \cdot F_{D\text{STA}} + 0.138 \cdot F_{D\text{NDF}} + 0.145 \cdot F_{(W-S)\text{RNSP}} + 0.168 \cdot F_{D\text{RNSP}} + 0.099 \cdot F_{S\text{CP}} + 0.082 \cdot F_{(W-S)\text{CP}} + 0.110 \cdot F_{D\text{CP}} + 0.087 \cdot F_{S\text{FP}}$$

In which:

- F = the rumen fermented fraction of a certain feed component (SUG, STA, NDF, RNSP, CP, FP), whereby the subscripts (s, (w-s), d) refer to the fraction in the nylon bag procedure.
- 0.174 = the efficiency factor for the utilization of energy from $F_{S\text{SUG}}$ to produce MCPe (similar for all other coefficients)
- 0.138 = this efficiency factor applies to a D-NDF fraction with a mean degradation rate. The kp of D-NDF depends on the kd of this fraction; the efficiency factor of $F_{D\text{NDF}}$ therefore depends on the kd. The same applies to the efficiency factor of the $F_{D\text{RNSP}}$ (where the efficiency factor of 0.168 refers to a D-RNSP fraction with a mean degradation rate).

Please note: For products containing GOS, the GOS fraction should be included in the calculations in the same manner as the SUG fraction.

The equation for calculating MCPe from a compound feedstuff or a wet feedstuff is similar to F.H51, except for the efficiency coefficients for $F_{D\text{NDF}}$ and $F_{D\text{RNSP}}$: mean values of 0.168 and 0.175, respectively, are assumed. Further, for the $F_{D\text{CP}}$ fraction a coefficient for concentrates of 0.126 is used and 0.110 for roughages.

It is noted that the amount of MCPe, calculated according to [F.H51], will be produced only when OEB is not negative.

3.4.2.1.6 Amount of intestinal degradable metabolic faecal protein (DMFP)

The calculation of the amount of intestinal digestible metabolic faecal protein (DMFP) in the DVE/OEB 2007 system is exactly the same as in the 1991 system. The amount of DMFP is calculated as follows:

$$[F.H52] \text{ DMFP} = 0.075 \times \text{iDMI} = 0.075 \times (\text{DM} - \text{DOM} - \text{DASH})$$

The inevitable faecal protein losses are supposed to depend on the indigestible dry matter intake (iDMI). The indigestible dry matter intake may be calculated from the amount of dry matter (DM) minus the amounts of digestible organic matter (DOM) and digestible crude ash (DASH).

The digestibility of the crude ash (%dASH) is, depending on the feedstuff, set on 35, 50 or 65. These values were derived per feedstuff from the contents of Na, K, Cl, Ca, Mg and P present in ASH. It is further assumed that the digestibility of Na, K and Cl is 100%, and that the digestibility of Ca, Mg and P is 50 %.

More information on the calculation method is given in CVB series nr. 7 (1991).

The DASH value in F.H52 is calculated according to:

$$[\text{F.H53}] \quad \text{DASH} = \%d\text{ASH}/100 \times \text{ASH}$$

This equation may only be used if the resulting DASH value does not exceed the MDASH value from the Feedstuff Table. If the DASH value is higher, one should use the MDASH value, which is calculated as follows:

$$[\text{F.H54}] \quad \text{MDASH} = \%d\text{ASH}/100 \times (1.1 \times \text{ASH}_{\text{table}} + 10)$$

in which $\text{ASH}_{\text{table}}$ is the ASH content on the product sheet.

Added minerals are supposed to be 50% digestible, with no maximum value. For NaCl (table salt) 100% digestibility is likely.

The metabolic faecal protein losses are calculated under the assumption that 75 g DMFP is lost per kg of DM.

3.4.2.2 The rumen degraded protein balance (OEB)

The rumen degraded protein balance (in Dutch: Onbestendig Eiwit Balans, OEB) represents the difference (at rumen level) between the maximum possible microbial protein synthesis, based on the available amount of degradable protein on the one hand, and the maximum possible microbial protein synthesis, based on the available amount of energy on the other. The OEB value of the ration may (with the exception of beef cattle and young stock from 250 kg LW, and a DVE supply above the standard; see the most recent version of the CVB Feed Table) never be negative, because in that case not enough N is available in the rumen to reach the calculated DMP:

$$[\text{F.H55}] \quad \text{OEB} = \text{MCPn} - \text{MCPe}$$

In which:

MCPn = the maximum possible microbial protein synthesis based on available nitrogen
(= CP x (1 - %RUP/100))

MCPe = the maximum possible microbial protein synthesis based on available energy
(the calculation of MCPe is explained in F.H51, paragraph 3.4.2.1.5).

The new protein system also offers the opportunity to check the supply of N and energy at the rumen level in the short term. Therefore, the OEB-2 is also reported as a parameter, in addition to OEB as such.

3.4.2.3 Fermentable organic matter in the rumen (FOMr)

In paragraph 3.4.2.1.5, all fractions of rumen fermented organic matter are stated in [F.H51]. When these values are added up, the total amount of rumen fermentable organic matter is obtained (FOMr).

To gain insight in the degradation rate of organic matter in the rumen, the amount of FOMr that is fermented during the first two hours after intake can be calculated (= FOMr2). A more comprehensible parameter is the ratio FOMr2/FOMr. For each product, FOMr2 and FOMr2/FOMr are reported besides FOMr.

3.4.2.4 Intestinal digestible amino acids

The supply of intestinal digestible amino acids is calculated in the DVE/OEB 2007 system according to the rules described in CVB Documentation report nr. 22, in Dutch (CVB, 1998a). The equations for calculating the content of intestinal digestible methionine (DVMET) are as follows:

$$[\text{F.H56}] \quad \text{DVMET} = \text{DRUMET} + \text{DMMET} - \text{DMFMET}$$

$$[\text{F.H57}] \quad \text{DRUMET} = \text{MET}/100 \times \text{DRUP} / 0.96$$

$$[\text{F.H58}] \quad \text{DMMET} = 0.025 \times \text{DMP}$$

$$[\text{F.H59}] \quad \text{DMFMET} = 0.015 \times \text{DMFP}$$

In which:

DRUMET = methionine contribution from DRUP (= Digestible Rumen Undegradable Protein)

DMMET = methionine contribution from DMP (= Digestible Microbial Protein)

DMFMET = methionine contribution from DMFP (= Digestible Microbial Faecal Protein)

MET = methionine content in the feedstuff (in g/16 g N, or in g/100 g CP)

To calculate the content of intestinal digestible lysine (DVLYS), the following equations apply:

$$[\text{F.H60}] \quad \text{DVLYS} = \text{DRULYS} + \text{DMLYS} - \text{DMFLYS}$$

$$[\text{F.H61}] \quad \text{DRULYS} = \text{LYS}/100 \times \text{DRUP}$$

$$[\text{F.H62}] \quad \text{DMLYS} = 0.077 \times \text{DMP}$$

$$[\text{F.H63}] \quad \text{DMFLYS} = 0.057 \times \text{DMFP}$$

in which:

DRULYS = lysin contribution from DRUP (= Digestible Rumen Undegradable Protein)

DMLYS = lysin contribution from DMP (= Digestible Microbial Protein)

DMFLYS = lysin contribution from DMFP (= Digestible Microbial Faecal Protein)

LYS = lysin content in the feedstuff (in g/16 g N, or in g/100 g CP)

Calculation of DRUP, DMCP and DMFP is done in conformity with the rules of the DVE system.

3.4.2.5 Sugars, glucose oligosaccharides (GOS) and crude fat in the DVE/OEB 2007 system

In the DVE/OEB 2007 system it is assumed that all sugars and GOS that are present in feedstuffs will end up in the S fraction. This implies that 95% is degraded in the rumen, and 5% escapes rumen degradation through passage from the rumen.

Crude fat is required in the new system to calculate the degradation characteristics of RNSP. The following rules apply: $W = 35\%$; $U = 0$; $K_{dD} = 15\%$ per hour. Note: in this case K_{dD} is not the degradation rate (CFAT is not fermented in the rumen), but the "rate of disappearance".

3.4.2.6 Rumen undegraded starch (%RUSTA)

In the DVE/OEB 2007 system, for the degradation of starch a distinction is made between the small particles fraction (W-S) and the D fraction. This distinction was not made in the DVE/OEB 1991 system. The fraction soluble starch (S) is zero or negligible. Therefore $(W-S) = W$. The degradation rate of the W-S fraction is calculated by:

$$[\text{F.H64}] \quad k_{dW} = 2 \cdot k_{dD} + 0.375.$$

The k_p of the D fraction of starch is for all feedstuffs (including forages) set at 6% per hour. When compound feeds are (heat) pelleted, the undegradability of starch decreases. In the DVE/OEB 2007 system, the effect of pelleting is taken into account by assuming a decrease of the

D fraction, because pelleting is supposed to mainly damage the structure of the particles in the D fraction:

$D' = 0.75 * D$ and $W' = 100 - D'$ (in which $D' = D$ fraction after pelleting).

For feedstuffs in which the starch is hydrolyzed by heat- or pressure-treatment (e.g., extrusion, expansion, pressure cooking), the %RUSTA will be very low. For products with hydrolyzed starch, 95% of the starch is supposed to be degraded in the rumen. The %RUSTA is therefore set at 5%.

Feed ingredients for which %RUSTA is not based on *in situ* incubations in nylon bags in the rumen, but on estimations, %RUSTA is (after applying the correction for pelleting) rounded off to a multiple of five. On the product sheets, %RUSTA is given including the correction for pelleting.

3.4.2.7 Degradation characteristics of NDF and RNSP

For NDF, in the DVE/OEB 2007 system a D and a U fraction are distinguished. The W fraction is set to zero.

To determine the degradation curves of RNSP in nylon bags experiments, this fraction should be calculated for each incubation time, by subtracting the still present amounts of CP, CFAT and NDF from the still present amount of OM. Because of the composition of the RNSP fraction, it is likely that this also contains a W fraction, which will partly consist of an S fraction. The latter cannot be quantified, however, it's existence justifies a higher degradation rate for the W fraction of RNSP than for the D fraction:

$$[F.H65] \quad kd_{W-RNSP} = 2.5 * kd_{D-RNSP}$$

The passage rate (k_p) of the D fraction of NDF and RNSP is calculated from the relationship between k_p and k_d :

$$[F.H66] \quad \text{For forages:} \quad k_{pD} (\% \text{ per hour}) = 1.39 + 0.1775 * k_{dD}$$

$$[F.H67] \quad \text{For concentrates:} \quad k_{pD} (\% \text{ per hour}) = 1.885 + 0.1775 * k_{dD}$$

With k_{dD} in % per hour.

3.4.2.8 Statement of DVE/OEB 2007 system values on product sheets

The equations to estimate the various degradable fractions per chemical parameter and per feedstuff are not provided in this document. They have been collected, together with all other calculation rules for feed evaluation in ruminants, in a separate CVB publication, entitled 'CVB calculation rules feed evaluation systems ruminants 2011' (Documentation report no 55). They have also been included in the 'CVB online feeding value calculator'.

On the product sheets, the following values are given: %RUP, %DRUP, %MDASH, MDASH (in g per kg product or g per kg DM), and (in g per kg product or in g per kg DM): FOMr, FOMr2, OEB, OEB-2, DVLYS and DVMET, and the ratio FOMr2/FOMr.

3.5 Structure value (SV)

Rumen acidosis caused by fast rumen fermentation of carbohydrates should be prevented. This can be achieved by setting limits to the 'structure value' (SV) of a ration within a structure value system. Since 1998, the CVB tables make use of the structure value system developed by the "Rijksstation voor de Veevoeding" (at present "Unit Animal" of the "Instituut voor Landbouw- en Visserijonderzoek (ILVO)" in Melle-Gontrode (Belgium) (for more information on this system and the standards, see CVB Documentation report nr. 23 (CVB, 1998b)). In 2002, the Unit Animal of ILVO has implemented some minor adaptations in the equations to calculate SV and in the requirement standards. These adaptations have been incorporated in this table.

In the structure value system, for calculating the structure value of compound feedstuffs, two equations are available: one based on CF and one based on NDF. For many feedstuffs in the Animal Feed Table, the NDF content is based on a limited amount of data. For a number of feedstuffs, CVB developed relations between NDF and CF to estimate the NDF content. Depending on the number of data underlying the NDF content on the product sheet, the former CVB working group Animal Feed Table decided to base calculation of the SV on either an estimation equation with the NDF content, or an equation with the CF content. Because of the relative importance of dry compound feedstuffs, compound feeds and wet feedstuffs for the SV of the complete ration, it was also decided to use (from 2003 onwards) STAam for the required starch content.

For compound feedstuffs, the SV is, therefore, calculated according to one of the following equations:

$$[F.H68] \quad SV \text{ (per kg DM)} = 0.321 + 0.00098*CF + 0.00025*RUSTA - 0.00112*(SUG + a*FSTA)$$

$$[F.H69] \quad SV \text{ (per kg DM)} = 0.175 + 0.00082*NDF + 0.00047*RUSTA - 0.00100*(SUG + a*STA)$$

In which:

$$a = 0.9 - 1.3*(\%RUSTA/100)$$

FSTA = fermentable starch (=STA – RUSTA)

STA = STAam

$$RUSTA = STAam * \%RUSTA/100$$

All contents in g per kg DM

For the following feedstuffs the SV is calculated according to equation [F.H69]: malt culms; soybeans, heat treated; soybean hulls; soybean expeller; soybean meal, rumen bypass; sorghum; tapioca; tapioca starch.
For all other products, SV is calculated according to equation [F.H68]

The structure values of compound feedstuffs apply to materials in milled form, processed into pellets.

A number of feedstuffs that consist largely of only one Weende component, like oils, fats and limestone has been assigned a SV of 0.15.

The derived SV for the most relevant wet feedstuffs are given in Table 3.2

Table 3.2 Structure value of most relevant moisture rich industrial co-products for ruminants (SV per kg DM)

Product group	Feedstuff	SV
Corn Cob Mix, as such or ensiled	Corn Cob mix, ensiled	0.75
	CCM, 100% rachis	0.60
	CCM, 50% rachis	0.50
	CCM, 25% rachis	0.40
Byproducts	Potato pulp, pressed	0.80
	Potato cuttings/chips	0.60
	Brewer's grains, ensiled	1.00
	Beet pulp, ensiled	1.05
	Maize glutenfeed, fresh or ensiled	0.60

For the criteria for the structure value of a ration, the reader is referred to CVB Documentation report No 23 (CVB, 1998b), or to the most recent version of the CVB Feed Table.

3.6 Calculation examples

Document RD006 on the CVB-website www.cvbdiervoeding.nl gives a step-by-step explanation of the calculation of feeding values for ruminants within the various systems.

4. FEED EVALUATION SYSTEMS FOR PIGS

4.1 Feed evaluation systems

In this Chapter the feed evaluation systems of CVB for pigs are explained. For pigs, three feed evaluation systems have been established by CVB:

- A net energy system (paragraph 4.2)
- A protein / amino acids system (paragraph 4.3)
- A digestible phosphorus system (paragraph 4.4)

4.2 Net energy system

For the determination of the net energy value for pigs the following aspects are of importance:

- The chemical composition of the feedstuff,
- The faecal digestibility of crude protein, crude fat, and non-starch polysaccharides (NSP).
- The ileal digestibility of starch and the digestibility (enzymatical and fermentative) of sugars,
- The general equations for the calculation of net energy according to this system.

4.2.1 Chemical composition of the feedstuff

Mean values for the feed components of interest in the calculation of the net energy value of a feedstuff can be found on the appropriate product sheets. In general, it is advised to chemically analyze individual batches of feedstuffs for a more accurate estimation of the energy value of that batch.

4.2.2 Digestibility values

4.2.2.1 Determination of the *in vivo* digestibility of feedstuffs for growing pigs

The faecal digestibility coefficients for crude protein, crude fat, and NSP have been derived from digestibility trials with growing pigs. In these trials it is determined which part of an ingested feed component does not appear in faecal matter and is therefore apparently digested. In this edition of the Feed Table for a substantial number of feedstuffs (and for almost all feedstuffs that are regularly fed to pigs) the digestibility values have been updated based on recently carried out digestibility trials. These trials were carried out according to CVB protocol for growing pigs (2005) using pigs in the weight range of 40 tot 100 kg and using a feed level of around 820 kJ net energy (NE) per kg of metabolic weight ($BW^{3/4}$). This is a feed level of around 2.8 – 2.9 times the maintenance energy requirement. At this feeding level it is expected that the determined digestibility values do not substantially deviate from digestibility values obtained at current field conditions were similar or somewhat high feeding levels are used. Digestibility values presented in earlier editions of CVB Feed Tables were based on animals that were fed at a level of approximately 705 kJ net energy (NE) per kg metabolic weight ($BW^{0.75}$). This corresponds to a feeding level of around 2.4 times maintenance. For further information, the reader is referred to the CVB Protocol for a faecal digestibility trial with growing, intact pigs (2005). For some feeds that are not regularly used in pig feeding no or only limited recent digestibility results have become available. In these cases the digestibility values were estimated using the old data or the combination of old and recent data. A general comparison between old and recent digestibility values suggested a systematic reduction in CP digestibility for the recent dataset of on average 4% compared to the old dataset. Therefore, for a number of feedstuffs for which no recent digestibility vales have become available the CP digestibility values were accordingly lowered in

CP digestibility. There was no systematic difference in crude fat digestibility between the old digestibility values and the recently obtained digestibility values, this also was the case for differences in NSP(h) digestibility between the old and the new dataset.

4.2.2.2 Origin of data on faecal digestibility of feedstuffs for growing pigs

In the current Feed Table, as much as possible digestibility results have been used from digestion trials carried out at Schothorst Feed Research (SFR) in Lelstad and the Animal Sciences Group (ASG) in Lelystad. For those feedstuffs where not enough recent data have become available the older results of trials performed in the past by the Food and Nutrition division of Wageningen UR Livestock Research in Lelystad, the Netherlands, (former IVVO-DLO and ILOB TNO) were used. Also, digestibility trials performed by Just (Denmark) and other literature results have been taken into consideration. For more information on how the old database has been composed please read paragraph 4.2.2.2 in the Feed Table 2011).

4.2.2.3 Derivation of equations for calculating faecal digestible contents of CP, CFATh and NSPh

For all feedstuffs with net energy values for pigs given, equations have been developed for the calculation of the necessary contents of faecal digestible components (DCP, DCFATh and NSPh). These estimation equations are, for most feedstuffs, based on statistical analysis (regression analysis) of databases containing digestibility trials of individual feedstuffs or combined databases of related feedstuffs. For some feedstuffs, no or insufficient digestibility trials were available for statistical analysis. In those cases, the digestibility was estimated by comparing the chemical composition and other characteristics of the feedstuff with related feedstuffs with known digestibility figures obtained with growing pigs.

When deriving estimation equations, it is always investigated which components determine the digestibility of a certain component (e.g., the digestibility of CP is determined by the CP content, but often also by the CF or NDF content).

When deriving equations for digestible crude protein (DCP) and digestible crude fat (DCFATh), a basal endogenous faecal excretion of 12.5 g CP per kg DM and of 5.0 g CFATh per kg DM, respectively, was taken into account. For certain (purified) feedstuffs, basal endogenous faecal excretions were not expected to occur, and therefore were set to zero.

The digestible contents (e.g., DCP), calculated according to the above-mentioned product specific calculation rules, may be divided by the gross nutrient content, and subsequently multiplied by 100 (e.g., $100 \times \text{DCP}/\text{CP}$), resulting in the digestibility coefficient for that nutrient (in this case: DCCP). On the product sheets, the digestibility coefficient of CP, CFATh and NSPh – applying to the average chemical composition as stated on the product sheet - was calculated according to this procedure. For batches with a different chemical composition, this digestibility coefficient will not be correct. In those cases, the digestible nutrient content is better estimated by using the available specific calculation rules for that product.

For certain chemical components and feedstuffs, some specific remarks concerning the calculation of the energy value are made below.

4.2.2.4 Calculating the content of digestible crude fat

For feedstuffs with a low crude fat content ($\text{CFATh} \leq 15$ g per kg DM), the digestibility of crude fat cannot be determined accurately in a digestibility trial. For such products, the content of digestible crude fat (DCFATh) is usually calculated with the following - pragmatic - equation:

$$[\text{F.V01}] \quad \text{DCFATh (g/kg DM)} = a/100 \times \text{CFATh} - 5.0$$

in which:

- a = the true digestibility of the CFATh. For most feedstuffs it is assumed that a = 90%, except for leaf-rich feedstuffs (e.g., grass pellets or meal, alfalfa pellets or meal), where 'a' is set to 50%, because a substantial part of the CFATh in these feedstuffs consists of waxes and such (which are apparently digested, but are not utilized).
- CFATh = the crude fat content in g per kg DM.
- 5.0 = the above-mentioned endogenous basal faecal CFATh excretion (in g per kg DM).

4.2.2.5 Non-starch polysaccharides (NSPh)

For the energetic evaluation of feedstuffs for pigs, among other factors the calculated fraction 'non-starch polysaccharides' (NSPh) is used. The NSPh fraction consists of all carbohydrates (including pectin and lignin) with the exception of starch, sugars, glucose oligosaccharides (GOS), (volatile) organic acids, and ethanol. The following components are included in the NSPh fraction:

- The cell wall components cellulose, hemi-cellulose (including beta-glucans), pectin, and lignin.
- The non-starch polysaccharides including fructans (like inuline), galactans, and mannans.

4.2.2.5.1 Calculation of (D)NSPh in digestibility trials

The foundation for the NSPh digestibility values used in practise is, just as for CP and CFATh, digestibility studies. It is essential that a correct calculation takes place of NSPh and DNSPH. Most dry feedstuffs do not contain (volatile) fermentation products. The NSPh fraction in dry feedstuffs therefore can be calculated using the following equation:

$$[F.V02] \quad \text{NSPh} = \text{OM} - \text{CP} - \text{CFATh} - \text{STAam} - \text{GOS} - \text{CF_DI} \cdot \text{SUG}$$

(contents in g per kg DM)

The factor CF_DI in the equation F.V02 (and other equations) is a correction factor to convert the content of gross total sugars, expressed as glucose equivalents, into the sugar content as present in the product. Further explanation on the use of this correction factor is given in paragraph 4.2.3.5. For the calculation of DNSPh and NSPh always STAam should be used and not STAew (see paragraph 2.3.2).

Maize gluten feed contains substantial (but varying) amounts of lactic acid (LA). For a correct NSPh calculation the quantity of LA should be subtracted as well. Furthermore, DDGS contains besides LA also GLYCEROL and therefore in the calculation of NSPh for DDGS the amounts of LA and GLYCEROL should be subtracted. Also dried industrial co-products coming from a wet procedure might contain products from an incomplete fermentation of starch (with a length of 2 – 10 glucose units). These are called glucose-oligosaccharides (GOS) and this fraction must be analysed separately as these products are not detected in both the sugar analysis based on the Luff Schoorl method and the starch analysis based on an amyloglucosidase method or the Ewers method.

A number of high moisture industrial co-products contain substantial, but varying, amounts of fermentation products: lactic acid (LA), acetic acid (AC), propionic acid (PR), butyric acid (BU), ethanol (ETH), and in some cases also GLYCEROL. Also GOS may be present in substantial amounts in high moisture industrial co-products. Depending on the drying method used, part or all of the fermentation products LA, AC, PR, BU and ETH may evaporate during the drying process. In digestibility studies high moisture industrial co-products are freeze dried. The freeze drying method prevents the evaporation of LA although ETH evaporates completely. Furthermore, using the freeze drying process only minimal amounts of the products AC, PR and BU evaporate and the degree of evaporation can be ranked as follows: BU > PR > AC. The ranking of the amount or presence of these fermentation products in high moisture industrial co-products is as follows: LA > AC > PR. Considering the inaccuracy of the method used for analysing these fermentation products, these products could be analysed in the freeze dried product. However, usually LA, AC,

PR, BU and ETH are analysed in the non-dried product and then these analysed values are calculated to a DM basis. In order to do this it is important to realise that the accuracy of the DM method becomes more important at lower DM contents. The concentrations of GLYCEROL and GOS are, just as for ASH, CP, CFATh, SUG and STAam, analysed in the freeze dried product. The content of NSPh in the freeze dried products of high moisture industrial co-products is calculated using the following equation:

$$[F.V03] \quad \text{NSPh} = \text{OM} - \text{CP} - \text{CFATh} - \text{STAam} - \text{GOS} - \text{CF_DI} \times \text{SUG} - \text{LA} - \text{AC} - \text{PR} - \text{BU} - \text{GLYCEROL}$$

- (contents in g per kg DM)
- (contents of LA, AC, PR and BU are normally analysed in the non-dried product and then calculated to concentrations on a dry matter basis.

The following nutrients are considered to be 100% digestible: STAam, GOS, SUG, LA, AC, PR, BU and GLYCEROL. For the calculation of the content of digestible NSPh (DNSPh) the starting point is the concentration of digestible organic matter (DOM) and from this DOM the digestible fractions of nutrients are subtracted.

For the dry feedstuffs without LA and GLYCEROL the following equation applies:

$$[F.V04] \quad \text{DNSPh} = \text{DOM} - \text{DCP} - \text{DCFATh} - \text{STAam} - \text{CF_DI} \times \text{SUG}$$

(contents in g per kg DM)

For moisture rich industrial co-products the equation is:

$$[F.V05] \quad \text{DNSPh} = \text{DOM} - \text{DCP} - \text{DCFATh} - \text{STAam} - \text{GOS} - \text{CF_DI} \times \text{SUG} - \text{LA} - \text{AC} - \text{PR} - \text{BU} - \text{GLYCEROL}$$

- (contents in g per kg DM)
- (contents of LA, AC, PR and BU are normally analysed in the non-dried product and then calculated to concentrations on a dry matter basis.

In digestibility trials, the digestibility coefficient of the NSPh fraction (DCNSPh) is always calculated according to the equation:

$$[F.V06] \quad \text{DCNSPh} = 100 \times (\text{DNSPh} / \text{NSPh})$$

(contents in g per kg DM, DCNSPh in %)

4.2.2.5.2 Calculation of (D)NSPh in dry compound feedstuff samples in practice

In compound feedstuffs the presence of LA, GOS, GLYCEROL and volatile substances is not taken into account except for some exceptions. For the calculation of the NSPh content equation [F.V02] can be used: $\text{NSPh} = \text{OM} - \text{CP} - \text{CFATh} - \text{STAam} - \text{GOS} - \text{CF_DI} \times \text{SUG}$. For the previously named feedstuffs maize gluten feed and DDGS also LA and LA + GLYCEROL should be subtracted, respectively.

4.2.2.5.3 Calculation of (D)NSPh in high moisture industrial co-product samples in practice

Analysis of high moisture industrial co-products in practise usually happens on samples that are not freeze dried but oven dried (see paragraph 2.4). the components ASH, CP, CFATh, STAam, GOS and SUG are analysed in the dried product whereas the fermentation products are analysed in the non-dried product. The analysed fermentation components in the non-dried product are then

converted to values expressed in the dry matter. The drying methods used in precise results in the evaporation of part of the fermentation products. As a rule of thumb around 8% of LA and 50% of AC, PR and BU evaporate whereas GLYCEROL does not evaporate at all. For the calculation of the NSPh content than the following equation applies:

$$[F.V07] \quad \text{NSPh} = \text{OM} - \text{CP} - \text{CFATh} - \text{STAam} - \text{GOS} - \text{CF_DI} * \text{SUG} - 0.92 * \text{LA} - 0.5 * (\text{AC} + \text{PR} + \text{BU}) - \text{GLYCEROL}$$

(contents in g per kg DM)

For the calculation of the DNSPh content the calculated NSPh using equation [F.V07] must be multiplied with the DCNSPh value (given on the product sheet) / 100.

4.2.3 Net energy values

This paragraph is divided in a number of subparagraphs, successively dealing with the calculation of net energy values for growing pigs (NE = net energy for growth), the NE value for sugar beet pulp products, rules for the calculation of DCP, DCFATh and DNSPh per feedstuff, and finally the energy value EW.

4.2.3.1 New equation for net energy for growth (NE₂₀₁₅)

This CVB Feed Table edition starts with a new net energy equation to calculate net energy values (NE₂₀₁₅) for feedstuffs. This equation has been derived from a dataset containing feed digestibility results of growing pigs from climate respiration chambers. This dataset has been given to CVB by J. Noblet from INRA (France). For more information on the development of this new NE equation one can read CVB documentation reports 56 and 57 (2015). The new NE₂₀₁₅ equation is as follows:

$$[F.V08] \quad \text{NE}_{2015} \text{ (kJ/kg DM)} = 11.7 * \text{DCP} + 35.74 * \text{DCFATh} + 14.14 * (\text{STAam-e} + \text{GOS} + 0.90 * \text{SUG-e}) + 9.74 * \text{FCH} + 10.61 * \text{AC} + 14.62 * \text{PR} + 19.52 * \text{BU} + 20.75 * \text{ETH} + 12.02 * \text{LA} + 13.83 * \text{GLYCEROL}$$

The parameters used in equation [F.V08] are explained in Table 4.1.

Table 4.1 Explanation of parameters used in Equation [F.V08].

Parameter	Explanation	Calculation method per feedstuff
DCP	Digestible crude protein	Calculated based on analyzed CP content, using product specific equations or the digestibility coefficient presented on the product sheet / 100
DCFATh	Digestible crude fat (crude fat analyzed after acid hydrolysis)	In this new NE ₂₀₁₅ the standard is CFATh. DCFATh is calculated based on the analyzed CFATh content, using product specific equations or the digestibility coefficient presented on the product sheet / 100
STAam-e	Enzymatically digestible starch	Only for potato products with (partly) native starch an enzymatical (ileal) digestibility of less than 100% is assumed (see also paragraph

Parameter	Explanation	Calculation method per feedstuff
		3.2.3.4)
STAam-f	Fermentative degradable starch	$STAam-f = STAam - STAam-e$
SUG-e	Enzymatically digestible sugars	The content of enzymatically digestible SUG can be calculated by the equation: $SUG-e = SUG * DCE-SUG / 100$. DCE-SUG is not mentioned in this Feed Table but can be calculated as follows: $DCE-SUG = (SUG-e / SUG) * 100$ (see also paragraph 4.2.3.6)
SUG-f	Fermented sugars	$SUG-f = SUG - SUG-e$
CF_DI	Correction factor to convert the sugar content, expressed in glucose equivalents, into the sugar mass as present in the product	Value presented on the product sheet
FCH	Sum of fermented degradable carbohydrates	$FCH = DNSPh + CF_DI * SUG-f + STAam-f$
GOS	Glucose oligosaccharides	Value presented on the product sheet
AC	Acetic Acid	Only to be analyzed if a substantial content is expected, e.g., for certain high moisture industrial co-products
LA	Lactic Acid	
PR	Propionic Acid	
BU	Butyric Acid	
ETH	Ethanol	
GLYCEROL	Glycerol (Glycerine)	
DNSPh	Digestible non-starch polysaccharides	Calculated based on the calculated NSPh content, using product specific equations or the digestibility coefficient presented on the product sheet / 100

4.2.3.2 Explanation for the contribution of glucose oligosaccharides and fermentation products to NE_{2015}

Hereafter an explanation is given of the parameters GOS and the fermentation products AC, LA, PR, BU and ETH in equation [F.V08].

GOS consists of fragments of up to approximately 10 glucose units originating from an incomplete enzymatic degradation of starch. The net energy value of GOS equals that of starch. During the drying of a feedstuff no evaporation occurs.

For the stated organic acids, ethanol and GLYCEROL, the net energy value has been derived by comparing its ATP yielding potential with that of starch and by relating the proportion of the two to the NE_{2015} value of starch (see Table 4.2).

The contents of the organic acids and ethanol, as mentioned on the product sheets (also refer to paragraph 10.2), are determined in the non-dried ('fresh') product, and after that accounted for in the amount of dry matter that remains after drying of the sample. The above mentioned percentages of evaporation were estimated using literature data, and may in reality deviate from these values, due to the influence of factors like pH, method of drying and concentration. Currently there are not enough data available to estimate the extent of evaporation more accurately. These volatile components are only relevant for a number of high moisture industrial co-products feedstuffs and for maize gluten feed and DDGS.

Table 4.2 Net energy value and assumed evaporation during drying of some components mentioned in Equation [F.V08].

Component	Description	Real contribution NEv (MJ/kg)	Evaporation during drying of sample
GOS	Glucose oligosaccharides	14.14	0 %
AC	Acetic Acid	10.61	50 %
LA	Lactic Acid	12.02	8 %
PR	Propionic Acid	14.62	50 %
BU	Butyric Acid	19.52	50 %
ETH	Ethanol	20.75	100 %
GLYCEROL	Glycerol (Glycerine)	13.83	0 %

4.2.3.3 Compound feedstuffs generally do not contain fermentation products

For the calculation of NE₂₀₁₅ according to [F.V08], the contents analysed in dry matter should be used. In dry compound feedstuffs fermentation products do not - or hardly – occur, and therefore the components AC, PR, BU, LA, ETH and GLYCEROL can be neglected. Also, GOS is not present in these materials in substantial quantities. The NE₂₀₁₅ equation [F.V08] can therefore be simplified:

$$[F.V09] \quad NE_{2015} \text{ (kJ/kg product or g/kg DM)} = 11.70*DCP + 35.74*DCFATh + 14.14*(STA_{am-e} + 0.90*SUG-e) + 9.74*FCH$$

This equation results in NE₂₀₁₅ values expressed in kJ and can be used for the calculation of NE₂₀₁₅ on dry matter basis as well as on product basis (only if nutrient contents are expressed on a similar basis).

4.2.3.4 Native starch in potato products

The energetic coefficient for starch in the NE₂₀₁₅ equation (14.14 MJ/kg) is based on the assumption that all starch will be (enzymatically) degraded before reaching the terminal end of the small intestine (ileum).

One of the few starch types for which this definitely is not true is native or raw potato starch. Starch in potato products may be present as so-called "native" starch. Pigs are unable to digest native potato starch enzymatically, leaving it to be fermented (mainly in the large intestine). For products where this is the case, the starch content is corrected using a fixed factor (DCiSTA) to determine the NE₂₀₁₅.

Depending on the treatment (especially heat treatments) that may be applied to potato products, starch will be more or less gelatinized and therefore better degradable in the small intestine. In this Table, potato products are divided into three categories:

1. Products in which the starch is completely gelatinized and 100% (enzymatically) degraded in the small intestine: DCiSTA = 100. This starch has an energetic coefficient of 14.14 MJ/kg.
2. Products in which half of the starch is (enzymatically) degraded in the small intestine and the other half is fermented in the large intestine: DCiSTA = 50. This implies that half of the starch

is accounted for with the starch coefficient of 14.14 MJ/kg. The other half is integrated in the fermentative degradable remaining fraction; thus, this part is accounted for using a coefficient of 9.74 MJ/kg.

3. Products in which virtually all starch is in the native form, which is degraded exclusively by fermentation in the large intestine: DCiSTA = 0. The energetic coefficient equals 9.74 MJ/kg.

4.2.3.5 Correction factor for sugar (CF_DI)

In all CVB Tables (including this one), the sugar content is expressed in glucose equivalents. The content of crude total sugars (SUG) is determined according to Luff Schoorl. In this method the content of reducing sugars, soluble in 40% ethanol, is determined after hydrolysis with a diluted acid. With the hydrolysis of di- and oligosaccharides into monosaccharides, water molecules are bound, increasing the mass. In feedstuffs in which sugar is not solely present as monosaccharides, this will lead to an overestimation of the SUG content. The factor CF_DI was introduced to solve this problem: CF_DI is a correction factor for the conversion of the crude total sugar content, expressed in glucose equivalents, into the content in sugars as present in the feedstuff. For each feed ingredient CF_DI has a fixed value of at least 0.94 and at most 1.00. The value that is assigned to CF_DI for each feedstuff was derived from HPLC analyses of the crude total sugar content, yielding values for individual monosaccharides, disaccharides, trisaccharides and oligosaccharides. CF_DI is used for the correction of SUG in the equations for the calculation of NSPh [F.V02], [F.V03] and [F.V07] and DNSPh [F.V04] and [F.V05], and for the correction of SUG-f in the corresponding NE₂₀₁₅ equations [F.V08] and [F.V09].

4.2.3.6 Digestibility of sugars

SUG-e consists of the sum of glucose and other sugars that are digestible by digestive enzymes of the pig (sucrose, lactose, maltose). In comparative analyses, it has been observed for a number of feedstuffs that the content of reducing sugars, determined by Luff Schoorl, differs from the sum of glucose content and sucrose content (and maltose content). If this is the case, the reducing sugar content determined according to Luff Schoorl is corrected, using the factor SUG-e/SUG from the table. When both contents do not differ, SUG-e/SUG is set to 1.0.

In lactose containing products a SUG-e/SUG value of 1.0 will also be used. Growing and finishing pigs (25 kg and over) do not produce any lactase if the ration does not contain any lactose. If lactose is introduced to these pigs, lactase synthesis is induced again. The adaptation period to rations that contain lactose is approximately 7 days. Consequently, the factor of 1.0 will only apply if lactose containing diets are regularly provided.

4.2.3.7 The NE₂₀₁₅ equation is based on respiratory trials with growing pigs

The until recently used NE_v equation was, just as the earlier NE_v equation of Schieman et al., (1971) (where the carbohydrate fraction was partitioned in digestible CF and digestible NFE), based on results from respiratory metabolism trials with heavy pigs that mainly deposited fat (Schieman et al., 1971). These NE_v equations resulted in overprediction of the true deposited energy when being used for a more modern pig (Van der Honing et al., 1984). This NE₂₀₁₅ equation is based on respiratory metabolism trials carried out by J. Noblet from INRA (France) with growing pigs (CVB documentation report 56, 2015).

4.2.4 The NE_v value of sugar beet pulp products

Research on growing pigs receiving rations containing 0 - 15 % pressed sugar beet pulp (ensiled), on a feeding level of 2.5 times maintenance level, showed that an increasing beet pulp fraction in the ration resulted in a decrease of the physical activity of the animals, and therefore also the maintenance requirements. Similar research showed that feeding dried sugar beet pulp also reduced physical activity. Therefore, the energy value of sugar beet pulp products in practice is higher than calculated with equation [F.V08] or [F.V09]. For rations containing up to 15 % dried

sugar beet pulp or pressed sugar beet pulp (fresh and ensiled), the energy value should be calculated as follows:

$$[\text{F.V10}] \quad \text{Energetic utility value} = \text{NE}_{2015} \text{ (calculated according to [F.V08] or [F.V09])} + 3.9 \times \text{DNSPh}$$

with Energetic utility value and NE_{2015} in kJ/kg, DNSPh in g/kg (dried sugar beet pulp), or Energetic utility value and NE_{2015} in kJ/kg DM and DNSPh in g/kg DM (pressed sugar beet pulp)

The NE_{2015} and EW_{2015} values, as mentioned on the product sheets of sugar beet pulp products, have been calculated using this equation.

4.2.5 The EW value

The energy value of feedstuffs for pigs can be expressed as NE_{2015} , but also as a proportional number EW_{2015} (EW = Dutch abbreviation of energy value), where the NE_{2015} of the feedstuff is divided by the mean net energy value of one kg of a compound pig feed as commonly produced around 1970 ($\text{NEv} = 8.8 \text{ MJ/kg}$):

$$[\text{F.V11}] \quad \text{EW}_{2015} = \text{NE}_{2015} \text{ (in MJ)} / 8.8 \text{ MJ}$$

Although the calculated NE_{2015} value of a diet is higher than the NEv value of the same diet it has still been decided to maintain the in the old NEv system used conversion factor of 8.8.

4.2.6 The energy value of fermentation products and amino acids

4.2.6.1 Estimation of the energy value of fermentation products based on their ATP yielding capacity

The energy values of fermentation products cannot be determined in animal trials, since this kind of study requires high contents in the ration and because high amounts of these products are mostly not accepted by the animals. One method to estimate the energy value of these products is to estimate their theoretical ATP yielding capacity and compare this value with the ATP yielding capacity of starch.

The maintenance metabolism of an animal is mainly a matter of ATP expenditure and also in production metabolism the ATP yielding potential plays a role.

For the estimation of energy values based on the ATP potential, a certain compound is used as a reference, to which all products are compared. The reference compound used in this calculation is starch; the ATP yield (moles) per gram of starch is known and set to 100%. The ATP yield (moles) per gram of the other compounds is expressed as a percentage of the ATP yield of starch. Based on this percentage, the energy value is calculated.

For example: Starch has an ATP yielding capacity of 0.2222 moles of ATP per gram matter. The ATP yielding capacity of propionic acid is 0.2297 moles per gram, so 3.38% more. The energy value of 1 kg of pure starch for pigs is 14.14 MJ NE_{2015} . The energy value of 1 kg of pure propionic acid is, therefore, $1.0338 \times 14.14 = 14.62 \text{ MJ NE}_{2015}$.

For glucose, sucrose and starch, the ATP potential per glucose unit is equal. During polymerisation of glucose molecules through glucosidic bindings, however, one water molecule is removed from each glucose molecule. Therefore, the ATP potential of a free glucose molecule is 0.90 x that of a glucose molecule within a starch molecule; likewise, for sucrose a factor 0.95 applies.

The energy values that are derived in this way for fermentation products, glucose and sucrose for different animal categories are given in paragraph 10.5 'Miscellaneous'.

4.2.6.2 Estimation of the energy value of synthetic amino acids

For synthetic amino acids, also the estimated ATP yielding capacity is used as a starting point. By comparing the ATP yield of these amino acids with the ATP yield of starch, the energy value can be calculated. For the calculation of the NE₂₀₁₅ values of amino acids the publication of van Milgen (2012) is used. See further paragraph 10.5 'Miscellaneous'.

4.3 Protein value

When equationing a diet, it is of importance, as far as protein is concerned, to take into consideration a number of aspects:

- First, for the conversion of feed protein into body protein, it's not the content of protein as such that is relevant, but the amino acid profile of the protein in a feed.
- Second, it is not the amino acid profile as such that is important, but the digestibility of the various amino acids. In feedstuffs with a low crude protein digestibility, the digestibility of the separate amino acids may vary substantially.
- Third, only the amino acids that have been digested and absorbed before the end of the small intestine (=ileum) can be utilised by the pig. Amino acids that pass the small intestines into the large intestine with the digesta, can be degraded, or converted into other amino acids by means of microbial fermentation in the large intestines, but do not contribute to the provision of amino acids to the animal.
- Fourth, it should be emphasized that a digestibility trial using a test diet always yields apparent digestibility. This means that the digesta collected at the terminal ileum not only contains undigested feed protein, but also undigested protein of endogenous origin.

Especially the third aspect has resulted in the introduction in 1990 by CVB of the 'intestinal digestible amino acids' system for the determination of protein values in feedstuffs for pigs. This system was based on the apparent small intestinal (or ileal) digestibility of amino acids in feedstuffs:

$$\text{[F.V12]} \quad \text{Apparent ileal digestibility AA (\%)} = \frac{\{(AA \text{ intake}) - (AA \text{ that leave the ileum undigested})\} \times 100}{(AA \text{ intake})}$$

4.3.1 Determination of apparent ileal digestible amino acids in cannulated pigs

In research performed in the Netherlands, the determination of the contents of apparent ileal digestible amino acids was, and still is, done in pigs that have been fitted with a cannula at the end of the ileum. With this technique, it is possible to collect digesta at the end of the ileum. The apparent ileal digestibility of an amino acid is the fraction of the amino acid in the ingested feed that is not retrieved from the digesta collected at the end of the ileum, plus the amount of undigested endogenous protein present in the digesta.

The digesta is not collected quantitatively. In order to be able to relate this non-quantitatively collected amount to a certain amount of ingested feed, an inert marker is added to the feed. Using the contents of this marker in feed and digesta, the 'apparent ileal digestibility' can be calculated.

4.3.2 Endogenous losses

4.3.2.1 Origin of endogenous losses

The digesta not only contains amino acids from undigested feed protein, but also from undigested proteins of endogenous origin.

The non-digested endogenous protein fraction is composed of proteins from:

- undigested enzymes from digestive juices,
- desquamated epithelium cells,

- the mucus,
- bacterial protein, arising from fermentation.

4.3.2.2 Basal endogenous protein vs specific endogenous protein

The endogenous protein excreted into the gastrointestinal tract can be separated into:

- basal endogenous protein
- endogenous protein, induced by feed-specific factors, also known as 'specific endogenous protein'

Therefore, the undigested endogenous protein that leaves the small intestine, can be subdivided as follows:

$$[\text{F.V13}] \quad \text{uCP}_{\text{i-endogenous}} \text{ (g/kg feed)} = \text{uCP}_{\text{i-basal}} + \text{uCP}_{\text{i-specific}}$$

where:

$\text{uCP}_{\text{i-endogenous}}$ = total amount of undigested endogenous protein that passes the ileum.

$\text{uCP}_{\text{i-basal}}$ = amount of undigested basal endogenous protein (expressed as g/kg ingested feed) at the end of ileum.

$\text{uCP}_{\text{i-specific}}$ = amount of undigested endogenous protein (g/kg feed), induced by feed specific factors, at the end of the ileum.

The 'basal endogenous protein' is the endogenous protein that is secreted into the gastrointestinal tract due to the passage of "feed". More information on how to take the excretion of undigested basal endogenous protein into consideration when evaluating ileal protein and amino acids is given in paragraph 4.3.4.

In the feed, factors may be present that induce an additional secretion of (specific) digestive enzymes, the production of more mucus proteins that cover the epithelium of the intestinal lumen, and/or an extra sloughing off of the epithelium of the small intestine. The most important feed specific factors that cause the secretion of specific endogenous proteins, belong to the so-called "Anti Nutritional Factors" (ANF's), that can be found in, for instance, legume seeds. Also, fibre-rich feedstuffs cause damage to the mucus layer and hence will lead to an increase in undigested mucus proteins.

Currently it is not possible, in practice, to correct for the amount and the amino acid profile of the undigested specific endogenous protein, when evaluating ileal protein and amino acids, with the use of specific calculation rules.

4.3.3 True ileal digestibility of amino acids

After adjusting the amount of undigested amino acids at the end of the ileum for the amount of undigested amino acids of endogenous origin, only the amount of undigested amino acids from the feed remains. The difference between the amount of ingested amino acids and the amount of amino acids from the feed that is excreted in the digesta is considered to be truly digested (see [F.V14]). As there is no practical method yet to calculate the excretion of undigested specific endogenous protein adequately, the true ileal digestibility has not yet been implemented in practice.

$$[\text{F.V14}] \quad \text{True ileal digestibility (AA) (\%)} =$$

$$\frac{\{(AA \text{ intake}) - (AA \text{ that leave the ileum undigested} - AA \text{ endogenous})\} \times 100}{(AA \text{ intake})}$$

4.3.4 Standardized ileal digestibility amino acids

It is possible to adjust the apparent digestibility for the excretion of undigested basal endogenous protein. This fraction is generally related to the amount of dry matter intake. For a number of years, the composition of basal endogenous protein has been used based on a literature study (Jansman et al., 1997; Jansman et al., 2002). The German “Gesellschaft für Tierernährungsphysiologie” (2005), however, stated that two of the research techniques included by Jansman et al. should be omitted. In 2006, the former CVB Working Group Feed Table agreed with the German argumentation, and decided to make use of the composition of endogenous protein as given in Table 4.3.

Table 4.3 Composition of basal endogenous protein that leaves the terminal ileum undigested (contents in g/kg dry matter intake).

Crude protein	11.43	Leucine	0.47
Lysine	0.39	Tyrosine	0.29
Methionine	0.11	Valine	0.53
Cystine	0.21	Alanine	0.49
Threonine	0.59	Aspartic Acid	0.78
Tryptophan	0.14	Glutamic Acid	1.17
Isoleucine	0.37	Glycine	0.90
Arginine	0.39	Proline	1.10
Phenylalanine	0.32	Serine	0.65
Histidine	0.18		

The apparent protein or amino acid digestibility that has been corrected for the excretion of undigested basal endogenous protein is usually called ‘standardized digestibility’ (see [F.V15]):

[F.V15] Standardized ileal digestibility amino acids (AA) (DSt*a*-i-AA, in %) =

$$\frac{\{(AA \text{ intake}) - (AA \text{ undigested at end ileum} - AA \text{ undigested basal endogenous protein})\} \times 100}{(AA \text{ intake})}$$

With the amino acid content and apparent digestibility determined in digestibility trials, and the above-mentioned amino acid losses through basal endogenous protein, the values for the standardized ileal digestibility (St*a*VC*i*) of the crude protein and the amino acids have been calculated for the various feedstuffs for pigs. In this table, for each individual feedstuff, the content of ‘standardized ileal digestible protein/AA’ and the content of ‘apparent ileal digestible protein/AA’ both are given.

4.3.5 Origin of the data on ileal digestible amino acids in feedstuffs

The data in this table are based on a thorough screening of literature by ILOB-TNO, by order of Degussa AG (Germany), in 1997/1998. The collected data, and the calculations performed on them, have been made available unconditionally to CVB. The former CVB Working Group Feedstuff Table has tested objectively if the data were useful for the revision of amino acids evaluation for pigs. The accumulated trials were checked for a number of criteria on their reliability before being included in the database.

After it became clear that the data obtained with the so-called Ileal Rectal Anastomosis (IRA) technique (whereby the end of the ileum is surgically connected to the rectum; often used in France) did not substantially differ from data obtained with the cannulation technique, these trials were also entered in the database.

In literature a large number of digestibility trials has been described where the raw material to be studied was the only source of protein in the diet. By adjusting the apparent ileal digestibility of the *diet* in these cases for the basal endogenous production that is caused by the fraction of protein

free feedstuffs, the apparent ileal digestibility of the *examined protein source* is obtained. After this correction, these data were also included in the database.

Different digestibility trials in the database, conducted with different batches of the same feedstuff, show some variation with respect to the apparent digestibility of amino acids. This is partly due to differences in digestibility between batches. For another part the variation is due to differences in protein content and the analyzed amino acid profile in different batches. Assuming an equal digestibility for the feed protein, these last differences lead to variations in the contribution of the undigested endogenous protein in the total pool of undigested protein in the digesta. By converting the reported apparent digestibility to standardized digestibility, values are obtained for the digestibility of protein/amino acids that do not depend on the fluctuations of protein or amino acids contents in the feedstuff, at an equal digestibility of the feed protein.

For each raw material, the standardized digestibility of protein and amino acids has been calculated according to this method.

Because of the fact that the passage of dry matter leads to (at least) the excretion of undigested basal endogenous protein, for protein free materials (such as fat, starch, sugar), a negative value - instead of zero digestibility - is obtained for the digestibility. This negative digestibility value equals the basal ileal endogenous excretion.

Apart from the above-mentioned literature screening by ILOB-TNO, for some feedstuffs additional information has become available and incorporated in the database.

For a number of feedstuffs, (practically) no data were available. In those cases where also equations are given for the calculation of NEv, the ileal crude protein and amino acids digestibility of these feedstuffs has been estimated. In all cases, this applies to feedstuffs that are quantitatively less important in pig feeds.

Based on the data that are available at present, it may be assumed that separately added free amino acids have a true ileal digestibility of 100%. A correction per kg for the excretion of basal endogenous protein is needed to make comparisons based on apparent ileal digestibility. Also, the fact that synthetic amino acids are sometimes put on the market in the form of salts should be taken into account: In these cases, only part of the product consists of the amino acid, and one should proceed from the amino acid content in the product, as guaranteed by the manufacturer.

4.3.6 Contents of standardized and apparent ileal digestible amino acids

In order to reach an accurate estimation of the ileal digestibility of amino acids for pigs, based on the available digestibility trials, the standardized digestibility of the various trials was calculated and averaged for each feedstuff and each amino acid.

Thus, for each amino acid, the content of standardized ileal digestible amino acid can be calculated, provided that the amino acids contents in the feedstuff are known. The contents of standardized ileal digestible amino acids are given on the product sheets of the separate feedstuffs.

In the Netherlands - as opposed to other countries - until now, apparent ileal digestible amino acid contents have always been used in practice to evaluate feedstuffs and to calculate amino acid requirements. That is why these contents are also included in the product sheets.

The content of apparent ileal digestible amino acid (in dry matter) can simply be calculated by subtracting the content of basal endogenous amino acid (see Table 4.3) from the content of standardized ileal digestible amino acid (also expressed on dry matter basis), as follows:

[F.V16] Content of apparent ileal digestible AAx =
 Content of standardized ileal digestible AAx - Content of basal endogenous AAx
 (contents in g per kg DM)

4.3.7 Requirements of standardized and apparent ileal digestible amino acids

For the requirements of standardized and apparent ileal digestible amino acids for pigs in various stages of growth and production, please refer to the most recent version of the CVB Tables Animal Nutrition.

It is up to the user of this Table to decide whether he will use standardized or apparent ileal digestible amino acids in diet equation. **However, it is emphasized that one has to make one and the same choice for both the supply of ileal digestible amino acids by the feed, and the requirements of the animals.**

4.4 Digestibility of phosphorus

In the Netherlands (and other countries) it is quite common to take into account the (faecal) digestibility of P in determining the phosphorus (= P) requirements in pigs. The P digestibility may vary greatly between feedstuffs.

Until the CVB Feed Table edition of 2011 'apparent fecal digestible P' was used. Internationally, in most cases for digestible P 'standardized fecal digestible P' is used in which the apparent fecal digestible P is corrected for endogenous P losses. In order to join the international conventional method of using standardized fecal digestible P it was decided to use in the CVB Feed Table 2016 edition standardized fecal digestible P values as well. An extra reason for changing to standardized P values was the fact that in the previously by CVB used apparent P digestible system part of the endogenous P losses was accounted for in the P requirement recommendations resulting in a double counting of endogenous P. Simultaneously, with the change to standardized digestible P (StadCP) also the requirement recommendations for StadCP and Ca will become updated and described in an upcoming WUR-LR report.

In the P digestibility research feedstuffs of vegetable and animal origin were considered, as well as inorganic phosphates. Recent digestibility studies have resulted in extra data on P digestibility of mainly plant based feedstuffs. This means that the database with in vivo data on P-digestibility has been extended considerably. The StadCP for all digestibility studies was calculated from the measured apparent digestible P and the dietary P content of the feedstuff of interest:

$$[F.V17] \quad \text{StadCP} = ((\text{AppDCP} \cdot P - 0,20) / P) \cdot 100.$$

StadCP in %, AppDCP (apparent digestibility coefficient of P) in %, P in g/kg DM

Then the experimental StadCP values per feedstuff were averaged and the average values are presented on the product sheets. In case, for a feedstuff, there were less than 5 records the average value was rounded to the closest fivesome.

To make a comparison possible between digestible P values used in previous editions and the present StadCP values as well the apparent digestible coefficients (AppDCP) are presented. These AppDCP were calculated as follows: a) the P concentration on the product sheet in g/kg is calculated based on the DM content presented on the product sheet to concentration of P in g/kg DM; b) using the presented StadCP and the P content expressed in g/kg DM the concentration of standardized digestible P (StadP) is calculated; c) from the StadP the quantity of endogenous P (0.20 g/kg DM) is subtracted in order to calculate the concentration of apparent digestible P (AppDP) is calculated; d) using the P concentration in g/kg DM and the value for AppDP the percentage of apparent digestible P (AppDCP) can be calculated.

For a number of feedstuffs, that are less relevant for pigs, little or no observational data concerning digestibility of P are known; sometimes the digestibility of P was estimated and derived from that of related feedstuffs.

Information on dietary phosphates is included in paragraph 10.4 (Mineral feedstuffs). A distinction has been made between mono- and dicalcium phosphates (hydrous and anhydrous), and other dietary phosphates.

Some vegetable feedstuffs contain considerable amounts of the enzyme phytase, which is capable of (partially) releasing inositol bound phosphorus and thus making it absorbable. Also, products have been available, for several years now, containing phytase of microbial origin. Phytase has a

strong positive effect on the P digestibility of feedstuffs of vegetable origin. However, the temperature sensitivity and pH dependence of these enzymes has to be taken into consideration. When during steam pelleting the temperature of the pellet exceeds 80°C, the phytase activity may decrease strongly, depending on the type of phytase preparation (e.g., whether the enzyme is coated or not). The pH dependence can be of importance when organic acids are added to the compound feed or ration, or when wet feedstuffs are provided that contain wet fermented feedstuffs. The exact relationship between the pH in the ration and the effectiveness of vegetable phytase in the relevant pH range, however, is not yet known. With respect to the relationship between pH of the ration and microbial phytase, one should consult the supplier of the phytase product concerned.

In the values, as listed in the Table, it is assumed that there is no endogenous phytase activity present in the feedstuff. This approach is of importance for barley, rye, wheat, triticale and their co-products. Whenever values for the digestibility of P without pelleting were available (and therefore in the presence of natural phytase activity), these are noted as a comment on the product sheet.

4.5 Calculation examples

For calculation examples, with step-wise explanation of the calculation of the feeding values within the various systems for pigs, see document RD007 on the CVB website: www.cvbdiervoeding.nl.

5. FEED EVALUATION SYSTEMS FOR POULTRY

5.1 Feed evaluation systems

In this Chapter the feed evaluation systems of CVB for poultry are described. For poultry, three types of feed evaluation systems have been established by CVB:

- Energy systems (paragraph 5.2)
- A protein / amino acids system (paragraph 5.3)
- A digestible phosphorus system (paragraph 5.4)

5.2 Energy systems

5.2.1 Metabolizable energy system for adult animals

5.2.1.1 Digestibility figures

The digestibility coefficients given in the tables for crude protein, crude fat, and nitrogen free extract have been derived from experiments with adult cocks, in which it was determined which part of the ingested feedstuff does not appear in the faeces, and is therefore apparently digested. The energy contribution of crude fibre is assumed to be negligible, since crude fibre is indigestible by poultry.

The energy value (ME = Metabolizable Energy) determined in adult cocks is expressed by the abbreviation ME_{po} (= ME poultry). This value may also be used for other types of poultry, like turkeys and ducks. ME_{po} is also often applied as a declaration of the energy value when exporting poultry feeds.

Digestibility figures are mostly derived from research at the former Centre for Research and Information for the Poultry Industry (COVP-DLO). Literature data have also been used.

The experiments performed to establish the ME_{po}-value of feedstuffs were also used to verify the digestibility coefficients derived from the available data. When the equation:

$$[\text{F.P01}] \quad \text{ME}_{\text{po}} (\text{MJ/kg}) = (18.03 \times \text{DCP} + 38.83 \times \text{DCFAT} + 17.32 \times \text{DNFE}) / 1000$$

or

$$[\text{F.P02}] \quad \text{ME}_{\text{po}} (\text{kcal/kg}) = 4.31 \times \text{DCP} + 9.28 \times \text{DCFAT} + 4.14 \times \text{DNFE}$$

(with the contents of DCP, DCFAT and DNFE in grams per kg)

led to an ME_{po} differing from the value derived from animal experiments, the digestibility figures were adjusted in the CVB Feed Table according to the deviation.

For most feedstuffs it is common practice to predict the ME_{po} value directly from their chemical composition, using a product specific regression equation. Nevertheless, also for these feedstuffs, the product sheet states the digestibility coefficients in the column 'Cocks'. When these digestibility coefficients are adequately attuned to the product composition, equation F.P01 or F.P02 should result in approximately the same ME_{po} value as the product specific regression equation. However, from 1991 onwards, the composition of many feedstuffs has more or less changed. Because in many cases information on nutrient digestibility was no longer available, digestible nutrient contents could no longer be updated according to these data. Instead, an adjustment of the digestible nutrient contents based on a rational approach was pursued, to obtain similarity

between the ME_{po} value calculated using equation F.P01 or F.P02, and the ME_{po} value calculated via the product specific equation.

Calculation of the ME value with the product specific equations remains the preferred method.

In some cases, also the digestible nutrient contents have been adjusted of products for which no product specific equation exists, because the formerly in CVB tables stated values (mostly based on limited research) could not always be rationally explained.

Adjustment of the digestible crude protein content according to the method described above, and deriving (faecal) amino acids digestibility from crude protein digestibility, also leads to an adjustment of the stated content of (fecal) digestible amino acids.

5.2.1.2 Energy value for adult roosters

Digestibility trials with adult roosters have been the basis for deriving ME values of feedstuffs for adult roosters and laying hens already for many years. In these trials, the combustion value (Gross Energy content) of the ingested feedstuff and the combustion value of faeces and urine, corrected for N balance, have been determined.

Depending on the available information, different procedures were subsequently followed to develop equations for calculating ME for adult roosters.

A. Regression analysis based on animal experiments with (mainly) Weende analysis parameters as explanatory variables.

Results of animal trials performed by COVP-DLO, INRA (Tours, France) and PRC (Rosslin, Scotland) could be used for this analysis.

When the ME_{po} value for a feedstuff was calculated using a product specific regression equation, derived in this way, equations F.P01 or F.P02 were subsequently used to adjust the digestibility coefficients to this ME_{po} value.

The regression equations below apply to ME_{po} values and contents (g per kg DM).

- Barley

$$[F.P03] \quad ME_{po} \text{ (MJ)} = (9258 - 9.258 \cdot ASH + 7.709 \cdot STA_{am}) / 1000$$

- Oats

$$[F.P04] \quad ME_{po} \text{ (MJ)} = (12980 - 12.98 \cdot ASH + 48.82 \cdot CFAT - 25.50 \cdot CF) / 1000$$

- Barley products (excluding barley)

$$[F.P05] \quad ME_{po} \text{ (MJ)} = (13740 - 13.74 \cdot ASH - 35.58 \cdot CF + 2.988 \cdot STA_{am}) / 1000$$

- Products from maize milling industry and maize starch production

$$[F.P06] \quad ME_{po} \text{ (MJ)} = (17538 - 17.54 \cdot ASH - 7.569 \cdot CP + 17.27 \cdot CFAT - 75.42 \cdot CF) / 1000$$

- Rice products (including rice)

$$[F.P07] \quad ME_{po} \text{ (MJ)} = (19540 - 19.54 \cdot ASH - 29.1 \cdot CP + 17.97 \cdot CFAT - 34.29 \cdot CF) / 1000$$

- Wheat products (excluding wheat)

$$[F.P08] \quad ME_{po} \text{ (MJ)} = (16780 - 16.78 \cdot ASH - 69.20 \cdot CF) / 1000$$

- Tapioca

$$[F.P09] \quad ME_{po} \text{ (MJ)} = (16380 - 16.38 \cdot ASH - 34.64 \cdot CF) / 1000$$

- Sunflowerseed products (CF < 280 g/kg DM)

[F.P10] ME_{po} (MJ) = (2626 – 2.62*ASH + 10.62*CP + 26.20*CFAT) / 1000

- Meat meal and meat and bone meal

[F.P11] ME_{po} (MJ) = (14200 – 19.15*ASH + 25.1*CFAT) / 1000

- Soybean meal and soybean expeller (for 154 ≤ CP ≤ 706; 29 ≤ CF ≤ 369; 4 ≤ CFAT ≤ 85 (in g/kg DM))

[F.P12] ME_{po} (MJ) = (7690 – 7.69*ASH + 6.464*CP + 29.43*CFAT – 16.09*CF) / 1000

B. In a number of cases, the digestibility data were not suitable for regression calculation. The chemical composition could be divided into, e.g., three groups that were sufficiently representative for some qualities. By solving equations, a linear curve was calculated using the means of those three groups. This curve was then used to estimate the ME_{po} value

- Fullfat peanuts and peanut products

[F.P13] ME_{po} (MJ) = (12420 + 25.50*CFAT – 25.47*CF) / 1000

- Cottonseed products

[F.P14] ME_{po} (MJ) = (8898 + 19.72*CFAT – 12.91*CF) / 1000

C. Processing of results of French research, determining the ME_{po} value of different batches of sorghum with varying contents of tannins, resulting in the following regression equation:

- Sorghum

[F.P15] ME_{po} (MJ) = 16.13 – 1.65*%tannins
(tannins content determined according to Kuhla and Ebmeyer, 1981)

This regression line could not be included in the Table. It was, however, used to calculate the ME_{po} value of the low tannin sorghum type that have been included in this Table.

D. Other equations:

- Molasses (sugarcane and sugarbeet)

For these products the energy value is calculated based on the sugar content (expressed as glucose units) according to the following equation:

[F.P16] ME_{po} (MJ) = (16.45*SUG) / 1000 (SUG in g/kg)

- Calculation equation for fat from Dutch destruction plants

[F.P17] ME_{po} (MJ) = 83.9 – 0.0962*IV – 0.1335*(C16:0) – 0.06418*(C18:0)

In which: IV = Iodine value

C16:0 = g palmitic acid per 1000 g total fatty acids
C18:0 = g stearic acid per 1000 g total fatty acids

This equation applies to the ME_{po} calculation of fats and oils, and not for mixtures of fatty acids.

5.2.1.3 Energy value for laying hens

From comparative research on adult roosters and laying hens by Scheele et al. (1985) it appears that the utilization of the ME from fat for maintenance and production is approximately 15% higher for laying hens compared to roosters.

In 1986, it was decided to express this difference in feeding value calculation and to refer to the energy value standard for laying hens as "ME_{la}".

For raw materials of which the ME_{la} is calculated from digestibility coefficients, equations F.P01 and F.P02 were adjusted as follows:

$$[\text{F.P18}] \quad \text{ME}_{\text{la}} \text{ (MJ/kg)} = (18.03 \times \text{DCP} + 44.65 \times \text{DCFAT} + 17.32 \times \text{DNFE}) / 1000$$

or

$$[\text{F.P19}] \quad \text{ME}_{\text{la}} \text{ (kcal/kg)} = 4.31 \times \text{DCP} + 10.67 \times \text{DCFAT} + 4.14 \times \text{DNFE}$$

(with contents of DCP, DCFAT and DNFE in grams per kg)

in which the coefficient for the factor DCFAT equals:

$$\begin{aligned} \text{in MJ:} & \quad 38.83 \times 1.15 = 44.65. \\ \text{in kcal:} & \quad 9.28 \times 1.15 = 10.67 \end{aligned}$$

To convert the calculated ME_{po} to ME_{la}, the ME_{po} should be increased

- In MJ by: $(0.15 \times 38.83 \times \text{DCFAT}) / 1000 = 5.8 \times \text{DCFAT} / 1000$
- In kcal by: $(0.15 \times 9.28 \times \text{DCFAT}) / 1000 = 1.39 \times \text{DFAT} / 1000$

5.2.2 Broilers

5.2.2.1 General

From comparative research at the former COVP-DLO (Beekbergen, The Netherlands) it appeared that the feeding value of fat for broilers is lower than for adult roosters. Also for other materials differences in ME values were found between broilers and adult roosters, although these differences were generally smaller than for fat. In 1990, this has led to the implementation of a separate ME evaluation (ME_{br}) for broilers (CVB series no 1, 1990). The table published at that time included the results of the digestibility research from COVP-DLO on raw materials that were the main constituents of practical broiler diets. In practice, however, doubts existed concerning the valuation for various feedstuffs. In the nineties, this led to extensive basic research, aimed at the equation of a standard protocol for digestibility trials with broilers. After completion of this protocol, the faecal nutrient digestibility of a large number of feedstuffs has been determined. In this edition of the Feed Table, the results of four projects studying the digestibility of feedstuffs for broilers have been implemented, to obtain a better estimation of ME_{br} for the feedstuffs concerned. In this Table, the ME_{br} equation that was introduced in 1991 is abandoned, and a new equation is introduced with the same energetic coefficients as used in the ME_{po} equation (see paragraph 5.2.2.3.1). A third adjustment that is introduced from this edition onwards concerns the calculation of the digestible carbohydrates fraction (see paragraph 5.5.5.3.2).

5.2.2.2 Digestibilities

The digestibility coefficients are derived from trials with young broilers, executed by order of CVB, according to the CVB protocol for faecal digestibility trials with broilers. In this study, the digestibility of organic matter (OM), crude protein (CP), crude fat (CFATH) and - in many cases - also starch (STA) was determined. The feedstuffs investigated in this study have been analysed for DM, ASH, CP, CFATH, CF, SUG, and STAam.

5.2.2.3 Energy value

5.2.2.3.1 Metabolizable energy value of digestible crude protein

Up to the previous edition of the Feed Table (2007), the ME_{br} of feedstuffs was calculated according to the following equation:

$$[\text{F.P20}] \quad \text{ME}_{\text{br}} (\text{MJ/kg}) = (15.56 * \text{DCP} + 38.83 * \text{DCFATH} + 17.32 * \text{DNFEh}) / 1000$$

Or:

$$[\text{F.P21}] \quad \text{ME}_{\text{br}} (\text{kcal/kg}) = 3.72 * \text{DCP} + 9.28 * \text{DCFATH} + 4.14 * \text{DNFEh}$$

(with contents of DCP, DCFATH and DNFEh in g per kg)

This equation is derived from multiple regression analysis on the results of a COVP-DLO study, executed in the nineteen eighties, investigating the nutritional value of 15 important feedstuffs. In this study, the digestibility of CP, CFATH and NFE was determined, and the ME value (corrected to N balance) was also assessed. The regression model contained the amounts of digestible crude protein, crude fat and N-free extract as explanatory variables. From this study it was found, that the coefficients for digestible fat and digestible N-free extract did not differ markedly from the coefficients that had been derived from a comparable study with adult roosters.

Ever since the introduction of the above-mentioned ME_{br} equation, discussion has arisen concerning the correctness of the energetic coefficient for DCP in this equation – this coefficient cannot be explained physiologically. Assuming a gross energy content for protein of 23.6 MJ/kg, a complete metabolisation of protein to water, carbon dioxide, uric acid (and urea), a complete excretion of uric acid (and urea) with excreta, and a 'gross energy value of uric acid, calculated to CP' of 5.6 MJ/kg, the ME coefficient for protein should amount to approximately 18 MJ/kg. It is also unlikely that the ME value for digestible crude protein with broilers – assuming complete metabolisation – should differ from that with adult roosters and laying hens.

Multiple regression on the results of the various trials that were performed by order of CVB to establish the digestibility and ME value of feedstuffs for broilers, and regression analysis on the total database, revealed that the derived energetic coefficient was always higher than the previously used coefficient of 15.56 (equation [F.P20]). It should also be stressed that this coefficient was always lower than 18.03, the energetic coefficient for DCP in the ME_{po} equation. Although no satisfactory explanation was found for the latter, it was decided to calculate ME_{br} using an energetic coefficient for DCP of 18.03 MJ/kg.

When determining the fat digestibility, crude fat was analysed in feed and in excreta after acid hydrolysis. To calculate ME_{br}, one should always use CFATH.

5.2.2.3.2 New classification of carbohydrates fraction for calculating ME_{br}

Concerning the carbohydrates fraction, in the past it was always assumed that the digestibility of crude fibre was negligible (DCCF = 0), and only the digestibility of the N-free extract was taken into account. However, within different batches of one and the same feedstuff, the proportion of starch, sugars and fibrous components varies. Of these carbohydrates, starch and sugars are (very) highly digestible, whereas the digestibility of the fibrous fraction will be low. Using one fixed

digestibility coefficient for the NFE fraction does not account for the variation in composition of the NFE fraction.

At first, CVB aimed to divide the NFE fraction in a starch fraction (STA), a sugars fraction (SUG), and a non starch polysaccharides fraction (NSP), according to the procedure used for pigs. In poultry, however, the digestibility of the NSP fraction is low. Also, the (D)NSP fraction is a calculated fraction, implying that all (mainly analytical) errors accumulate in the (D)NSP fraction. Thirdly, the factor 6.25, used to calculate crude protein content from analysed N content, is too high for a number of feedstuffs. This implies that part of the NSP fraction is contained in the CP fraction. Especially in protein-rich feedstuffs, this may be a considerable amount. For these reasons, this option was abandoned.

The SUG fraction in feedstuffs consists of enzymatically digestible and fermentative degradable sugars. Excreta of animals fed with a relatively SUG-rich feed contain hardly any sugars, indicating that the SUG fraction is highly digestible. Of dietary starch, also only a few percents were recovered from the excreta. It was assumed that all glucose equivalents retrieved from the excreta were derived from undigested starch. It is, however, not clear whether the fermentation products - that are formed in the caeca as a result of microbial degradation of fermentable sugars and of ileal undigestible starch - are completely absorbed, or partly excreted with the excreta. Also, in the caeca, some fermentation will occur of (mainly water soluble components in) the NSP fraction. Based on these considerations, it was decided to define the digestibility of the carbohydrates fraction as follows:

$$[F.P22] \quad DC(STA_{am}+SUG) = (DOM-DCP-DCFATh) / (STA_{am}+CF_{Di}*SUG) * 100\%$$

5.2.2.3.3 Presence of fermentation products in feedstuffs for poultry

From analysis it appeared that considerable amounts of lactic acid (LA) are present in wheat glutenfeed, and especially in maize glutenfeed. Also, small amounts of acetic acid are found in these feedstuffs. Fermentation products should be accounted for in the calculation of the energy value of such feedstuffs. Because the level of acetic acid is very low, the amount of acetic acid is added to the lactic acid content. The metabolizable energy value of lactic acid is derived from the ATP-yielding capacity of lactic acid compared to starch. This results in a ME_{br} value for lactic acid of 14.55 MJ/kg.

5.2.2.3.4 New ME_{br} equation

From the above, a new equation for the calculation of ME_{br} was derived:

$$[F.P23] \quad ME_{br} \text{ (MJ/kg)} = (18.03*DCP + 38.83*DCFATh + 17.32*D(STA+SUG) + 14.72*LA) / 1000$$

Or:

$$[F.P24] \quad ME_{br} \text{ (kcal/kg)} = 4.31*DCP + 9.28*DCFATh + 4.14*D(STA+SUG) + 3.52*LA$$

(with contents of DCP, DCFATh, V(STA+SUG) and LA in g/kg)

5.2.2.4 Calculation rules for calculating DCP, DCFATh and D(STA+SUG)

For all feedstuffs – for which a ME_{br} value for broilers is given – equations have been developed for the calculation of the required contents of fecal digestible components DCP, DCFATh and D(STA+SUG). The estimation equations are - for most feedstuffs - derived from statistical analysis (regression analysis) of datasets containing digestibility trials of individual feedstuffs, or combined datasets containing data of comparable feedstuffs. For some feedstuffs, insufficient or no digestibility trials were available to perform statistical analysis. In those cases, the digestibility was based on the mean values from one or a limited number of observation(s). For some feedstuffs – rarely used in poultry diets, and for which no digestibility trials were available – the digestibility was estimated by comparing the chemical composition and other characteristics of that feedstuff to

comparable feedstuffs of which sufficient digestibility data with broilers were available. These detailed calculation rules are not provided in the Feed Table, but have been included – together with other calculation rules for feed evaluation of poultry – in a separate CVB publication, entitled 'CVB Calculation Rules Feed Evaluation Systems Poultry 2011' (Documentation report no 57). In developing the estimation equations, it was always investigated which other components affect the digestibility of a certain component. In developing equations for digestible crude protein (DCP), also a basal endogenous faecal excretion of 9.7 g CP per kg DMI was always accounted for.

Dividing the digestible contents (e.g., DCP) – as calculated by means of the above-mentioned product-specific calculation rules – by the gross nutrient content, and subsequently multiplying by 100 (e.g., $DCP/CP \times 100$), the digestibility coefficient of that nutrient (e.g., DCCP) is obtained. On the product sheets, the digestibility coefficients for CP, CFAT and (STA+SUG) is given, belonging to the average chemical composition as also stated on the product sheet. For batches with a deviant composition, this digestibility coefficient is not entirely correct; in those cases, the digestibility coefficient is better estimated by using the specific calculation rules for that product.

The digestibility of pure fats is strongly dependent on the fatty acid composition. Based on a study, commissioned by the CVB, it appeared that the digestibility of fat (DCCFAT) could be predicted well with the following formula:

$$[F.P25] \quad DCCFAT (\%) = 96.1 - 0.3746 * (C16:0 + C18:0)$$

With (C16:0 + C18:0) in percent units of the total fatty acid fraction

For animal products (meat meal, fish meal) it is assumed that the NFEh fraction is largely an artefact. Many times negative values are calculated for the NFEh fraction. These negative values for NFEh can be the result of converting an analysed nitrogen content to a CP value ($CP = 6.25 * N$) as this conversion value of 6.25 may not be correct. In all evaluation systems in which the NFEh fraction is used for calculating energy values it is assumed that the DCNFEh of animal products is equal to the DCCP value. In the updated MEbr system a basal faecal endogenous loss of CP is assumed of 9.7 g per kg DM. Therefore it is not correct to use the the DCCP value of animal products also as a value for DCNFEh because in that case the calculated basal faecal endogenous CP loss is used twice in the same feed. Therefore, for broilers the following calculation rule is used. First a combined DCP and DNFEh fraction is estimated: $(DCP + DNFEh) = a * (CP + NFEh) - 9.7$ (all values expressed in DM and where a = the standardized digestibility of the animal product). Then the combined DC(CP + NFEh) is calculated: $DC(CP + NFEh) = (DCP + DNFEh) / (CP + NFEh) * 100$. This means that the value for DCCP for animal products is the value for DC(CP + NFEh).

5.3 Protein value for poultry

5.3.1 Feedstuffs

In 2017 two CVB documentation reports (CVB documentation reports nr. 60 and 61) were published. In CVB documentation report nr. 60 the amount and amino acid composition of basal endogenous losses at the terminal ileum of broilers were estimated based on a meta-analysis on a large number of published scientific studies. In CVB documentation report nr. 61 a Table is published with standardized ileal digestible amino acid coefficients for a wide range of feedstuffs for poultry. This Table is based on 1) a large dataset of published studies in which amino acid digestibilities for a large number of feedstuffs for poultry were determined and 2) on the in CVB documentation report nr. 60 established amount and amino acid composition of basal endogenous losses at the terminal ileum of broilers.

These standardized ileal digestible amino acid coefficient values for a wide range of feedstuffs for poultry are presented in this Table and replace the apparent faecal digestibility amino acid values of feedstuffs for poultry that were shown in the CVB Feed Tables since 1979.

Synthetic amino acids

When synthetic amino acids are added to a compound feed, these substances may be regarded as fully digestible. Just as for feedstuffs that do not contain protein the basal ileal loss of amino acids is not taken into account.

Furthermore, synthetic amino acids are sometimes sold in the form of salts. Even if these salts have a high degree of purity, it should be taken into account that they do not consist entirely of the amino acid concerned. Therefore, one should proceed from the content of the amino acid, as guaranteed by the producer.

5.4 Digestibility of phosphorus

In 1997 the system "Digestible phosphorus for poultry" has been implemented (CVB, 1997). The P-digestibility of feedstuffs for poultry is based on research done by ID-DLO (now part of the Animal Sciences Group, Lelystad), measuring the absorption coefficient in broilers under standard conditions (a balance period between days 21 and 24 of age, fed a semi-synthetic diet with an (estimated) digestible P (DPpo) content of 1.8 g/kg and a Ca content of 5.0 g/kg). With this marginal DPpo content the P supply is so low that the P excretion via the urine is negligible and all excreted P is (apparently) not absorbed P from the feed.

From the research done by ID-DLO it was determined that broilers are capable of (partially) releasing P from inositol phosphate present in feedstuffs of vegetable origin. Furthermore, it was established that this breakdown depends on the DPpo (and Ca) level in the feed; this implies that a correction is needed to convert the P digestibility values as measured under standardized conditions (DPpo) into P digestibility values for practical conditions (diets containing 3.0 DPpo/kg and 6.8 g Ca/kg) (cDPpo). For this correction, relationships are applied that have been derived from ID-DLO research, where the faecal P digestibility under standard conditions was compared to the ileal P digestibility at practical DPpo and Ca levels for eight feedstuffs (CVB, 1997). For feedstuffs of animal origin and for feed phosphates, such a correction is not needed.

The (c)DPpo values given in this Table have all been based on research by ID-DLO. Feedstuffs of vegetable and of animal origin, as well as feed phosphates were included in this study. For a number of feedstuffs, little to no observations concerning the P digestibility are known. In those cases, the P digestibility was derived from related feed ingredients, or was estimated. The estimation was based on an P digestibility value for non-inositol-bound P of 80% and usually a low breakdown of inositol-phosphate was assumed.

Information on feed phosphates is included in this Table in a separate Appendix. In general, a distinction is made between mono- and dicalcium phosphates (water containing or dry), and other feed phosphates.

Some feedstuffs of vegetable origin contain considerable amounts of the enzyme phytase, which is capable of (partially) releasing P from inositol phosphate. This may have a favourable effect on the P digestibility of these feedstuffs. One should, however, take into account the temperature sensitivity and pH dependency of the enzyme. Steam pelleting, leading to pellet temperatures above 80 °C, causes the endogenous phytase activity to drop dramatically.

The table values are based on the assumption that no phytase is present in the feedstuff. This approach is of interest for barley, rye, rye products, wheat, wheat by-products and triticale. The P digestibility values that apply when these products are offered without prior heat pelleting processes are given in a section 'Points of attention', given after the product sheets for compound feedstuffs.

Although the P digestibility values are based on broiler research, they are also applied for other types of poultry. In the case of laying hens, comparative research is the foundation for the application of these values and for the determination of requirements.

Concerning P requirements, refer to the CVB Documentation report no 20, where the final digestible P system is described (CVB, 1997).

On the product sheets, the content of digestible phosphorus (DPpo) is stated in the column "Roosters/Laying hens"; this value is of course also applicable for broilers.

5.5 Calculation examples

For calculation examples, with step-wise explanation of the calculation of the feeding values within the various systems for poultry, see document RD008 on the CVB website: www.cvbdiervoeding.nl.

6. FEED EVALUATION SYSTEM FOR RABBITS

6.1 Feed evaluation for rabbits

For the energy evaluation of feedstuffs for rabbits, in the past different systems have been used, derived from evaluation systems for ruminants, pigs, or poultry. Research has shown, however, that none of these systems can predict the relative proportion in energy values for rabbits in a reliable way.

In 1988, the then ACV (Stichting Afnemers Controle op Veevoeder) took the initiative to develop a separate feeding values table for rabbits. Thanks to the cooperation of the then COVP-DLO (now part of the Animal Sciences Group, Lelystad), the then Rijksstation voor Kleinveeteelt in Merelbeke, België (now part of the Institute for Agricultural and Fisheries Research, ILVO, Belgium) and the Dutch compound feed industry (Janssen et al., 1990), this has led to a preliminary OE Table Rabbits in 1990 (CVB, 1990). Thereafter, this table has been incorporated in the CVB Feedstuff Table.

6.2 Energy value

6.2.1 Digestibility figures

In eighties of the 20th century, the Rijksstation voor Kleinveeteelt (Merelbeke, Belgium) has performed many studies on the feeding value of feedstuffs for rabbits. These values were usually implemented. Apart from the data provided by the Rijksstation voor Kleinveeteelt, information in literature was scarce. The stated values on digestibility of crude fat are approximations, based on fat extraction with petroleum ether after acid hydrolysis (feed ingredient and faeces). Some values derived from the Rijksstation voor Kleinveeteelt had to be adjusted accordingly.

6.2.2 Energy evaluation system

At first, an energy evaluation system for rabbits was chosen that had been developed by dr ir L. Maertens of the Rijksstation voor Kleinveeteelt. This system is based on the apparent digestibility of nutrients (apparent digestible energy rabbits, ADEr). The equation below has in fact been developed for compound feeds, but has later been accepted for the calculation of the energy value of raw materials.

$$[\text{F.K.01}] \text{ ADEr (MJ)} = (23.85 \times \text{DCP} + 37.8 \times \text{DCFAT} + 16.3 \times \text{DCF} + 17.1 \times \text{DNFE}) / 1000$$

The value of protein is overestimated in this system: the factor 23.85 MJ per kg DCP assumes that all digestible amino acids are deposited in body protein. In reality, the digested protein is only partly (30-50%) deposited in body protein, while the remaining nitrogen is excreted via the urine, mainly as urea. The digestible energy, corrected for N balance, may be calculated using the following equation:

$$[\text{F.K.02}] \text{ OEK (MJ)} = (19.0 \times \text{DCP} + 37.8 \times \text{DCFAT} + 16.3 \times \text{DCF} + 17.1 \times \text{DNFE})/1000$$

OEK in MJ/kg; the contents of DCP, DCFAT, DCF and DNFE in g per kg

This equation was used to calculate the energy value of feedstuffs in this Table.

Only for alfalfa meal or pellets it proved possible to derive a reliable relation between variation in chemical composition and nutrient digestibility. This equation is also used for grass meal or pellets.

For the other feedstuffs, it was not possible to relate quality and chemical composition on the one hand, and nutrient digestibility on the other hand. For the relevant by-products of maize and

wheat, the digestibilities of nutrients have been related to the crude fibre content (based on a limited amount of data), as has been done for other animal species. For various feedstuffs no digestibility figures have been determined using rabbits. In those cases, estimated values are given, by comparison with related feedstuffs and/or other animal species.

6.3 Calculation examples

For calculation examples, with step-wise explanation of the calculation of the feeding values for rabbits, see document RD009 on the CVB website: www.cvbdiervoeding.nl.

7. FEED EVALUATION SYSTEM FOR HORSES

7.1 Feed evaluation systems

In the past, the feed evaluation system for horses was based on the VEM and DCP system for ruminants. In 1996, two evaluation systems were developed especially for horses: the VEP system (a net energy evaluation system, with VEP 'Voedereenheid Paarden' as characteristic) and the DCPH system (a protein evaluation system: DCPH = digestible crude protein horses). These systems were developed based on the French UFC system.

In September 2004, the VEP system was replaced by a new net energy system, the EWpa (= Energy value Horses). The feed evaluation within this system has also been derived from the French UFC system. From January 1st 2005, the EWpa system has officially been implemented. For a full explanation of the EWpa system and the (partly revised) DCPH system, the reader is referred to CVB Documentation report no 31 'The EWpa system and the DCPH system' (CVB, 2004a). From edition 2005 of the Feed Table onwards, the feed evaluation for horses has been incorporated according to these systems, as described in this publication, and in CVB series no 28 (CVB, 2004b).

7.2 Energy value

The EWpa is derived as follows:

7.2.1 Gross energy (GE)

The gross energy content of all feedstuffs is estimated according to the equation from the VEM system (CVB, 1994):

$$[\text{FE.01}] \quad \text{GE (kJ/kg DM)} = 24.14 \cdot \text{CP} + 36.57 \cdot \text{CFAT} + 20.92 \cdot \text{CF} + 16.99 \cdot \text{NFE} - 0.63 \cdot \text{SUG}^*$$

* The subtraction for sugars only applies to feedstuffs with more than 80 g sugars per kg DM.
CP, CFAT, CF, NFE and SUG are expressed in g/kg DM

For fodder maize a separate calculation applies:

$$[\text{FE.02}] \quad \text{GE (kJ/kg DM)} = 19456 - 19.456 \cdot \text{ASH}$$

In which ASH is expressed in g/kg DM

7.2.2 Digestible energy (DE)

The equations for calculating the digestible energy content are as follows:

- Forages

$$[\text{FE.03}] \quad \text{DE (kJ/kg DM)} = (0.034 - 1.1 + 0.9477 \cdot \text{DCOM}) / 100 \cdot \text{GE}$$

- Concentrates

$$[\text{FE.04}] \quad \text{DE (kJ/kg DM)} = (0.034 + 1.1 + 0.9477 \cdot \text{DCOM}) / 100 \cdot \text{GE}$$

In which DCOM = digestibility coefficient of organic matter for horses (in %)

During the development of the EWpa system, a critical evaluation has taken place with respect to

the digestibility coefficients of organic matter for horses (%dOMh) that were obtained. For feedstuffs with known OM digestibility – obtained from digestibility studies with horses – the *in vivo* established %dOMh was used to calculate the digestibility of gross energy. This concerns lucerne (alfalfa), red clover, and some compound feedstuffs.

The existing equation from the VEP system (CVB Documentation report no 15, 1996) was used by CVB internally as an aid to estimate the %dOMh of wheat and wheat byproducts.

During re-evaluation of the existing database, new estimation equations were developed within the EWpa system to estimate the %dOMh of lucerne (alfalfa) and for artificially dried grass, based on chemical parameters:

- Lucerne (alfalfa) (fresh, silage, hay)
[FE.05] $DCOM (\%) = 98.5 - 0.123 \cdot CF$ (CF in g/kg DM)

- Artificially dried grass and lucerne (alfalfa) (mash, pellets, and pressed in bales)
[FE.06] $DCOM (\%) = 82.1 - 0.087 \cdot CF$ (CF in g/kg DM)

For a number of feedstuffs or groups of feedstuffs, however, insufficient digestibility trials with horses have been performed to follow this procedure. In those cases, the digestibility of the organic matter was estimated based either on results of digestibility trials with wethers or pigs (see below), or by comparison of the feedstuff with similar feedstuffs.

For the estimation of DCOM from wether data, the following equation for fresh grass and hay has been developed, based on results from digestibility trials with wethers and horses in the Netherlands and France:

$$[FE.07] \quad DCOM (\%) = -16.71 + 1.1436 \cdot DCOMw$$

In which: DCOMw = digestibility coefficient of organic matter for wethers (%)

This equation is used to estimate DCOM for fresh grass and hay, because the equation has been derived from these feedstuffs, but also for grass silage.

By comparing the outcome of this equation to the available data on digestibility of fodder maize for horses, the following equation has been derived for fodder maize (fresh and ensiled):

$$[FE.08] \quad DCOM (\%) = -12.27 + 1.1436 \cdot DCOMw$$

In drafting the feedstuffs table, equation [FE.07] was also applied for a number of products with unknown DCOM, but with a known DCOMw. In this respect, however, there is a difference with the previous VEP system: in the VEP system, this equation was used for all feedstuffs with unknown *in vivo* determined DCOM, but known DCOMw. In the EWpa system, care was exercised in applying equation [FE.05] in those cases where the chemical composition of the feedstuff differed markedly from that of fresh grass and grass hay. In each case, the calculated value of DCOM was compared with the DCOMw (the basis for the calculation), and with the DCOMp (= digestibility coefficient of organic matter for pigs). In cases where this comparison led to the conclusion that the calculated DCOM did not yield a logical value, the DCOMw and the DCOMp were regarded as more valuable than the outcome of equation [FE.07].

In Tables 2 and 3 (Chapter 5), a '*' sign is used to indicate that the stated coefficients have not been established with horses, and the stated value should be regarded as indicative.

7.2.3 Metabolisable energy (ME)

Metabolisable energy is digestible energy minus energy lost through methane and urine. The extent of these losses is affected by the composition of the ration, the crude fibre content of the diet, and the protein content.

For all feedstuffs, the following equation applies:

$$[\text{FE.09}] \quad \text{ME (kJ/kg DM)} = \text{DE} * (93.96 - 0.02356*CF - 0.0217*CP) / 100$$

In which CP and CF are expressed in g/kg DM

7.2.4 Utilization of metabolizable energy for maintenance (k_m)

Part of metabolizable energy is still lost. The required energy for feed intake and heat production caused by feed consumption and processing do not benefit the maintenance or production of the animal. The value of k_m (the proportion of ME that is used for maintenance processes) depends on the endproducts of digestion.

The method of calculation of k_m varies depending on the product group. For products that may not be placed in a certain group, and for groups containing only a limited number of feedstuffs, a k_m value is estimated based on the k_m of comparable products, and/or based on the k_m value in other animal species.

Equations [FE.15] and [FE.16] were not derived from the UFC system. Equation [FE.15] is added to prevent undervaluation of pure fats.

Forages

$$[\text{FE.10}] \quad k_m = (65.21 - 0.0178*CF + 0.0181*CP + 0.0452*(STA+SUG)) / 100$$

Cereal grains and seeds

$$[\text{FE.11}] \quad k_m = (72.34 + 0.0119*CF - 0.0081*CP + 0.0112*(STA+SUG)) / 100$$

Cereal byproducts

$$[\text{FE.12}] \quad k_m = (94.41 - 0.0237*OM - 0.0022*CP + 0.0121*(STA+SUG)) / 100$$

Byproducts from oil processing (1): peanut products, cottonseed products, coconut products, palm kernel products, sunflower seed products

$$[\text{FE.13}] \quad k_m = (67.03 - 0.004261*CP + 0.01566*(STA+SUG)) / 100$$

Byproducts from oil processing (2): linseed products, rapeseed products, soy products

$$[\text{FE.14}] \quad k_m = (68.04 - 0.004261*CP + 0.01566*SUG) / 100$$

Fats of animal and vegetal origin

$$[\text{FE.15}] \quad k_m = 0.80$$

Glucose, saccharose, starch

$$[\text{FE.16}] \quad k_m = 0.85$$

In which all contents are expressed in gram per kg DM

When an equation contains STA, the STA_{am} content (in g/kg DM) should be used. The calculated k_m may be very high for products containing large amounts of sugars or starch, therefore, it was decided to set a maximum value for k_m of 0.85, the same value as for glucose and lactic acid.

7.2.5 Net energy for maintenance (NEM)

Multiplying the calculated ME by the calculated k_m yields the net energy of the feedstuff: $NE = ME * k_m$.

During the development of the VEP system it appeared that fat-rich feedstuffs were underestimated in the UFC system. Incorporating the ME of CFAT with a k_m of 0.80 (instead of the k_m calculated for the complete feedstuff) gives a better valuation of CFAT. The ME content of CFAT is calculated as follows:

$$\text{ME}_{\text{cfat}} = \text{GE}_{\text{cfat}} * \%d_{\text{cfat}} * \text{ME}/\text{DE}_{\text{cfat}} = 36.6 * 0.9 * 0.95 = 31.3 \text{ kJ}$$

The equation for calculating NEm, therefore, becomes:

$$[\text{FE.17}] \quad \text{NEm (MJ/kg DM)} = (k_m * (\text{ME} - 31.3 * \text{CFAT}) + 0.80 * 31.3 * \text{CFAT}) / 1000$$

In which: k_m = the k_m for the complete feedstuff
 ME = the calculated ME content of the feedstuff in kJ/kg DM
 CFAT = the CFAT content of the feedstuff in g/kg DM

Equation [FE.17] is applied to all feedstuffs, with the exception of vegetable and animal fat; for these feedstuffs a fixed k_m (0.80) is applied as follows:

$$[\text{FE.18}] \quad \text{NEm (MJ/kg DM)} = (0.80 * \text{ME})/1000$$

In accordance with the approach taken in the VEM system and EW system for ruminants and pigs, respectively, this net energy value is calculated - for application in practice - to an energy value for horses (EWpa). EWpa is calculated with the energy value of oats as a reference. One kg of oats of average quality contains 8.93 MJ NEm per kg DM. The EWpa of 1 kg oats dry matter is set to 1.000. The EWpa of any given feedstuff is then derived as follows:

$$[\text{FE.19}] \quad \text{EWpa (per kg DM)} = \text{NEm} / 8.93$$

In which: NEm = Net Energy in the feedstuff (in MJ/kg DM)
 8.93 = Net Energy in 1 kg oats dry matter of average quality (in MJ/kg DM)

Because all calculations are performed with contents in the DM, the outcome of equation [FE.19] should be corrected with the DM content of the product, to yield the EWpa per kg of product:

$$[\text{FE.20}] \quad \text{EWpa (per kg product)} = \text{EWpa (per kg DM)} * \text{DM}/1000$$

In which DM = dry matter content of the product (in g/kg)

7.2.6 How to calculate EWpa

In contrast with the feeding value calculation for other animal species in the Feed Table, the equation code stated with the horses data does not refer to one single equation, but to a series of equations that are applied subsequently. The Table below represents the various calculation methods, as shown on the separate product sheets. For each group of products, it is stated which equations have been used to calculate values for GE ([FE.01] or [FE.02]), DE ([FE.03] or [FE.04]), k_m ([FE.10] until [FE.16]), and NEm ([FE.17] or [FE.18]). The following calculation steps are the same for all feedstuffs: for the calculation of the ME/DE ratio ([FE.09]), the conversion from NEm (in DM) to EWpa (in DM) ([FE.19]), and the conversion for the EWpa in DM to EWpa on product basis ([FE.20]). The various combinations of formulas used to calculate EWpa are shown in Table 1.

Table 1 Overview of equations used to calculate EWpa

Calculation method	GE	DE	ME/DE	k _m	NEm	NEm -> EWpa	EWpa (DM) -> EWpa (product)
1	FE.01	FE.03	FE.9	FE.10	FE.17	FE.19	FE.20
2	FE.01	FE.04	FE.9	FE.11	FE.17	FE.19	FE.20
3	FE.01	FE.04	FE.9	FE.12	FE.17	FE.19	FE.20
4	FE.01	FE.04	FE.9	FE.13	FE.17	FE.19	FE.20
5	FE.01	FE.04	FE.9	FE.14	FE.17	FE.19	FE.20
6	FE.02	FE.03	FE.9	FE.10	FE.17	FE.19	FE.20
7	FE.01	FE.04	FE.9	FE.15	FE.17	FE.19	FE.20
8	FE.01	FE.04	FE.9	FE.16	FE.17	FE.19	FE.20

7.3 Protein value

INRA took the digestive physiology of the horse as starting point for their protein evaluation system. However, available base data to develop this system are very scarce and many assumptions were made. Therefore, it was decided not to adopt the French MADC system. For the time being, the DCP system will remain in place to estimate the protein value of feedstuffs for horses. In cases where data were available on the digestibility of crude protein for horses, these values were used to calculate DCP. In other cases, the %dCP was derived from the CP digestibility for ruminants and pigs.

For all feedstuffs the following applies:

$$[\text{FE.21}] \quad \text{DCP (in g/kg DM)} = \text{CP} * \text{DCCP}/100 \text{ (in g/kg DM)}$$

In which: CP is expressed in g/kg DM

DCCP is expressed in %

7.4 Calculation examples

For calculation examples, with step-wise explanation of the calculation of the feeding values for horses, see document RD010 on the CVB website: www.cvbdiervoeding.nl.

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9. LIST OF ABBREVIATIONS

Abbreviation	Unit	Description
%DASH	%	Digestibility of Crude Ash
%DRUP	%	Intestinal digestibility of rumen undegraded dietary protein
%FA	%	Percentage of a certain fatty acid in total fatty acids
%RUP	%	Undegradability of dietary protein; percentage rumen undegraded protein
%RUSTA	%	Undegradability of starch; percentage rumen undegraded starch
%StaiDC	%	Standardized ileal digestibility coefficient
<=C10	g	Fatty acids with 10 C atoms or less
>=C20	g	Fatty acids with 20 C atoms or more
AA	g	Amino acid(s)
AC	g	Acetic acid
ADEr		Apparent digestible energy rabbits
ADF	g	Acid detergent fibre
ADL	g	Acid detergent lignin
ALA	g	Alanine
ANF		Antinutritional factor(s)
APL		Animal production level
ARG	g	Arginine
ASH	g	Crude ash
ASP	g	Aspartic acid
ATP	mol	Adenosine triphosphate
BU	g	Butyric acid
BW	kg	Body weight
BW ^{0.75}	kg	Metabolic body weight
C12:0	g	Lauric acid
C14:0	g	Myristic acid
C16:0	g	Palmitic acid
C16:1	g	Palmitoleic acid
C18:0	g	Stearic acid
C18:1	g	Oleic acid
C18:2	g	Linolic acid
C18:3	g	Linolenic acid
Ca	g	Calcium
CAD	meq/kg	Cation-anion difference
cDPpo		Corrected digestible Phosphorus poultry
CF	g	Crude fibre
CF_DI		Correction factor for disaccharides
CFAT	g	Crude fat
CFATh	g	Crude fat after acid hydrolysis
Cl	g	Chlorine
Co	g	Cobalt
CP	g	Crude protein
Cu	g	Copper

Abbreviation	Unit	Description
CYS	g	Cystine
D	%	Potentially degradable fraction
DASH	g	Digestible ash
DC	%	Digestibility Coefficient
DCCF	%	Digestibility of Crude Fibre
DCCFAT	%	Digestibility of Crude Fat
DCCFATh	%	Digestibility of Crude Fat after acid hydrolysis
DCCP	%	Digestibility of Crude Protein
DCCPh	%	Digestibility of Crude Protein in horses
DCiSTA	%	Ileal Digestibility of STAam
DCNFE	%	Digestibility of NFE
DCNFEh	%	Digestibility of NFEh
DCOM	%	Digestibility of Organic Matter
DCOMp	%	Digestibility of Organic Matter for pigs
DCOMw	%	Digestibility of Organic Matter for wethers
DCPpi	%	Digestibility of P (Phosphorus) in pigs
DCPpo	%	Digestibility of P (Phosphorus) in poultry
DC(S+S)	%	Digestibility of (STAam + SUG)
DE	MJ	Digestible energy
DM	g	Dry matter
DMCP		Intestinal degradable microbial crude protein
DMFLYS		Lysine contribution from DMFP
DMFMET		Methionine contribution from DMFP
DMFP	g	Intestinal digestible metabolic faecal protein; that part of DVE that is lost in endogenous faecal protein
DMI	kg	Dry matter intake
DMLYS		Lysine contribution from DMP
DMMET		Methionine contribution from DMP
DMP	g	Intestinal digestible microbial protein; (part of DVE)
DMSO		Dimethyl Sulphoxide
DPpi	g	(Faecal) digestible Phosphorus in pigs
DPpo	g	(Faecal) digestible Phosphorus in poultry
DRULYS		Lysine contribution from DRUP
DRUMET		Methionine contribution from DRUP
DVE	g	DarmVerteerbaar Eiwit; intestinal digestible protein
DVLYS	g	DarmVerteerbaar Lysine; Intestinal digestible lysine
DVMET	g	DarmVerteerbaar Methionine; Intestinal digestible methionine
EB	meq/kg	Electrolyte Balance
ETH	g	Ethanol
EW		Energy value pigs = NE _v (in MJ) / 8.8 MJ
EW ₂₀₁₅		Energy value pigs = NE ₂₀₁₅ (in MJ) / 8.8 MJ
EW _{pa}		Energy value horses = NE _m (in MJ) / 8.93 MJ
FA		Fatty acids
Fe	g	Iron
FCH	g	Fermentative degradable carbohydrates

Abbreviation	Unit	Description
FIC		Feed intake capacity
FOM	g	Fermentable Organic Matter (Calculated from DOM, from which rumen undegraded protein, rumen undegraded starch and crude fat are subtracted)
FOMr	g	Fermentable organic matter in the rumen (Based on the quantification of rumen fermentable components from <i>in situ</i> experiments)
FOMr2	g	Organic matter that is fermented in the rumen during the first two hours in the rumen
FOMr2/FOMr	g	Ratio between FOMr2 and FOMr
FSTA	g	Fermentable starch (= STA - RUSTA)
FP	g	Fermentation products (LA+AC+PR+BU)
FTU		Phytase units
g		Gram
GE	MJ	Gross energy
GLU	g	Glutamic acid
GLY	g	Glycine
GOS	g	Glucose oligosaccharides
HIS	g	Histidine
HPLC		High performance liquid chromatography
iDM	g	Indigestible dry matter
iDMI		Indigestible dry matter intake
ILE	g	Isoleucine
IP	g	Inositol bound phosphorus
IP/P	%	Inositol bound phosphorus as a percentage of total phosphorus
IV		Iodine value
J	g	Iodine
K	g	Potassium
kcal		Kilocalories
k _r		ME-utilization for energy growth
kg		Kilogram
kJ		Kilojoule
k _m		ME-utilization for maintenance
LA	g	Lactic acid
LAB		Liquid associated bacteria
LEU	g	Leucine
LYS	g	Lysine
MCPe		Microbial CP produced, based on the available energy in the rumen
MCPn		Microbial CP produced, based on available nitrogen in the rumen
MDASH	g	Maximal amount of digestible crude ash
ME	MJ / kcal	Metabolizable energy
MEbr	MJ / kcal	Metabolizable energy for broilers
MEla	MJ / kcal	Metabolizable energy for laying hens
MEpo	MJ / kcal	Metabolizable energy for poultry
meq		milli equivalents
MET	g	Methionine

Abbreviation	Unit	Description
MFP		Metabolic faecal protein
mg		Milligram
Mg	g	Magnesium
MJ		Megajoule
Mn	g	Manganese
Mo	g	Molybdeen
N	g	Nitrogen
Na	g	Sodium
NDADF		ADF content in NDF
NDF	g	Neutral detergent fibre
NE	MJ	Net energy
NE _{lac}	MJ	Net energy value for milk production
NE _{meat}	MJ	Net energy value for meat production
NE _m	MJ	Net energy value for maintenance
NE _v	MJ	Net energy value for fat accretion in pigs
NE ₂₀₁₅	MJ	Net energy value for pigs for growth; introduced in 2015
NFE	g	N-free extracts, with CFAT subtracted (so: 1000 – (moisture + ASH + CP + CFAT + CF))
NFEh	g	N-free extracts, with CFATh subtracted
NPN	g	Non protein nitrogen
NSP	g	Non starch polysaccharides = 1000 – (moisture + ASH + CP + CFAT + STAam + GOS + CF_DI*SUG + 0.92*LA + 0.5*(AC+PR+BU) + GLYCEROL)
NSPh	g	Non starch polysaccharides = 1000 – (moisture + ASH + CP + CFATh + STAam + GOS + CF_DI*SUG + 0.92*LA + 0.5*(AC+PR+BU) + GLYCEROL)
OEB	g	Onbestendig Eiwit Balans; rumen degraded protein balance
OEB-2	g	OEB two hours after feed intake
OEK		Metabolisable energy for rabbits
OM	g	Organic matter
P	g	Phosphorus
PAB		Particle associated bacteria
PDV		Product Board Animal Feed
PHE	g	Phenylalanine
PR	g	Propionic acid
PRO	g	Proline
q		%ME in GE
RNSP	g	Remainder NSP fraction, after subtracting NDF from NSP (RNSP = NSP – NDF)
RNSPh	g	Remainder NSPh fraction, after subtracting NDF from NSPh (RNSP = NSPh – NDF)
RUP	g	Rumen undegraded dietary protein
RUSTA	g	Rumen undegraded starch
S	g	Sulphur
S	%	Soluble fraction
sd		Standard deviation
sdc		Corrected standard deviation

Abbreviation	Unit	Description
SER	g	Serine
S-i	g	Inorganic sulphur
S-o	g	Organic sulphur
STA		Starch
STAam	g	Starch determined by amyloglucosidase
STAam-e	g	Enzymatically digestible starch
STAam-f	g	Fermentable degradable starch
STAew	g	Starch determined according to Ewers
STAtot	g	STAam plus GOS
SUG	g	Sugars
SUGe	g	Enzymatically digestible sugars
SUGe/SUG	%	Ratio indicating which percentage of the total SUG content consists of enzymatically digestible SUG
SUGf	g	Fermentable degradable sugars (= SUG – SUGe)
SW		Structuurwaarde; Structure Unit
TDMI		Total dry matter intake
THR	g	Threonine
TRP	g	Tryptofaan
TYR	g	Tyrosine
U	%	Undegradable fraction
uCP _{i-basal}	g/kg	Amount of undigested basal endogenous protein (expressed as g/kg ingested feed) at the end of ileum
uCP _{i-endogenous}		Total amount of undigested endogenous protein that passes the ileum
uCP _{i-specific}		Amount of undigested endogenous protein (g/kg feed), induced by feed specific factors, at the end of the ileum
VAL	g	Valine
VEM		Voedereenheden voor melkproductie; Feed unit milk production
VEVI		Voedereenheden voor vleesproductie; Feed unit meat production
VFA		Volatile fatty acids (sum of Ac, Pr and Bu)
VW		VerzadigingsWaarde; Fill Unit
W	%	Washable fraction
Zn	g	Zinc

10. CHEMICAL COMPOSITION AND FEEDING VALUES OF FEEDSTUFFS

In this chapter information is given for the following categories of feedstuffs:

- 10.1 Compound feedstuffs
- 10.2 High moisture industrial co-products
- 10.3 Roughages and related products
- 10.4 Mineral feedstuffs
- 10.5 Miscellaneous

Compound feedstuffs

Barley 1005.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	867	20	100	18	27	43	686	677	
sd	8	2	8	2	-	5	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	540	528	-	23	139	55	13	180	41
sd	23	-	-	3	14	7	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	3.1	2.3	1.2	4.9	0.1	1.0	0.1	0.9
sd	0.1	0.2	-	0.1	1.0	0.0	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	48	15	33	4	0.8	0.1	0.1
sd	10	5	5	1	0.3	0.1	0.0

IP/P	75	SUGe/SUG	75	EB (meq/kg)	100
		CF_DI	0.96	CAD (meq/kg)	35

Digestibility coefficients (%)

Ruminants

DCCP	74
DCCFAT	82
DCCF	35
DCNFE	90
DCOM	85

DVE 1991 2007

%RUP	30	35
%DRUP	91	91
%RUSTA	12	12
%DASH	50	50
DASHmax	15	15

Pigs

DCCP	74
DCCFATh	56
DCCF	15
DCNFE	93
DCOM	86
DCNSPh	52
DCiSTA	100
StaDCP	35
AppDCP	29

Roosters/Laying hens

DCCP	70
DCCFAT	64
DCNFE	84
DCPpo	38
DCCP	70
DCCFATh	54
DC(S+S)	98
DCNFEh	79
DCPpo	38

Rabbits

DCCP	65
DCCFAT	85
DCCF	15
DCNFE	87

Horses

DCCP	80
DCOM	84

Nutritional value (in product)

Ruminants

VEM	982 /kg
VEVI	1074 /kg
FOM-91	610 g/kg
FOMr-07	629 g/kg
FOMr2-07	393 g/kg
FOMr2/FOMr	0.62 /kg
DVE-91	78 g/kg
DVE-07	101 g/kg
OEB-91	-25 g/kg
OEB-07	-59 g/kg
OEB2-07	-51 g/kg
DVMET-91	1.8 g/kg
DVLYS-91	5.0 g/kg
DVMET-07	2.4 g/kg
DVLYS-07	6.6 g/kg
SW	-0.08 /kg
VW	0.25 /kg

Pigs

NE2015	10.00 MJ/kg
NE2015	2390 kcal/kg
EW2015	1.14 /kg
StaDP	1.1 g/kg
AppDP	0.9 g/kg

Roosters/Laying hens

MEpo	11.91 MJ/kg
MEpo	2848 kcal/kg
MEla	11.98 MJ/kg
MEla	2863 kcal/kg
DPpo	1.2 g/kg

Broilers

MEbr	11.12 MJ/kg
MEbr	2657 kcal/kg
DPpo	1.2 g/kg

Rabbits

MErab	12.11 MJ/kg
MErab	2895 kcal/kg

Horses

NEm	9.01 MJ/kg
NEm	2154 kcal/kg
EWpa	1.01 /kg
DCPho	80 g/kg

Barley 1005.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			100	80	-	70	70	-	-
LYS	3.6	0.3	3.6	76	2.7	66	2.4	81	2.9
MET	1.7	0.1	1.7	82	1.4	77	1.3	91	1.5
CYS	2.2	0.2	2.2	80	1.8	72	1.6	76	1.7
THR	3.4	0.2	3.4	79	2.7	64	2.2	75	2.5
TRP	1.2	0.1	1.2	77	0.9	67	0.8	79	0.9
ILE	3.5	0.2	3.5	82	2.9	72	2.5	82	2.9
ARG	4.9	0.3	4.9	84	4.1	77	3.8	78	3.8
PHE	5.0	0.3	5.0	84	4.2	79	3.9	81	4.0
HIS	2.2	0.2	2.2	82	1.8	75	1.6	79	1.7
LEU	6.9	0.3	6.9	82	5.6	76	5.2	81	5.6
TYR	3.1	0.2	3.1	83	2.6	75	2.3	75	2.3
VAL	4.9	0.3	4.9	80	3.9	71	3.5	80	3.9
ALA	4.1	0.3	4.1	72	3.0	62	2.5	75	3.1
ASP	6.0	0.5	6.0	75	4.5	64	3.8	72	4.3
GLU	23.5	1.7	23.4	89	20.9	85	19.9	87	20.4
GLY	4.0	0.2	4.0	77	3.1	58	2.3	72	2.9
PRO	10.8	0.9	10.8	91	9.8	83	8.9	83	8.9
SER	4.2	0.2	4.2	85	3.6	71	3.0	78	3.3
Sum AA	95.2		95	-	79	-	72	-	77

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		17.5	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.4	0.0	ETH	-	-
C16:0	23.0	2.8	PR	-	-
C16:1	0.4	0.0	BU	-	-
C18:0	1.0	0.1	Glycerol	-	-
C18:1	13.0	1.6			
C:18:2	56.0	6.9			
C18:3	6.0	0.7			
>=C20	-	0.0			
Sum FA	99.8	12.3	NH3	-	
% FA in CFAT-fraction		70			

Remarks

Barley:

1. The StaDCP of barley including endogenous phytase activity is 43%.

Barley feed, high grade 1005.112/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	884	55	133	45	-	108	544	-	
sd	10	13	12	14	-	9	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	254	234	-	50	268	129	-	370	102
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.7	6.3	4.7	2.7	8.0	0.2	1.0	0.1	1.2
sd	-	1.0	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	186	38	55	8	0.7	0.1	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	75	EB (meq/kg)	184
		CF_DI	0.98	CAD (meq/kg)	100

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	78		DCCP	71	DCCP	-
DCCFAT	90		DCCFATh	75	DCCFAT	-
DCCF	35		DCCF	55	DCCF	-
DCNFE	78		DCNFE	27	DCNFE	-
DCOM	73		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP			
%RUP	29	35	AppDCP			
%DRUP	80	80				
%RUSTA	11	11				
%DASH	50	50				
DASHmax	35	35				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	853 /kg	NE2015	MEpo	MErab
VEVI	891 /kg	NE2015	MEpo	MErab
FOM-91	497 g/kg	EW2015	MEla	
FOMr-07	497 g/kg	StaDP	MEla	
FOMr2-07	280 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.56 /kg			
DVE-91	63 g/kg			
DVE-07	75 g/kg			
OEB-91	15 g/kg			
OEB-07	-2 g/kg			
OEB2-07	-17 g/kg			
DVMET-91	1.6 g/kg			
DVLYS-91	4.1 g/kg			
DVMET-07	1.9 g/kg			
DVLYS-07	4.9 g/kg			
SW	0.16 /kg			
VW	0.27 /kg			

Barley feed, high grade 1005.112/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			133	68	-	60	80	-	-
LYS	4.3	0.3	5.7	68	3.9	62	3.5	71	4.0
MET	1.9	0.2	2.5	68	1.7	64	1.6	70	1.8
CYS	2.0	0.1	2.7	68	1.8	61	1.6	60	1.6
THR	3.6	0.3	4.8	68	3.2	57	2.7	67	3.2
TRP	1.1	-	1.5	68	1.0	60	0.9	64	0.9
ILE	3.5	0.2	4.6	68	3.1	61	2.8	70	3.2
ARG	5.8	0.4	7.7	68	5.2	63	4.9	62	4.8
PHE	4.3	0.1	5.7	68	3.9	63	3.6	69	3.9
HIS	1.9	0.1	2.5	68	1.7	61	1.5	63	1.6
LEU	6.6	0.1	8.8	68	5.9	63	5.5	68	6.0
TYR	3.1	-	4.1	68	2.8	62	2.5	63	2.6
VAL	5.0	0.3	6.6	68	4.5	61	4.0	68	4.5
ALA	4.8	0.2	6.4	68	4.3	61	3.9	71	4.5
ASP	6.9	0.4	9.1	68	6.2	60	5.5	68	6.2
GLU	18.1	1.1	24.0	68	16.2	63	15.2	66	15.8
GLY	4.6	0.2	6.1	68	4.1	55	3.3	67	4.1
PRO	7.2	0.7	9.5	68	6.5	57	5.5	55	5.3
SER	4.4	0.2	5.8	68	3.9	58	3.4	64	3.7
Sum AA	89.1		118	-	80	-	72	-	78

Fatty acids

	% FA	g/kg
CFAT(h)		44.9
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.1
C16:0	23.0	7.2
C16:1	0.4	0.1
C18:0	1.0	0.3
C18:1	13.0	4.1
C:18:2	56.0	17.6
C18:3	6.0	1.9
>=C20	-	0.0
Sum FA	99.8	31.4
% FA in CFAT-fraction		70

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Barley feed, high grade:

1. The StaDCP of barley feed, high grade includes endogenous phytase activity.

Barley, mill by-product 1005.105/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	886	64	118	38	-	138	529	-	
sd	5	17	11	5	-	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	220	202	-	23	330	166	-	442	113
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.6	4.1	3.1	1.7	7.7	0.2	1.4	0.2	1.1
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	859	57	35	6	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	75	EB (meq/kg)	165
		CF_DI	0.96	CAD (meq/kg)	83

Digestibility coefficients (%)

Ruminants

DCCP	73	
DCCFAT	89	
DCCF	35	
DCNFE	73	
DCOM	67	
DVE	1991	2007
%RUP	29	35
%DRUP	80	80
%RUSTA	10	10
%DASH	50	50
DASHmax	39	39

Pigs

DCCP	64
DCCFATh	71
DCCF	15
DCNFE	62
DCOM	55
DCNSPh	28
DCiSTA	100
StaDCP	30
AppDCP	26

Roosters/Laying hens

DCCP	70
DCCFAT	74
DCNFE	48
DCPpo	27
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	27

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
Horses	
DCCP	73
DCOM	65

Nutritional value (in product)

Ruminants

VEM	754 /kg
VEVI	765 /kg
FOM-91	460 g/kg
FOMr-07	456 g/kg
FOMr2-07	243 g/kg
FOMr2/FOMr	0.53 /kg
DVE-91	52 g/kg
DVE-07	61 g/kg
OEB-91	11 g/kg
OEB-07	-3 g/kg
OEB2-07	-13 g/kg
DVMET-91	1.4 g/kg
DVLYS-91	3.4 g/kg
DVMET-07	1.6 g/kg
DVLYS-07	4.0 g/kg
SW	0.24 /kg
VW	0.29 /kg

Pigs

NE2015	6.18 MJ/kg
NE2015	1478 kcal/kg
EW2015	0.70 /kg
StaDP	1.2 g/kg
AppDP	1.0 g/kg

Roosters/Laying hens

MEpo	7.01 MJ/kg
MEpo	1676 kcal/kg
MEla	7.18 MJ/kg
MEla	1715 kcal/kg
DPpo	1.1 g/kg

Broilers

MEbr	-
MEbr	-
DPpo	1.1 g/kg

Rabbits

MErab	-
MErab	-
Horses	
NEm	6.70 MJ/kg
NEm	1600 kcal/kg
EWpa	0.75 /kg
DCPho	86 g/kg

Barley, mill by-product 1005.105/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
CP			118	65	-	56	66	-	-
LYS	4.3	0.3	5.1	65	3.3	58	2.9	68	3.4
MET	1.9	0.2	2.2	65	1.5	61	1.4	67	1.5
CYS	2.0	0.1	2.4	65	1.5	57	1.3	57	1.3
THR	3.6	0.3	4.2	65	2.7	52	2.2	64	2.7
TRP	1.1	-	1.3	65	0.8	55	0.7	61	0.8
ILE	3.5	0.2	4.1	65	2.7	57	2.3	67	2.8
ARG	5.8	0.4	6.8	65	4.4	60	4.1	59	4.0
PHE	4.3	0.1	5.1	65	3.3	59	3.0	66	3.3
HIS	1.9	0.1	2.2	65	1.4	57	1.3	60	1.3
LEU	6.6	0.1	7.8	65	5.0	59	4.6	65	5.0
TYR	3.1	-	3.6	65	2.4	58	2.1	60	2.2
VAL	5.0	0.3	5.9	65	3.8	57	3.3	65	3.8
ALA	4.8	0.2	5.7	65	3.7	57	3.2	68	3.8
ASP	6.9	0.4	8.1	65	5.2	56	4.6	65	5.3
GLU	18.1	1.1	21.3	65	13.8	60	12.7	63	13.4
GLY	4.6	0.2	5.4	65	3.5	50	2.7	64	3.5
PRO	7.2	0.7	8.5	65	5.5	53	4.5	52	4.4
SER	4.4	0.2	5.2	64	3.3	53	2.8	61	3.2
Sum AA	89.1		105	-	68	-	60	-	66

Fatty acids

	% FA	g/kg
CFAT(h)		38.0
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.1
C16:0	23.0	6.1
C16:1	0.4	0.1
C18:0	1.0	0.3
C18:1	13.0	3.5
C:18:2	56.0	14.9
C18:3	6.0	1.6
>=C20	-	0.0
Sum FA	99.8	26.5
% FA in CFAT-fraction		70

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Biscuits, ground CFATh < 120 g/kg 9011.001/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			83	93	-	80	66	-	-
LYS	2.5	0.3	2.1	92	1.9	74	1.5	70	1.5
MET	1.5	0.2	1.2	93	1.2	85	1.1	81	1.0
CYS	2.1	0.1	1.7	88	1.5	77	1.3	77	1.3
THR	3.3	0.4	2.7	91	2.5	71	2.0	72	2.0
TRP	1.0	-	0.8	91	0.8	75	0.6	75	0.6
ILE	3.6	0.1	3.0	94	2.8	82	2.5	79	2.4
ARG	4.1	0.6	3.4	94	3.2	83	2.8	79	2.7
PHE	4.6	0.5	3.8	90	3.4	82	3.1	78	3.0
HIS	2.4	0.2	2.0	93	1.8	84	1.7	74	1.5
LEU	6.6	0.1	5.5	94	5.1	86	4.7	81	4.4
TYR	2.8	-	2.3	95	2.2	83	1.9	77	1.8
VAL	4.5	0.4	3.7	93	3.5	79	3.0	76	2.8
ALA	3.7	0.3	3.1	93	2.9	78	2.4	75	2.3
ASP	5.8	0.5	4.8	91	4.4	76	3.7	72	3.5
GLU	27.7	1.3	23.1	95	21.8	90	20.7	88	20.3
GLY	3.9	0.3	3.2	92	3.0	66	2.2	71	2.3
PRO	9.7	0.2	8.1	92	7.4	79	6.4	81	6.5
SER	4.7	0.3	3.9	94	3.7	79	3.1	78	3.1
Sum AA	94.5		79	-	73	-	65	-	63

Fatty acids

	% FA	g/kg
CFAT(h)		109.8
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Biscuits, ground CFATh > 120 g/kg 9011.002/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			81	93	-	80	65	-	-
LYS	2.5	0.3	2.0	92	1.9	74	1.5	70	1.4
MET	1.5	0.2	1.2	93	1.1	85	1.0	81	1.0
CYS	2.1	0.1	1.7	88	1.5	77	1.3	77	1.3
THR	3.3	0.4	2.7	91	2.4	71	1.9	72	1.9
TRP	1.0	-	0.8	91	0.7	75	0.6	75	0.6
ILE	3.6	0.1	2.9	94	2.7	82	2.4	79	2.3
ARG	4.1	0.6	3.3	94	3.1	83	2.8	79	2.6
PHE	4.6	0.5	3.7	90	3.3	82	3.0	78	2.9
HIS	2.4	0.2	1.9	93	1.8	84	1.6	74	1.4
LEU	6.6	0.1	5.4	94	5.0	86	4.6	81	4.3
TYR	2.8	-	2.3	95	2.1	83	1.9	77	1.7
VAL	4.5	0.4	3.7	93	3.4	79	2.9	76	2.8
ALA	3.7	0.3	3.0	93	2.8	78	2.3	75	2.3
ASP	5.8	0.5	4.7	91	4.3	76	3.6	72	3.4
GLU	27.7	1.3	22.5	95	21.3	90	20.2	88	19.8
GLY	3.9	0.3	3.2	92	2.9	66	2.1	71	2.2
PRO	9.7	0.2	7.9	92	7.2	79	6.2	81	6.4
SER	4.7	0.3	3.8	94	3.6	79	3.0	78	3.0
Sum AA	94.5		77	-	71	-	63	-	61

Fatty acids

	% FA	g/kg
CFAT(h)		162.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Bloodmeal, spray dried 8002.657/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	919	17	903	-	5	7	-	-13	
sd	17	3	19	-	3	3	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	-6	-6
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	1.7	-	0.2	2.7	5.8	3.4	-	5.2
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	2383	3	36	11	-	0.8	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	225
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 86	DCCP 80	DCCP -
DCCFAT	-	DCCFATh 2	DCCFAT -	DCCFAT -
DCCF	-	DCCF -	DCNFE 80	DCCF -
DCNFE	-	DCNFE 86	DCPpo 80	DCNFE -
DCOM	-	DCOM 85		
		DCNSPh -	Broilers	Horses
DVE	1991	2007	DCCP -	DCCP -
%RUP	-	-	DCCFATh -	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 80	
DASHmax	-	-		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 9.00 MJ/kg	MEpo 12.85 MJ/kg	MErab -
VEVI	-	NE2015 2152 kcal/kg	MEpo 3070 kcal/kg	MErab -
FOM-91	-	EW2015 1.02 /kg	MEla 12.85 MJ/kg	
FOMr-07	-	StaDP 1.2 g/kg	MEla 3070 kcal/kg	
FOMr2-07	-	AppDP 1.0 g/kg	DPpo 1.3 g/kg	
FOMr2/FOMr	-			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr -	NEm -
OEB-91	-		MEbr -	NEm -
OEB-07	-		DPpo 1.3 g/kg	EWpa -
OEB2-07	-			DCPho -
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Bloodmeal, spray dried 8002.657/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			903	88	-	87	786	-	-
LYS	8.9	0.4	80.4	94	75.3	93	74.9	90	72.3
MET	1.2	0.2	10.8	88	9.5	87	9.4	89	9.6
CYS	1.2	0.2	10.8	88	9.5	86	9.3	80	8.7
THR	4.4	0.5	39.7	88	35.1	87	34.6	85	33.8
TRP	1.5	0.2	13.5	91	12.3	90	12.2	85	11.5
ILE	1.2	0.3	10.8	75	8.1	72	7.8	61	6.6
ARG	4.3	0.3	38.8	95	36.7	94	36.4	88	34.2
PHE	6.9	0.4	62.3	92	57.6	92	57.3	91	56.7
HIS	6.4	0.4	57.8	95	54.7	94	54.5	87	50.3
LEU	12.8	0.6	115.6	93	107.9	93	107.5	90	104.0
TYR	2.9	0.4	26.2	88	23.0	87	22.8	88	23.0
VAL	8.6	0.6	77.7	93	72.1	92	71.6	88	68.3
ALA	7.9	0.4	71.3	88	62.8	87	62.3	86	61.3
ASP	11.0	0.4	99.3	88	87.4	87	86.7	88	87.4
GLU	9.3	0.5	84.0	88	73.8	87	72.7	84	70.5
GLY	4.5	0.2	40.6	88	35.7	86	34.9	88	35.8
PRO	3.9	0.4	35.2	88	31.0	85	29.9	86	30.3
SER	5.0	0.3	45.1	88	39.7	87	39.1	88	39.7
Sum AA	101.9		920	-	832	-	824	-	804

Fatty acids

	% FA	g/kg
CFAT(h)		5.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Bloodmeal, spray dried:

1. Processing this product in feeds for pigs and poultry is allowed in the EU, providing it is not originating from ruminants; processing this product in feeds for ruminants is prohibited.

Bone meal 8005.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	948	463	402	-	51	-	-	32		
sd	14	19	11	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	32	32	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	177.7	82.3	-	3.2	2.2	6.4	10.0	-	1.8
sd	8.4	3.5	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	467	17	117	4	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	50
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	88	DCCP	-
DCCFAT	-	DCCFATh	81	DCCFAT	-
DCCF	-	DCCF	-	DCNFE	-
DCNFE	-	DCNFE	83	DCPpo	-
DCOM	-	DCOM	87		
		DCNSPh	83	Broilers	Horses
DVE	1991	2007	DCiSTA	DCCP	-
%RUP	-	-	StaDCP	DCCFATh	-
%DRUP	-	-	AppDCP	DC(S+S)	-
%RUSTA	-	-		DCNFEh	-
%DASH	-	-		DCPpo	-
DASHmax	-	-			

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits				
VEM	-	NE2015	5.87 MJ/kg	MEpo	-	MErab	-
VEVI	-	NE2015	1403 kcal/kg	MEpo	-	MErab	-
FOM-91	-	EW2015	0.67 /kg	MEla	-		
FOMr-07	-	StaDP	63.4 g/kg	MEla	-		
FOMr2-07	-	AppDP	63.2 g/kg	DPpo	-		
FOMr2/FOMr	-			Broilers		Horses	
DVE-91	-			MEbr	-	NEm	-
DVE-07	-			MEbr	-	NEm	-
OEB-91	-			DPpo	-	EWpa	-
OEB-07	-					DCPho	-
OEB2-07	-						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-						
VW	-						

Bone meal 8005.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP			402	83	-	80	322	-	-
LYS	4.4	0.6	17.7	82	14.5	80	14.2	-	-
MET	1.2	0.3	4.8	87	4.2	85	4.1	-	-
CYS	0.7	0.2	2.8	61	1.7	54	1.5	-	-
THR	2.9	0.4	11.7	88	10.2	83	9.7	-	-
TRP	0.3	-	1.2	83	1.0	72	0.9	-	-
ILE	2.5	0.4	10.0	85	8.6	82	8.2	-	-
ARG	6.3	1.2	25.3	82	20.8	81	20.4	-	-
PHE	3.0	0.5	12.1	84	10.2	82	9.9	-	-
HIS	1.4	0.3	5.6	83	4.7	80	4.5	-	-
LEU	5.2	0.7	20.9	85	17.7	82	17.2	-	-
TYR	1.8	0.4	7.2	82	5.9	78	5.7	-	-
VAL	4.0	0.5	16.1	86	13.7	82	13.2	-	-
ALA	8.4	0.6	33.8	84	28.2	82	27.7	-	-
ASP	6.9	0.4	27.7	81	22.6	79	21.8	-	-
GLU	11.5	1.3	46.2	84	38.9	82	37.8	-	-
GLY	13.6	3.9	54.6	83	45.3	81	44.4	-	-
PRO	10.2	1.6	41.0	86	35.2	83	34.2	-	-
SER	3.6	0.2	14.5	87	12.6	83	12.0	-	-
Sum AA	87.9		353	-	296	-	287	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		51.2	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	1.0	0.4	AC	-	-
C14:0	3.0	1.2	ETH	-	-
C16:0	26.0	10.6	PR	-	-
C16:1	3.0	1.2	BU	-	-
C18:0	16.0	6.6	Glycerol	-	-
C18:1	36.0	14.7			
C:18:2	7.0	2.9			
C18:3	1.0	0.4			
>=C20	3.0	1.2			
Sum FA	96.0	39.3	NH3	-	
% FA in CFAT-fraction		80			

Bread (remains) 1010.612/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	897	29	121	41	53	11	695	683	
sd	22	2	7	8	-	3	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	527	506	-	69	47	14	3	123	76
sd	18	-	-	15	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	1.9	0.6	0.6	2.5	6.7	11.9	0.2	1.1
sd	-	0.3	-	-	-	0.5	0.6	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	45	11	17	4	0.7	0.7	-
sd	10	3	4	2	-	-	-

IP/P	30	SUGe/SUG	100	EB (meq/kg)	20
		CF_DI	0.96	CAD (meq/kg)	-59

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	77		DCCP	79	DCCP	-		
DCCFAT	86		DCCFATh	86	DCCFAT	-		
DCCF	75		DCCF	16	DCNFE	91		
DCNFE	92		DCNFE	97	DCPpo	40		
DCOM	89		DCOM	93				
			DCNSPh	75	Horses			
DVE	1991	2007	DCiSTA	100	DCCP	85	DCCP	84
%RUP	27	28	StaDCP	50	DCCFATh	79	DCOM	88
%DRUP	80	80	AppDCP	41	DC(S+S)	98		
%RUSTA	5	5			DCNFEh	82		
%DASH	65	65			DCPpo	40		
DASHmax	26	26						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1137 /kg	NE2015	11.67 MJ/kg	MEpo	14.18 MJ/kg	MErab	-
VEVI	1266 /kg	NE2015	2790 kcal/kg	MEpo	3390 kcal/kg	MErab	-
FOM-91	664 g/kg	EW2015	1.33 /kg	MEla	14.42 MJ/kg		
FOMr-07	689 g/kg	StaDP	1.0 g/kg	MEla	3447 kcal/kg		
FOMr2-07	550 g/kg	AppDP	0.8 g/kg	DPpo	0.8 g/kg		
FOMr2/FOMr	0.80 /kg			Broilers		Horses	
DVE-91	85 g/kg			MEbr	13.13 MJ/kg	NEm	10.13 MJ/kg
DVE-07	108 g/kg			MEbr	3138 kcal/kg	NEm	2421 kcal/kg
OEB-91	-14 g/kg			DPpo	0.8 g/kg	EWpa	1.13 /kg
OEB-07	-51 g/kg					DCPho	102 g/kg
OEB2-07	-76 g/kg						
DVMET-91	1.9 g/kg						
DVLYS-91	5.2 g/kg						
DVMET-07	2.5 g/kg						
DVLYS-07	7.0 g/kg						
SW	-0.22 /kg						
VW	0.26 /kg						

Bread (remains) 1010.612/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	AA pigs				AA poultry		
			standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			121	93	-	84	102	-	-
LYS	2.5	0.3	3.0	92	2.8	80	2.4	70	2.1
MET	1.5	0.2	1.8	93	1.7	88	1.6	81	1.5
CYS	2.1	0.1	2.6	88	2.2	81	2.1	77	2.0
THR	3.3	0.4	4.0	92	3.7	78	3.1	72	2.9
TRP	1.0	-	1.2	91	1.1	81	1.0	75	0.9
ILE	3.6	0.1	4.4	94	4.1	86	3.8	79	3.5
ARG	4.1	0.6	5.0	94	4.7	87	4.3	79	3.9
PHE	4.6	0.5	5.6	90	5.0	85	4.7	78	4.4
HIS	2.4	0.2	2.9	93	2.7	87	2.5	74	2.2
LEU	6.6	0.1	8.0	94	7.5	89	7.1	81	6.5
TYR	2.8	-	3.4	95	3.2	87	3.0	77	2.6
VAL	4.5	0.4	5.5	93	5.1	84	4.6	76	4.2
ALA	3.7	0.3	4.5	93	4.2	83	3.7	75	3.4
ASP	5.8	0.5	7.0	91	6.4	82	5.7	72	5.1
GLU	27.7	1.3	33.6	95	31.9	92	30.8	88	29.6
GLY	3.9	0.3	4.7	93	4.4	76	3.6	71	3.4
PRO	9.7	0.2	11.8	92	10.8	83	9.8	81	9.5
SER	4.7	0.3	5.7	95	5.4	84	4.8	78	4.5
Sum AA	94.5		115	-	107	-	99	-	92

Fatty acids

	% FA	g/kg
CFAT(h)		52.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Brewer's grains, dried 1005.301/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	915	46	248	67	70	132	423	420	
sd	31	5	32	5	2	16	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	49	40	-	9	496	199	-	506	11
sd	25	-	-	-	77	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.5	4.6	3.0	1.8	0.5	0.1	0.1	0.2	2.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	253	39	66	20	-	-	0.1
sd	-	-	33	3	-	-	-

IP/P	65	SUGe/SUG	50	EB (meq/kg)	16
		CF_DI	0.96	CAD (meq/kg)	-138

Digestibility coefficients (%)

Ruminants

DCCP	75	
DCCFAT	85	
DCCF	43	
DCNFE	64	
DCOM	65	
DVE	1991	2007
%RUP	49	58
%DRUP	93	93
%RUSTA	-	-
%DASH	50	50
DASHmax	30	30

Pigs

DCCP	71
DCCFATh	58
DCCF	26
DCNFE	41
DCOM	48
DCNSPh	31
DCiSTA	100
StaDCP	35
AppDCP	31

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
Horses	
DCCP	69
DCOM	55

Nutritional value (in product)

Ruminants

VEM	821 /kg
VEVI	823 /kg
FOM-91	382 g/kg
FOMr-07	324 g/kg
FOMr2-07	77 g/kg
FOMr2/FOMr	0.24 /kg
DVE-91	137 g/kg
DVE-07	139 g/kg
OEB-91	57 g/kg
OEB-07	58 g/kg
OEB2-07	14 g/kg
DVMET-91	3.0 g/kg
DVLYS-91	6.2 g/kg
DVMET-07	3.0 g/kg
DVLYS-07	6.0 g/kg
SW	0.37 /kg
VW	0.29 /kg

Pigs

NE2015	5.70 MJ/kg
NE2015	1361 kcal/kg
EW2015	0.65 /kg
StaDP	1.6 g/kg
AppDP	1.4 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEIa	-
MEIa	-
DPpo	-

Broilers

MEbr	-
MEbr	-
DPpo	-

Rabbits

MErab	-
MErab	-
Horses	
NEm	6.13 MJ/kg
NEm	1465 kcal/kg
EWpa	0.69 /kg
DCPho	171 g/kg

Brewer's yeast, dried 9001.315/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	925	65	459	-	26	22	-	354		
sd	20	6	40	-	-	18	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	83	62	-	25	-	-	-	291	291	
sd	-	-	-	11	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.0	10.6	-	1.9	19.5	3.3	1.6	0.3	2.9
sd	-	1.1	-	-	-	-	0.4	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	77	8	105	7	1.1	-	0.2
sd	39	2	82	4	-	-	-

IP/P	-	SUGe/SUG	25	EB (meq/kg)	599
		CF_DI	0.94	CAD (meq/kg)	398

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	82		DCCP	79	DCCP	-
DCCFAT	53		DCCFATh	49	DCCFAT	-
DCCF	-		DCCF	92	DCNFE	55
DCNFE	80		DCNFE	98	DCPpo	-
DCOM	78		DCOM	86		
			DCNSPh	97	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	55	60	StaDCP	50	DCCFATh	-
%DRUP	75	75	AppDCP	48	DC(S+S)	-
%RUSTA	10	8			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	52	52				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	905 /kg	NE2015	8.54 MJ/kg	MEpo	10.81 MJ/kg	MErab	-
VEVI	930 /kg	NE2015	2040 kcal/kg	MEpo	2583 kcal/kg	MErab	-
FOM-91	387 g/kg	EW2015	0.97 /kg	MEla	10.89 MJ/kg		
FOMr-07	401 g/kg	StaDP	5.3 g/kg	MEla	2604 kcal/kg		
FOMr2-07	128 g/kg	AppDP	5.1 g/kg	DPpo	-		
FOMr2/FOMr	0.32 /kg			Broilers		Horses	
DVE-91	233 g/kg			MEbr	-	NEm	-
DVE-07	227 g/kg			MEbr	-	NEm	-
OEB-91	119 g/kg			DPpo	-	EWpa	-
OEB-07	126 g/kg					DCPho	-
OEB2-07	23 g/kg						
DVMET-91	4.2 g/kg						
DVLYS-91	16.1 g/kg						
DVMET-07	4.1 g/kg						
DVLYS-07	15.7 g/kg						
SW	0.24 /kg						
VW	0.27 /kg						

Brewer's yeast, dried 9001.315/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	AA pigs				AA poultry		
			standardized		apparent		DC	g/kg	
		g/kg	DC	g/kg	DC	g/kg	DC	g/kg	
CP		459	85	-	83	381	-	-	
LYS	6.7	0.8	30.7	88	27.2	87	26.8	90	27.7
MET	1.6	0.1	7.3	82	6.0	80	5.9	84	6.2
CYS	1.1	0.2	5.0	69	3.5	66	3.3	80	4.0
THR	4.8	0.5	22.0	83	18.3	81	17.7	81	17.8
TRP	1.2	0.1	5.5	85	4.7	83	4.6	86	4.7
ILE	4.6	0.4	21.1	84	17.7	82	17.4	85	17.9
ARG	4.4	0.7	20.2	92	18.5	90	18.1	88	17.8
PHE	4.2	0.3	19.3	86	16.6	85	16.3	86	16.6
HIS	2.1	0.2	9.6	84	8.1	83	8.0	82	7.9
LEU	6.8	0.4	31.2	85	26.6	84	26.2	85	26.5
TYR	3.3	0.4	15.1	89	13.4	87	13.1	87	13.2
VAL	5.3	0.4	24.3	85	20.6	83	20.1	84	20.4
ALA	6.3	0.5	28.9	86	24.7	84	24.3	88	25.4
ASP	9.0	1.0	41.3	86	35.5	84	34.8	85	35.1
GLU	12.6	1.3	57.8	89	51.5	87	50.4	88	50.8
GLY	4.5	0.3	20.6	85	17.6	81	16.8	85	17.5
PRO	4.1	0.7	18.8	90	17.0	85	15.9	85	16.0
SER	5.0	0.4	22.9	85	19.4	82	18.8	82	18.8
Sum AA	87.6		402	-	347	-	339	-	344

Fatty acids

	% FA	g/kg
CFAT(h)		25.9
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Canary seed 1009.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	874	55	150	56	-	68	545	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	422	405	-	13	-	-	-	195	195
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	4.5	2.9	1.5	3.6	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	95	49	31	5	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	60	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	78	DCCP	-	
DCCFAT	-	DCCFATh	78	DCCFAT	-	
DCCF	-	DCCF	4	DCNFE	-	
DCNFE	-	DCNFE	84	DCPpo	-	
DCOM	-	DCOM	76			
		DCNSPh	22	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	35	DCCFATh	-
%DRUP	80	-	AppDCP	31	DC(S+S)	-
%RUSTA	10	-			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	-	-				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	9.25 MJ/kg	MEpo	-	
VEVI	-	NE2015	2210 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.05 /kg	MEIa	-	
FOMr-07	-	StaDP	1.6 g/kg	MEIa	-	
FOMr2-07	-	AppDP	1.4 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	NEm	-
OEB-91	-			MEbr	NEm	-
OEB-07	-			DPpo	EWpa	-
OEB2-07	-				DCPho	-
DVMET-91	-					
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Canary seed 1009.000/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			150	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		55.9
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Carob pods 7008.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	897	30	42	8	-	67	749	-	
sd	50	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	32	-	-	421	252	-	-	411	159
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.0	0.5	0.0	0.6	8.3	0.1	1.8	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	31	8	6	3	-	-	-
sd	-	-	-	-	-	-	-

IP/P	5	SUGe/SUG	90	EB (meq/kg)	167
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	2		DCCP	-2	DCCP	-
DCCFAT	62		DCCFATh	34	DCCFAT	-
DCCF	47		DCCF	21	DCNFE	-
DCNFE	80		DCNFE	74	DCPpo	-
DCOM	73		DCOM	66		
			DCNSPh	39	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	34	36	StaDCP	65	DCCFATh	-
%DRUP	80	80	AppDCP	32	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	21	21				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	785 /kg	NE2015	6.89 MJ/kg	MEpo	-	
VEVI	819 /kg	NE2015	1646 kcal/kg	MEpo	-	
FOM-91	614 g/kg	EW2015	0.78 /kg	MEIa	-	
FOMr-07	618 g/kg	StaDP	0.3 g/kg	MEIa	-	
FOMr2-07	437 g/kg	AppDP	0.2 g/kg	DPpo	-	
FOMr2/FOMr	0.71 /kg					
DVE-91	53 g/kg			Horses		
DVE-07	61 g/kg			MEbr	-	
OEB-91	-66 g/kg			MEbr	-	
OEB-07	-79 g/kg			DPpo	-	
OEB2-07	-64 g/kg				NEm	6.99 MJ/kg
DVMET-91	-				NEm	1670 kcal/kg
DVLYS-91	-				EWpa	0.78 /kg
DVMET-07	-				DCPho	-
DVLYS-07	-					
SW	-0.12 /kg					
VW	0.26 /kg					

Carob pods 7008.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			42	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		8.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Casein 8010.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	916	32	872	-	11	-	-	2	
sd	20	18	19	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	2	2
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	5.3	-	0.2	1.2	0.5	1.6	-	6.5
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	34	6	37	1	-	-	-
sd	24	-	14	1	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	7
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	95		DCCP	95	DCCP	-	DCCP	-
DCCFAT	79		DCCFATh	48	DCCFAT	-	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	-	DCCF	-
DCNFE	95		DCNFE	95	DCPpo	-	DCNFE	-
DCOM	95		DCOM	95				
			DCNSPh	95	Broilers		Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-	DCCP	-
%RUP	15	15	StaDCP	85	DCCFATh	-	DCOM	-
%DRUP	90	90	AppDCP	82	DC(S+S)	-		
%RUSTA	-	-			DCNFEh	-		
%DASH	65	65			DCPpo	-		
DASHmax	29	29						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1176 /kg	NE2015	9.91 MJ/kg	MEpo	-	MErab	-
VEVI	1245 /kg	NE2015	2367 kcal/kg	MEpo	-	MErab	-
FOM-91	700 g/kg	EW2015	1.13 /kg	MEla	-		
FOMr-07	743 g/kg	StaDP	4.5 g/kg	MEla	-		
FOMr2-07	615 g/kg	AppDP	4.3 g/kg	DPpo	-		
FOMr2/FOMr	0.83 /kg						
DVE-91	191 g/kg			Broilers		Horses	
DVE-07	163 g/kg			MEbr	-	NEm	-
OEB-91	624 g/kg			MEbr	-	NEm	-
OEB-07	664 g/kg			DPpo	-	EWpa	-
OEB2-07	552 g/kg					DCPho	-
DVMET-91	5.6 g/kg						
DVLYS-91	15.2 g/kg						
DVMET-07	4.8 g/kg						
DVLYS-07	13.0 g/kg						
SW	0.29 /kg						
VW	0.26 /kg						

Casein 8010.000/0/0

Amino acids

	g/16g N			Ileal digestible AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			872	97	-	96	838	-	-
LYS	8.0	0.4	69.8	98	68.7	98	68.3	-	-
MET	3.0	0.1	26.2	99	25.8	98	25.7	-	-
CYS	0.4	0.1	3.5	92	3.2	86	3.0	-	-
THR	4.3	0.2	37.5	96	35.9	94	35.4	-	-
TRP	1.3	0.1	11.3	98	11.1	97	11.0	-	-
ILE	5.2	0.2	45.3	96	43.5	95	43.1	-	-
ARG	3.6	0.3	31.4	99	31.1	98	30.8	-	-
PHE	5.2	0.1	45.3	99	45.0	99	44.8	-	-
HIS	3.1	0.1	27.0	99	26.6	98	26.5	-	-
LEU	9.7	0.3	84.6	99	83.5	98	83.1	-	-
TYR	5.6	0.5	48.8	100	48.7	99	48.5	-	-
VAL	6.7	0.4	58.4	96	56.2	95	55.8	-	-
ALA	3.2	0.3	27.9	97	27.0	95	26.6	-	-
ASP	7.3	0.4	63.6	98	62.1	97	61.4	-	-
GLU	22.0	0.9	191.8	97	185.4	96	184.3	-	-
GLY	2.0	0.2	17.4	99	17.3	94	16.5	-	-
PRO	11.2	1.1	97.7	99	96.6	98	95.6	-	-
SER	5.7	0.3	49.7	92	45.8	91	45.2	-	-
Sum AA	107.5		937	-	914	-	906	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		11.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Chicory pulp, dried 4015.209/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	894	76	84	16	-	199	519	-	
sd	19	17	4	6	-	10	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	159	6	-	84	307	-	25	631	324
sd	10	-	-	23	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	11.4	1.4	-	1.0	5.7	1.0	0.4	0.9	0.4
sd	3.5	0.4	-	0.2	0.9	0.7	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	947	34	31	6	0.9	-	0.2
sd	296	3	4	1	0.2	-	0.0

IP/P	-	SUGe/SUG	-	EB (meq/kg)	176
		CF_DI	0.96	CAD (meq/kg)	93

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	57		DCCP	-	DCCP
DCCFAT	76		DCCFATh	-	DCCFAT
DCCF	82		DCCF	-	DCCF
DCNFE	90		DCNFE	-	DCNFE
DCOM	84		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	53	53	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	35	35			
DASHmax	33	33			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	900 /kg	NE2015	MEpo	MErab
VEVI	966 /kg	NE2015	MEpo	MErab
FOM-91	629 g/kg	EW2015	MEla	
FOMr-07	565 g/kg	StaDP	MEla	
FOMr2-07	201 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.36 /kg			
DVE-91	88 g/kg		Broilers	Horses
DVE-07	89 g/kg		MEbr	NEm
OEB-91	-59 g/kg		MEbr	NEm
OEB-07	-63 g/kg		DPpo	EWpa
OEB2-07	-20 g/kg			DCPho
DVMET-91	1.9 g/kg			
DVLYS-91	5.9 g/kg			
DVMET-07	2.0 g/kg			
DVLYS-07	6.1 g/kg			
SW	0.38 /kg			
VW	0.32 /kg			

Chicory pulp, dried 4015.209/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			84	-	-	-	-	-	-
LYS	5.0	-	4.2	-	-	-	-	-	-
MET	1.4	-	1.2	-	-	-	-	-	-
CYS	0.8	-	0.7	-	-	-	-	-	-
THR	3.5	-	2.9	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	3.4	-	2.8	-	-	-	-	-	-
ARG	6.4	-	5.3	-	-	-	-	-	-
PHE	3.0	-	2.5	-	-	-	-	-	-
HIS	1.8	-	1.5	-	-	-	-	-	-
LEU	5.5	-	4.6	-	-	-	-	-	-
TYR	2.0	-	1.7	-	-	-	-	-	-
VAL	4.4	-	3.7	-	-	-	-	-	-
ALA	3.6	-	3.0	-	-	-	-	-	-
ASP	6.8	-	5.7	-	-	-	-	-	-
GLU	8.2	-	6.9	-	-	-	-	-	-
GLY	3.5	-	2.9	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	3.5	-	2.9	-	-	-	-	-	-
Sum AA	62.8		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		16.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	

Citrus pulp 6022.305/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	914	64	63	21	23	121	645	643	
sd	7	6	4	4	-	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	10	-	204	236	176	13	559	322
sd	-	-	-	29	59	32	3	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	15.4	1.0	0.4	1.1	9.4	0.5	0.4	0.4	0.4
sd	1.6	0.1	-	0.1	0.9	0.2	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	185	10	8	6	0.3	0.1	-
sd	175	4	1	1	-	-	-

IP/P	40	SUGe/SUG	90	EB (meq/kg)	250
		CF_DI	0.97	CAD (meq/kg)	205

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	48		DCCP	34	DCCP	70	
DCCFAT	81		DCCFATh	42	DCCFAT	80	
DCCF	78		DCCF	69	DCNFE	82	
DCNFE	91		DCNFE	86	DCPpo	90	
DCOM	86		DCOM	79			
			DCNSPh	78			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	36	36	StaDCP	35	DCCP	DCCP	45
%DRUP	91	91	AppDCP	16	DCCFATh	DCOM	79
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	28	28			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	974 /kg	NE2015	7.47 MJ/kg	MEpo	-	MErab	13.02 MJ/kg
VEVI	1063 /kg	NE2015	1786 kcal/kg	MEpo	-	MErab	3111 kcal/kg
FOM-91	687 g/kg	EW2015	0.85 /kg	MEla	-		
FOMr-07	633 g/kg	StaDP	0.3 g/kg	MEla	-		
FOMr2-07	323 g/kg	AppDP	0.1 g/kg	DPpo	-		
FOMr2/FOMr	0.51 /kg						
DVE-91	77 g/kg			Broilers		Horses	
DVE-07	80 g/kg			MEbr	-	NEm	8.01 MJ/kg
OEB-91	-65 g/kg			MEbr	-	NEm	1914 kcal/kg
OEB-07	-71 g/kg			DPpo	-	EWpa	0.90 /kg
OEB2-07	-29 g/kg					DCPho	29 g/kg
DVMET-91	1.7 g/kg						
DVLYS-91	5.0 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	5.3 g/kg						
SW	0.17 /kg						
VW	0.29 /kg						

Citrus pulp 6022.305/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			63	37	-	21	13	-	-
LYS	2.6	0.2	1.6	37	0.6	16	0.3	-	-
MET	1.0	0.1	0.6	38	0.2	22	0.1	-	-
CYS	1.3	0.2	0.8	38	0.3	15	0.1	-	-
THR	2.9	0.2	1.8	37	0.7	8	0.1	-	-
TRP	0.8	0.1	0.5	38	0.2	13	0.1	-	-
ILE	2.8	0.2	1.8	37	0.7	18	0.3	-	-
ARG	3.6	0.6	2.3	38	0.9	22	0.5	-	-
PHE	3.6	0.4	2.3	37	0.8	24	0.6	-	-
HIS	1.8	0.4	1.1	37	0.4	23	0.3	-	-
LEU	5.1	0.3	3.2	37	1.2	24	0.8	-	-
TYR	2.2	0.2	1.4	37	0.5	18	0.3	-	-
VAL	3.8	0.4	2.4	38	0.9	18	0.4	-	-
ALA	4.0	0.2	2.5	38	1.0	20	0.5	-	-
ASP	9.6	0.6	6.1	37	2.3	26	1.6	-	-
GLU	8.3	0.9	5.3	36	1.9	16	0.8	-	-
GLY	4.0	0.2	2.5	37	0.9	5	0.1	-	-
PRO	8.7	1.5	5.5	37	2.1	19	1.1	-	-
SER	3.7	0.2	2.3	37	0.9	12	0.3	-	-
Sum AA	69.8		44	-	16	-	8	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		21.0
<=C10	-	0.0
C12:0	0.8	0.1
C14:0	0.8	0.1
C16:0	27.0	3.1
C16:1	-	0.0
C18:0	5.0	0.6
C18:1	25.0	2.9
C:18:2	36.0	4.2
C18:3	6.0	0.7
>=C20	-	0.0
Sum FA	100.6	11.6
% FA in CFAT-fraction		55

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Copra cake-CFAT < 100 g/kg 3015.401/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	907	61	204	85	89	113	444	440	
sd	16	2	6	8	-	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	14	11	-	100	456	233	54	449	-7
sd	-	-	-	9	54	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	5.5	2.8	3.1	21.2	0.6	6.2	0.4	1.5
sd	0.2	0.2	-	0.2	1.2	0.1	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	500	71	46	32	-	-	0.2
sd	-	-	-	3	-	-	-

IP/P	50	SUGe/SUG	80	EB (meq/kg)	395
		CF_DI	0.97	CAD (meq/kg)	281

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	72		DCCP	63	DCCP	58
DCCFAT	97		DCCFATh	87	DCCFAT	90
DCCF	66		DCCF	73	DCNFE	25
DCNFE	87		DCNFE	86	DCPpo	48
DCOM	82		DCOM	79		
			DCNSPh	79	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	74
%RUP	60	67	StaDCP	27	DCCFATh	-
%DRUP	92	92	AppDCP	24	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	48
DASHmax	50	50				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1066 /kg	NE2015	9.05 MJ/kg	MEpo	7.46 MJ/kg	MErab	11.16 MJ/kg
VEVI	1152 /kg	NE2015	2164 kcal/kg	MEpo	1784 kcal/kg	MErab	2668 kcal/kg
FOM-91	483 g/kg	EW2015	1.03 /kg	MEla	7.90 MJ/kg		
FOMr-07	424 g/kg	StaDP	1.5 g/kg	MEla	1889 kcal/kg		
FOMr2-07	169 g/kg	AppDP	1.3 g/kg	DPpo	2.6 g/kg		
FOMr2/FOMr	0.40 /kg						
DVE-91	158 g/kg			Broilers		Horses	
DVE-07	158 g/kg			MEbr	-	NEm	8.48 MJ/kg
OEB-91	-5 g/kg			MEbr	-	NEm	2026 kcal/kg
OEB-07	-5 g/kg			DPpo	2.6 g/kg	EWpa	0.95 /kg
OEB2-07	-4 g/kg					DCPho	151 g/kg
DVMET-91	2.9 g/kg						
DVLYS-91	5.9 g/kg						
DVMET-07	2.9 g/kg						
DVLYS-07	5.9 g/kg						
SW	0.28 /kg						
VW	0.28 /kg						

Copra cake-CFAT < 100 g/kg 3015.401/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			204	57	-	52	106	-	-
LYS	2.5	0.3	5.1	58	2.9	51	2.6	60	3.1
MET	1.5	0.1	3.1	58	1.8	55	1.7	68	2.1
CYS	1.5	0.1	3.1	58	1.8	52	1.6	62	1.9
THR	3.0	0.1	6.1	58	3.5	49	3.0	62	3.8
TRP	0.7	0.1	1.4	58	0.8	49	0.7	67	1.0
ILE	3.2	0.2	6.5	58	3.8	53	3.4	69	4.5
ARG	10.9	0.7	22.2	58	12.9	56	12.5	71	15.8
PHE	4.2	0.3	8.5	58	4.9	54	4.6	68	5.8
HIS	1.8	0.1	3.7	58	2.1	53	2.0	62	2.3
LEU	6.2	0.2	12.6	58	7.3	54	6.9	69	8.7
TYR	2.4	0.1	4.9	58	2.8	52	2.6	65	3.2
VAL	4.8	0.2	9.8	58	5.7	53	5.2	69	6.7
ALA	4.2	0.2	8.5	58	4.9	53	4.5	67	5.7
ASP	7.9	0.3	16.1	58	9.3	53	8.6	62	10.0
GLU	18.2	0.8	37.0	58	21.4	55	20.3	64	23.7
GLY	4.2	0.2	8.5	58	4.9	48	4.1	64	5.5
PRO	3.5	0.2	7.1	57	4.1	43	3.1	57	4.1
SER	4.2	0.2	8.5	58	4.9	51	4.3	62	5.3
Sum AA	84.9		173	-	100	-	92	-	113

Fatty acids

	% FA	g/kg
CFAT(h)		84.9
<=C10	13.0	8.3
C12:0	48.0	30.6
C14:0	18.0	11.5
C16:0	9.0	5.7
C16:1	-	0.0
C18:0	3.0	1.9
C18:1	7.0	4.5
C:18:2	2.0	1.3
C18:3	-	0.0
>=C20	-	0.0
Sum FA	100.0	63.7
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Copra cake-CFAT > 100 g/kg 3015.401/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	941	63	210	122	126	127	420	415		
sd	9	2	6	9	-	16	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	14	11	-	75	457	237	52	463	6	
sd	-	-	-	17	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	5.4	2.7	3.1	21.1	0.8	6.2	0.5	1.5
sd	0.3	0.4	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	505	71	46	29	-	-	-
sd	-	-	-	2	-	-	-

IP/P	50	SUGe/SUG	80	EB (meq/kg)	401
		CF_DI	0.97	CAD (meq/kg)	277

Digestibility coefficients (%)

Ruminants

DCCP	72	
DCCFAT	97	
DCCF	66	
DCNFE	87	
DCOM	82	
DVE	1991	2007
%RUP	60	67
%DRUP	92	92
%RUSTA	-	-
%DASH	65	65
DASHmax	51	51

Pigs

DCCP	63
DCCFATh	88
DCCF	73
DCNFE	85
DCOM	79
DCNSPh	79
DCiSTA	100
StaDCP	27
AppDCP	24

Roosters/Laying hens

DCCP	71
DCCFAT	90
DCNFE	25
DCPpo	48
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	48

Rabbits

DCCP	58
DCCFAT	90
DCCF	59
DCNFE	65

Horses

DCCP	69
DCOM	82

Nutritional value (in product)

Ruminants

VEM	1191 /kg
VEVI	1297 /kg
FOM-91	471 g/kg
FOMr-07	413 g/kg
FOMr2-07	153 g/kg
FOMr2/FOMr	0.37 /kg
DVE-91	160 g/kg
DVE-07	161 g/kg
OEB-91	-1 g/kg
OEB-07	-1 g/kg
OEB2-07	0 g/kg
DVMET-91	2.9 g/kg
DVLYS-91	5.9 g/kg
DVMET-07	2.9 g/kg
DVLYS-07	5.9 g/kg
SW	0.33 /kg
VW	0.30 /kg

Pigs

NE2015	10.11 MJ/kg
NE2015	2417 kcal/kg
EW2015	1.15 /kg
StaDP	1.5 g/kg
AppDP	1.3 g/kg

Roosters/Laying hens

MEpo	8.76 MJ/kg
MEpo	2094 kcal/kg
MEla	9.40 MJ/kg
MEla	2246 kcal/kg
DPpo	2.6 g/kg

Broilers

MEbr	-
MEbr	-
DPpo	2.6 g/kg

Rabbits

MErab	12.34 MJ/kg
MErab	2949 kcal/kg

Horses

NEm	9.31 MJ/kg
NEm	2224 kcal/kg
EWpa	1.04 /kg
DCPho	145 g/kg

Copra cake-CFAT > 100 g/kg 3015.401/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			210	57	-	52	109	-	-
LYS	2.5	0.3	5.3	58	3.0	51	2.7	60	3.2
MET	1.5	0.1	3.2	58	1.8	55	1.7	68	2.1
CYS	1.5	0.1	3.2	58	1.8	52	1.6	62	2.0
THR	3.0	0.1	6.3	58	3.6	49	3.1	62	3.9
TRP	0.7	0.1	1.5	58	0.9	49	0.7	67	1.0
ILE	3.2	0.2	6.7	58	3.9	53	3.5	69	4.6
ARG	10.9	0.7	22.9	58	13.3	56	12.9	71	16.3
PHE	4.2	0.3	8.8	58	5.1	54	4.8	68	6.0
HIS	1.8	0.1	3.8	58	2.2	53	2.0	62	2.3
LEU	6.2	0.2	13.0	58	7.5	54	7.1	69	9.0
TYR	2.4	0.1	5.0	58	2.9	52	2.6	65	3.3
VAL	4.8	0.2	10.1	58	5.8	53	5.3	69	7.0
ALA	4.2	0.2	8.8	58	5.1	53	4.7	67	5.9
ASP	7.9	0.3	16.6	58	9.6	53	8.9	62	10.3
GLU	18.2	0.8	38.3	58	22.1	55	21.0	64	24.5
GLY	4.2	0.2	8.8	58	5.1	48	4.3	64	5.7
PRO	3.5	0.2	7.4	57	4.2	43	3.2	57	4.2
SER	4.2	0.2	8.8	58	5.1	51	4.5	62	5.5
Sum AA	84.9		179	-	103	-	95	-	117

Fatty acids

	% FA	g/kg
CFAT(h)		121.7
<=C10	13.0	11.9
C12:0	48.0	43.8
C14:0	18.0	16.4
C16:0	9.0	8.2
C16:1	-	0.0
C18:0	3.0	2.7
C18:1	7.0	6.4
C:18:2	2.0	1.8
C18:3	-	0.0
>=C20	-	0.0
Sum FA	100.0	91.3
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Copra meal 3015.407/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	910	69	227	23	27	129	462	458	
sd	5	1	4	4	-	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	14	9	-	77	464	242	64	507	43
sd	-	-	-	30	30	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.5	5.7	2.8	3.3	21.0	0.6	6.3	0.5	1.6
sd	-	0.3	-	-	-	-	0.7	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	501	60	54	31	0.6	1.3	0.2
sd	-	-	-	-	-	-	-

IP/P	50	SUGe/SUG	80	EB (meq/kg)	388
		CF_DI	0.97	CAD (meq/kg)	254

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	74		DCCP	64	DCCP	-
DCCFAT	90		DCCFATh	75	DCCFAT	-
DCCF	66		DCCF	73	DCNFE	26
DCNFE	87		DCNFE	85	DCPpo	48
DCOM	80		DCOM	77		
			DCNSPh	79	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	60	67	StaDCP	27	DCCFATh	-
%DRUP	92	92	AppDCP	24	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	48
DASHmax	56	56				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	904 /kg	NE2015	7.35 MJ/kg	MEpo	5.66 MJ/kg
VEVI	952 /kg	NE2015	1757 kcal/kg	MEpo	1354 kcal/kg
FOM-91	515 g/kg	EW2015	0.84 /kg	MEIa	5.77 MJ/kg
FOMr-07	454 g/kg	StaDP	1.5 g/kg	MEIa	1378 kcal/kg
FOMr2-07	177 g/kg	AppDP	1.4 g/kg	DPpo	2.7 g/kg
FOMr2/FOMr	0.39 /kg			Broilers	
DVE-91	174 g/kg			MEbr	-
DVE-07	174 g/kg			MEbr	-
OEB-91	-1 g/kg			DPpo	2.7 g/kg
OEB-07	-1 g/kg			Horses	
OEB2-07	-2 g/kg			NEm	7.53 MJ/kg
DVMET-91	3.2 g/kg			NEm	1799 kcal/kg
DVLYS-91	6.5 g/kg			EWpa	0.84 /kg
DVMET-07	3.2 g/kg			DCPho	175 g/kg
DVLYS-07	6.4 g/kg				
SW	0.32 /kg				
VW	0.29 /kg				

Copra meal 3015.407/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
CP			227	57	-	53	119	-	-
LYS	2.5	0.3	5.7	58	3.3	52	2.9	60	3.4
MET	1.5	0.1	3.4	58	2.0	55	1.9	68	2.3
CYS	1.5	0.1	3.4	58	2.0	52	1.8	62	2.1
THR	3.0	0.1	6.8	58	3.9	50	3.4	62	4.2
TRP	0.7	0.1	1.6	58	0.9	50	0.8	67	1.1
ILE	3.2	0.2	7.3	58	4.2	53	3.9	69	5.0
ARG	10.9	0.7	24.8	58	14.3	57	14.0	71	17.6
PHE	4.2	0.3	9.5	58	5.5	55	5.2	68	6.5
HIS	1.8	0.1	4.1	58	2.4	54	2.2	62	2.5
LEU	6.2	0.2	14.1	58	8.1	55	7.7	69	9.7
TYR	2.4	0.1	5.5	58	3.2	53	2.9	65	3.5
VAL	4.8	0.2	10.9	58	6.3	53	5.8	69	7.5
ALA	4.2	0.2	9.5	58	5.5	53	5.1	67	6.4
ASP	7.9	0.3	17.9	58	10.4	54	9.7	62	11.1
GLU	18.2	0.8	41.3	58	23.9	55	22.8	64	26.5
GLY	4.2	0.2	9.5	58	5.5	49	4.7	64	6.1
PRO	3.5	0.2	7.9	58	4.6	45	3.6	57	4.5
SER	4.2	0.2	9.5	58	5.5	51	4.9	62	5.9
Sum AA	84.9		193	-	111	-	103	-	126

Fatty acids

	% FA	g/kg
CFAT(h)		23.3
<=C10	13.0	2.0
C12:0	48.0	7.3
C14:0	18.0	2.7
C16:0	9.0	1.4
C16:1	-	0.0
C18:0	3.0	0.5
C18:1	7.0	1.1
C:18:2	2.0	0.3
C18:3	-	0.0
>=C20	-	0.0
Sum FA	100.0	15.1
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Cotton seed meal, expeller-dehulled, CF < 140 g/kg 3018.401/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	932	63	416	105	-	129	219	-	
sd	24	6	34	20	-	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	36	11	-	39	265	169	-	300	35
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.4	11.2	8.4	5.2	14.7	0.1	0.3	0.5	3.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	149	22	71	16	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	35	EB (meq/kg)	373
		CF_DI	0.96	CAD (meq/kg)	137

Digestibility coefficients (%)

Ruminants

DCCP	80	
DCCFAT	98	
DCCF	41	
DCNFE	69	
DCOM	74	
DVE	1991	2007
%RUP	44	46
%DRUP	87	87
%RUSTA	-	-
%DASH	65	65
DASHmax	51	51

Pigs

DCCP	70
DCCFATh	82
DCCF	18
DCNFE	54
DCOM	60
DCNSPh	31
DCiSTA	100
StaDCP	30
AppDCP	28

Roosters/Laying hens

DCCP	61
DCCFAT	75
DCNFE	29
DCPpo	30
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	30

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
DCCP	80
DCOM	68

Horses

Nutritional value (in product)

Ruminants

VEM	1036 /kg
VEVI	1077 /kg
FOM-91	354 g/kg
FOMr-07	379 g/kg
FOMr2-07	138 g/kg
FOMr2/FOMr	0.36 /kg
DVE-91	190 g/kg
DVE-07	181 g/kg
OEB-91	161 g/kg
OEB-07	172 g/kg
OEB2-07	59 g/kg
DVMET-91	3.5 g/kg
DVLYS-91	8.7 g/kg
DVMET-07	3.3 g/kg
DVLYS-07	8.3 g/kg
SW	0.37 /kg
VW	0.29 /kg

Pigs

NE2015	7.98 MJ/kg
NE2015	1906 kcal/kg
EW2015	0.91 /kg
StaDP	3.4 g/kg
AppDP	3.2 g/kg

Roosters/Laying hens

MEpo	8.68 MJ/kg
MEpo	2075 kcal/kg
MEla	9.14 MJ/kg
MEla	2184 kcal/kg
DPpo	3.4 g/kg

Broilers

MEbr	-
MEbr	-
DPpo	3.4 g/kg

Rabbits

MErab	-
MErab	-
NEm	7.57 MJ/kg
NEm	1810 kcal/kg
EWpa	0.85 /kg
DCPho	333 g/kg

Cotton seed meal, expeller-dehulled, CF < 140 g/kg 3018.401/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			416	81	-	78	324	-	-
LYS	4.1	0.3	17.0	70	11.9	68	11.5	58	9.9
MET	1.6	0.1	6.7	80	5.3	79	5.2	77	5.1
CYS	1.7	0.1	7.1	80	5.7	77	5.5	71	5.0
THR	3.2	0.2	13.3	76	10.1	72	9.6	66	8.8
TRP	1.2	0.1	5.0	82	4.1	80	4.0	77	3.8
ILE	3.1	0.2	12.9	79	10.2	77	9.9	69	8.9
ARG	10.7	0.6	44.5	92	40.9	91	40.5	86	38.3
PHE	5.2	0.3	21.6	86	18.6	85	18.3	80	17.3
HIS	2.7	0.2	11.2	81	9.1	79	8.9	75	8.4
LEU	5.9	0.3	24.5	78	19.2	77	18.8	71	17.4
TYR	2.9	0.3	12.1	82	9.9	80	9.6	77	9.3
VAL	4.4	0.3	18.3	83	15.1	80	14.6	71	13.0
ALA	4.1	0.3	17.0	79	13.5	76	13.0	70	11.9
ASP	9.3	0.4	38.7	83	31.9	81	31.2	75	29.0
GLU	18.9	0.8	78.6	90	71.0	89	69.9	83	65.2
GLY	4.2	0.2	17.5	85	14.8	80	13.9	70	12.2
PRO	3.7	0.3	15.4	89	13.6	82	12.6	74	11.4
SER	4.3	0.2	17.9	86	15.4	83	14.8	73	13.0
Sum AA	91.2		379	-	320	-	312	-	288

Fatty acids

	% FA	g/kg
CFAT(h)		104.6
<=C10	-	0.0
C12:0	0.4	0.3
C14:0	1.0	0.8
C16:0	24.0	18.8
C16:1	1.0	0.8
C18:0	2.0	1.6
C18:1	19.0	14.9
C:18:2	51.0	40.0
C18:3	0.4	0.3
>=C20	1.0	0.8
Sum FA	99.8	78.3
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Cotton seed meal, expeller-partly dehulled, CF 140 - 210 g/kg 3018.401/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	933	60	363	74	-	170	266	-		
sd	14	8	29	15	-	15	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	34	11	-	38	320	-	-	388	68	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.2	10.2	7.6	5.1	14.4	-	0.3	0.5	2.9
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	149	23	71	16	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	35	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits		
DCCP	79	DCCP	70	DCCP	61	DCCP	79	
DCCFAT	97	DCCFATh	80	DCCFAT	79	DCCFAT	80	
DCCF	41	DCCF	18	DCNFE	27	DCCF	10	
DCNFE	69	DCNFE	52	DCPpo	30	DCNFE	56	
DCOM	70	DCOM	55					
		DCNSPh	31					
DVE	1991	2007	DCiSTA	100	Broilers		Horses	
%RUP	44	46	StaDCP	30	DCCP	-	DCCP	78
%DRUP	87	87	AppDCP	28	DCCFATh	-	DCOM	62
%RUSTA	-	-			DC(S+S)	-		
%DASH	65	65			DCNFEh	-		
DASHmax	49	49			DCPpo	30		

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	919 /kg	NE2015	6.83 MJ/kg	MEpo	7.56 MJ/kg	MErab	10.51 MJ/kg
VEVI	934 /kg	NE2015	1633 kcal/kg	MEpo	1808 kcal/kg	MErab	2511 kcal/kg
FOM-91	378 g/kg	EW2015	0.78 /kg	MEla	7.90 MJ/kg		
FOMr-07	383 g/kg	StaDP	3.0 g/kg	MEla	1889 kcal/kg		
FOMr2-07	132 g/kg	AppDP	2.9 g/kg	DPpo	3.0 g/kg		
FOMr2/FOMr	0.35 /kg						
DVE-91	168 g/kg			Broilers		Horses	
DVE-07	159 g/kg			MEbr	-	NEm	6.61 MJ/kg
OEB-91	130 g/kg			MEbr	-	NEm	1580 kcal/kg
OEB-07	142 g/kg			DPpo	3.0 g/kg	EWpa	0.74 /kg
OEB2-07	50 g/kg					DCPho	283 g/kg
DVMET-91	3.1 g/kg						
DVLYS-91	7.8 g/kg						
DVMET-07	3.0 g/kg						
DVLYS-07	7.4 g/kg						
SW	0.41 /kg						
VW	0.31 /kg						

Cotton seed meal, expeller-partly dehulled, CF 140 - 210 g/kg 3018.401/2/0

Amino acids	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			363	81	-	78	282	-	-
LYS	4.1	0.3	14.9	70	10.4	67	10.0	58	8.6
MET	1.6	0.1	5.8	80	4.7	78	4.5	77	4.5
CYS	1.7	0.1	6.2	80	4.9	77	4.7	71	4.4
THR	3.2	0.2	11.6	76	8.8	71	8.3	66	7.7
TRP	1.2	0.1	4.4	82	3.6	79	3.5	77	3.4
ILE	3.1	0.2	11.2	79	8.9	76	8.6	69	7.8
ARG	10.7	0.6	38.8	92	35.7	91	35.3	86	33.4
PHE	5.2	0.3	18.9	86	16.2	85	15.9	80	15.1
HIS	2.7	0.2	9.8	81	7.9	79	7.7	75	7.3
LEU	5.9	0.3	21.4	78	16.8	76	16.3	71	15.2
TYR	2.9	0.3	10.5	82	8.6	79	8.3	77	8.1
VAL	4.4	0.3	16.0	83	13.2	79	12.7	71	11.3
ALA	4.1	0.3	14.9	79	11.7	76	11.3	70	10.4
ASP	9.3	0.4	33.7	82	27.8	80	27.1	75	25.3
GLU	18.9	0.8	68.6	90	62.0	89	60.9	83	56.9
GLY	4.2	0.2	15.2	85	12.9	79	12.1	70	10.7
PRO	3.7	0.3	13.4	89	11.9	81	10.9	74	9.9
SER	4.3	0.2	15.6	86	13.4	82	12.8	73	11.4
Sum AA	91.2		331	-	279	-	271	-	251

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		74.0	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.4	0.2	AC	-	-
C14:0	1.0	0.6	ETH	-	-
C16:0	24.0	13.3	PR	-	-
C16:1	1.0	0.6	BU	-	-
C18:0	2.0	1.1	Glycerol	-	-
C18:1	19.0	10.5			
C:18:2	51.0	28.3			
C18:3	0.4	0.2			
>=C20	1.0	0.6			
Sum FA	99.8	55.4			
% FA in CFAT-fraction		75	NH3	-	

Cotton seed meal, expeller-non-dehulled, CF > 210 g/kg 3018.401/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	921	51	307	61	-	230	273	-	
sd	-	5	-	-	-	14	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	6	11	-	39	399	312	-	455	56
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	10.3	7.7	5.2	14.5	-	0.3	0.5	2.4
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	148	22	71	16	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	77		DCCP	60	DCCP
DCCFAT	96		DCCFATh	79	DCCFAT
DCCF	41		DCCF	24	DCCF
DCNFE	66		DCNFE	30	DCNFE
DCOM	66		DCOM		
			DCNSPh		
DVE	1991	2007	DCiSTA		Horses
%RUP	44	46	StaDCP		DCCP
%DRUP	87	87	AppDCP		DCOM
%RUSTA	-	-			
%DASH	50	50			
DASHmax	32	32			
				Broilers	
				DCCP	
				DCCFATh	
				DC(S+S)	
				DCNFEh	
				DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	827 /kg	NE2015	MEpo	MErab
VEVI	821 /kg	NE2015	MEpo	MErab
FOM-91	377 g/kg	EW2015	MEla	
FOMr-07	375 g/kg	StaDP	MEla	
FOMr2-07	125 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.33 /kg			
DVE-91	141 g/kg		Broilers	Horses
DVE-07	133 g/kg		MEbr	NEm
OEB-91	101 g/kg		MEbr	NEm
OEB-07	111 g/kg		DPpo	EWpa
OEB2-07	40 g/kg			DCPho
DVMET-91	2.7 g/kg			
DVLYS-91	6.7 g/kg			
DVMET-07	2.5 g/kg			
DVLYS-07	6.3 g/kg			
SW	0.47 /kg			
VW	0.34 /kg			

Cotton seed meal, expeller-non-dehulled, CF > 210 g/kg 3018.401/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			307	-	-	-	-	-	-
LYS	4.1	0.3	12.6	-	-	-	-	58	7.3
MET	1.6	0.1	4.9	-	-	-	-	77	3.8
CYS	1.7	0.1	5.2	-	-	-	-	71	3.7
THR	3.2	0.2	9.8	-	-	-	-	66	6.5
TRP	1.2	0.1	3.7	-	-	-	-	77	2.8
ILE	3.1	0.2	9.5	-	-	-	-	69	6.6
ARG	10.7	0.6	32.8	-	-	-	-	86	28.2
PHE	5.2	0.3	15.9	-	-	-	-	80	12.8
HIS	2.7	0.2	8.3	-	-	-	-	75	6.2
LEU	5.9	0.3	18.1	-	-	-	-	71	12.8
TYR	2.9	0.3	8.9	-	-	-	-	77	6.8
VAL	4.4	0.3	13.5	-	-	-	-	71	9.6
ALA	4.1	0.3	12.6	-	-	-	-	70	8.8
ASP	9.3	0.4	28.5	-	-	-	-	75	21.4
GLU	18.9	0.8	58.0	-	-	-	-	83	48.1
GLY	4.2	0.2	12.9	-	-	-	-	70	9.0
PRO	3.7	0.3	11.3	-	-	-	-	74	8.4
SER	4.3	0.2	13.2	-	-	-	-	73	9.6
Sum AA	91.2		280	-	-	-	-	-	212

Fatty acids

	% FA	g/kg
CFAT(h)		60.8
<=C10	-	0.0
C12:0	0.4	0.2
C14:0	1.0	0.5
C16:0	24.0	10.9
C16:1	1.0	0.5
C18:0	2.0	0.9
C18:1	19.0	8.7
C:18:2	51.0	23.3
C18:3	0.4	0.2
>=C20	1.0	0.5
Sum FA	99.8	45.5
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Cotton seeds-delinted, CF < 100 g/kg 3018.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	935	44	403	308	-	28	152	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	27	-	-	41	-	-	-	141	141
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.2	7.5	5.6	5.0	9.4	-	-	-	3.2
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	80		DCCP	60	DCCP
DCCFAT	99		DCCFATh	78	DCCFAT
DCCF	41		DCCF	17	DCCF
DCNFE	75		DCNFE	30	DCNFE
DCOM	84		DCOM		
			DCNSPh		
DVE	1991	2007	DCiSTA		Horses
%RUP	28	30	StaDCP		DCCP
%DRUP	85	85	AppDCP		DCOM
%RUSTA	-	-			
%DASH	65	65			
DASHmax	37	37			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1682 /kg	NE2015	MEpo	MErab
VEVI	1883 /kg	NE2015	MEpo	MErab
FOM-91	330 g/kg	EW2015	MEla	
FOMr-07	374 g/kg	StaDP	MEla	
FOMr2-07	180 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.48 /kg			
DVE-91	127 g/kg		Broilers	Horses
DVE-07	121 g/kg		MEbr	NEm
OEB-91	228 g/kg		MEbr	NEm
OEB-07	235 g/kg		DPpo	EWpa
OEB2-07	111 g/kg			DCPho
DVMET-91	2.4 g/kg			
DVLYS-91	6.2 g/kg			
DVMET-07	2.3 g/kg			
DVLYS-07	5.9 g/kg			
SW	0.28 /kg			
VW	0.27 /kg			

Cotton seeds-delinted, CF < 100 g/kg 3018.000/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			403	-	-	-	-	-	-
LYS	4.1	0.3	16.5	-	-	-	-	-	-
MET	1.6	0.1	6.4	-	-	-	-	-	-
CYS	1.7	0.1	6.9	-	-	-	-	-	-
THR	3.2	0.2	12.9	-	-	-	-	-	-
TRP	1.2	0.1	4.8	-	-	-	-	-	-
ILE	3.1	0.2	12.5	-	-	-	-	-	-
ARG	10.7	0.6	43.1	-	-	-	-	-	-
PHE	5.2	0.3	21.0	-	-	-	-	-	-
HIS	2.7	0.2	10.9	-	-	-	-	-	-
LEU	5.9	0.3	23.8	-	-	-	-	-	-
TYR	2.9	0.3	11.7	-	-	-	-	-	-
VAL	4.4	0.3	17.7	-	-	-	-	-	-
ALA	4.1	0.3	16.5	-	-	-	-	-	-
ASP	9.3	0.4	37.5	-	-	-	-	-	-
GLU	18.9	0.8	76.2	-	-	-	-	-	-
GLY	4.2	0.2	16.9	-	-	-	-	-	-
PRO	3.7	0.3	14.9	-	-	-	-	-	-
SER	4.3	0.2	17.3	-	-	-	-	-	-
Sum AA	91.2		368	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		307.6
<=C10	-	0.0
C12:0	0.2	0.6
C14:0	1.0	2.9
C16:0	24.0	70.1
C16:1	1.0	2.9
C18:0	2.0	5.8
C18:1	19.0	55.5
C:18:2	51.0	149.0
C18:3	0.2	0.6
>=C20	1.0	2.9
Sum FA	99.4	290.5
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Cotton seeds-whole, CF > 100 g/kg 3018.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	911	40	207	192	-	236	236	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	19	-	-	29	-	-	-	444	444
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.4	6.8	5.1	3.2	11.1	2.9	-	-	1.6
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	73		DCCP	-	DCCP
DCCFAT	99		DCCFATh	-	DCCFAT
DCCF	41		DCCF	-	DCCF
DCNFE	64		DCNFE	-	DCNFE
DCOM	68		DCOM	-	DCNFE
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	28	30	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	-	-		-	
%DASH	65	65		-	
DASHmax	35	35		-	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1138 /kg	NE2015	MEpo	MErab
VEVI	1202 /kg	NE2015	MEpo	MErab
FOM-91	340 g/kg	EW2015	MEla	
FOMr-07	334 g/kg	StaDP	MEla	
FOMr2-07	118 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.35 /kg			
DVE-91	65 g/kg		Broilers	Horses
DVE-07	61 g/kg		MEbr	NEm
OEB-91	91 g/kg		MEbr	NEm
OEB-07	98 g/kg		DPpo	EWpa
OEB2-07	53 g/kg			DCPho
DVMET-91	1.4 g/kg			
DVLYS-91	3.5 g/kg			
DVMET-07	1.3 g/kg			
DVLYS-07	3.2 g/kg			
SW	0.49 /kg			
VW	0.34 /kg			

Cotton seeds-whole, CF > 100 g/kg 3018.000/2/0

Amino acids	Ileal digestible				Standardized ileal digestible		
	g/16g N			AA pigs		AA poultry	
	mean	sdc	g/kg	standardized	apparent		
			DC	g/kg	DC	g/kg	
CP			207	-	-	-	-
LYS	4.1	0.3	8.5	-	-	-	-
MET	1.6	0.1	3.3	-	-	-	-
CYS	1.7	0.1	3.5	-	-	-	-
THR	3.2	0.2	6.6	-	-	-	-
TRP	1.2	0.1	2.5	-	-	-	-
ILE	3.1	0.2	6.4	-	-	-	-
ARG	10.7	0.6	22.1	-	-	-	-
PHE	5.2	0.3	10.8	-	-	-	-
HIS	2.7	0.2	5.6	-	-	-	-
LEU	5.9	0.3	12.2	-	-	-	-
TYR	2.9	0.3	6.0	-	-	-	-
VAL	4.4	0.3	9.1	-	-	-	-
ALA	4.1	0.3	8.5	-	-	-	-
ASP	9.3	0.4	19.2	-	-	-	-
GLU	18.9	0.8	39.1	-	-	-	-
GLY	4.2	0.2	8.7	-	-	-	-
PRO	3.7	0.3	7.7	-	-	-	-
SER	4.3	0.2	8.9	-	-	-	-
Sum AA	91.2		189	-	-	-	-

Fatty acids	Fermentation products	
	% FA	g/kg
CFAT(h)		192.2
<=C10	-	0.0
C12:0	0.2	0.4
C14:0	1.0	1.8
C16:0	24.0	43.8
C16:1	1.0	1.8
C18:0	2.0	3.7
C18:1	19.0	34.7
C:18:2	51.0	93.1
C18:3	0.2	0.4
>=C20	1.0	1.8
Sum FA	99.4	181.5
% FA in CFAT-fraction		95

Fermentation products	g/kg	
	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Cottonseed meal, extracted-dehulled, CF < 140 g/kg 3018.407/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	898	65	437	31	-	120	245	-	
sd	14	5	53	6	-	10	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	27	20	-	28	259	166	-	319	61
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.2	10.7	8.0	5.9	15.7	0.5	0.4	0.5	3.5
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	143	21	68	15	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	35	EB (meq/kg)	415
		CF_DI	0.96	CAD (meq/kg)	165

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	80		DCCP	65	DCCP	-
DCCFAT	93		DCCFATh	62	DCCFAT	-
DCCF	41		DCCF	28	DCCF	-
DCNFE	71		DCNFE	30	DCNFE	-
DCOM	72		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP			
%RUP	30	31	AppDCP			
%DRUP	87	87				
%RUSTA	-	-				
%DASH	65	65				
DASHmax	52	52				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	826 /kg	NE2015	MEpo	MErab
VEVI	829 /kg	NE2015	MEpo	MErab
FOM-91	443 g/kg	EW2015	MEla	
FOMr-07	461 g/kg	StaDP	MEla	
FOMr2-07	178 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.39 /kg			
DVE-91	148 g/kg			
DVE-07	139 g/kg			
OEB-91	227 g/kg			
OEB-07	238 g/kg			
OEB2-07	97 g/kg			
DVMET-91	2.8 g/kg			
DVLYS-91	7.3 g/kg			
DVMET-07	2.7 g/kg			
DVLYS-07	6.9 g/kg			
SW	0.36 /kg			
VW	0.28 /kg			

Cottonseed meal, extracted-dehulled, CF < 140 g/kg 3018.407/1/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			437	81	-	78	342	-	-
LYS	4.1	0.3	17.9	70	12.5	68	12.1	58	10.4
MET	1.6	0.1	7.0	80	5.6	79	5.5	77	5.4
CYS	1.7	0.1	7.4	80	5.9	77	5.7	71	5.3
THR	3.2	0.2	14.0	76	10.6	72	10.1	66	9.2
TRP	1.2	0.1	5.2	82	4.3	80	4.2	77	4.0
ILE	3.1	0.2	13.5	79	10.7	77	10.4	69	9.3
ARG	10.7	0.6	46.7	92	42.9	91	42.6	86	40.2
PHE	5.2	0.3	22.7	86	19.5	85	19.3	80	18.2
HIS	2.7	0.2	11.8	81	9.5	79	9.4	75	8.8
LEU	5.9	0.3	25.8	78	20.2	77	19.8	71	18.3
TYR	2.9	0.3	12.7	82	10.4	80	10.1	77	9.7
VAL	4.4	0.3	19.2	83	15.9	80	15.4	71	13.6
ALA	4.1	0.3	17.9	79	14.1	76	13.7	70	12.5
ASP	9.3	0.4	40.6	83	33.5	81	32.8	75	30.4
GLU	18.9	0.8	82.5	90	74.6	89	73.5	83	68.5
GLY	4.2	0.2	18.3	85	15.5	80	14.7	70	12.8
PRO	3.7	0.3	16.2	89	14.3	83	13.3	74	12.0
SER	4.3	0.2	18.8	86	16.1	83	15.6	73	13.7
Sum AA	91.2		398	-	336	-	328	-	302

Fatty acids

	% FA	g/kg
CFAT(h)		30.5
<=C10	-	0.0
C12:0	0.4	0.1
C14:0	1.0	0.2
C16:0	24.0	4.8
C16:1	1.0	0.2
C18:0	2.0	0.4
C18:1	19.0	3.8
C:18:2	51.0	10.1
C18:3	0.4	0.1
>=C20	1.0	0.2
Sum FA	99.8	19.8
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Cottonseed meal, extracted-partly dehulled, CF 140 - 200 g/kg 3018.407/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	896	63	364	25	-	166	277	-		
sd	10	5	26	10	-	21	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	30	20	-	45	325	238	-	381	56	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.0	10.2	7.7	5.6	15.2	0.7	0.4	0.5	2.9
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	144	21	68	15	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	35	EB (meq/kg)	411
		CF_DI	0.96	CAD (meq/kg)	196

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits		
DCCP	79	DCCP	70	DCCP	65	DCCP	79	
DCCFAT	91	DCCFATh	69	DCCFAT	61	DCCFAT	70	
DCCF	41	DCCF	18	DCNFE	27	DCCF	10	
DCNFE	69	DCNFE	54	DCPpo	30	DCNFE	56	
DCOM	69	DCOM	54					
		DCNSPh	31	Broilers		Horses		
DVE	1991	2007	DCiSTA	100	DCCP	-	DCCP	-
%RUP	30	31	StaDCP	30	DCCFATh	-	DCOM	-
%DRUP	87	87	AppDCP	28	DC(S+S)	-		
%RUSTA	-	-			DCNFEh	-		
%DASH	65	65			DCPpo	30		
DASHmax	51	51						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	763 /kg	NE2015	5.51 MJ/kg	MEpo	6.32 MJ/kg	MErab	9.06 MJ/kg
VEVI	754 /kg	NE2015	1317 kcal/kg	MEpo	1511 kcal/kg	MErab	2165 kcal/kg
FOM-91	439 g/kg	EW2015	0.63 /kg	MEla	6.41 MJ/kg		
FOMr-07	448 g/kg	StaDP	3.1 g/kg	MEla	1532 kcal/kg		
FOMr2-07	176 g/kg	AppDP	2.9 g/kg	DPpo	3.1 g/kg		
FOMr2/FOMr	0.39 /kg						
DVE-91	125 g/kg			Broilers		Horses	
DVE-07	118 g/kg			MEbr	-	NEm	-
OEB-91	179 g/kg			MEbr	-	NEm	-
OEB-07	187 g/kg			DPpo	3.1 g/kg	EWpa	-
OEB2-07	76 g/kg					DCPho	-
DVMET-91	2.5 g/kg						
DVLYS-91	6.3 g/kg						
DVMET-07	2.3 g/kg						
DVLYS-07	5.9 g/kg						
SW	0.38 /kg						
VW	0.30 /kg						

Cottonseed meal, extracted-partly dehulled, CF 140 - 200 g/kg 3018.407/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			364	81	-	78	283	-	-
LYS	4.1	0.3	14.9	70	10.4	67	10.0	58	8.7
MET	1.6	0.1	5.8	80	4.7	78	4.6	77	4.5
CYS	1.7	0.1	6.2	80	4.9	77	4.8	71	4.4
THR	3.2	0.2	11.6	76	8.9	72	8.3	66	7.7
TRP	1.2	0.1	4.4	82	3.6	80	3.5	77	3.4
ILE	3.1	0.2	11.3	79	8.9	76	8.6	69	7.8
ARG	10.7	0.6	38.9	92	35.8	91	35.4	86	33.5
PHE	5.2	0.3	18.9	86	16.3	85	16.0	80	15.1
HIS	2.7	0.2	9.8	81	7.9	79	7.8	75	7.4
LEU	5.9	0.3	21.5	78	16.8	76	16.4	71	15.2
TYR	2.9	0.3	10.6	82	8.6	79	8.4	77	8.1
VAL	4.4	0.3	16.0	83	13.2	80	12.7	71	11.4
ALA	4.1	0.3	14.9	79	11.8	76	11.3	70	10.4
ASP	9.3	0.4	33.8	82	27.9	80	27.2	75	25.4
GLU	18.9	0.8	68.8	90	62.2	89	61.1	83	57.1
GLY	4.2	0.2	15.3	85	12.9	79	12.1	70	10.7
PRO	3.7	0.3	13.5	89	11.9	81	10.9	74	10.0
SER	4.3	0.2	15.6	86	13.4	82	12.9	73	11.4
Sum AA	91.2		332	-	280	-	272	-	252

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		25.3	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.4	0.1	AC	-	-
C14:0	1.0	0.2	ETH	-	-
C16:0	24.0	3.9	PR	-	-
C16:1	1.0	0.2	BU	-	-
C18:0	2.0	0.3	Glycerol	-	-
C18:1	19.0	3.1			
C:18:2	51.0	8.4			
C18:3	0.4	0.1	NH3	-	
>=C20	1.0	0.2			
Sum FA	99.8	16.4			
% FA in CFAT-fraction		65			

Cottonseed meal, extracted-non-dehulled, CF > 200 g/kg 3018.407/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	945	50	296	38	-	217	344	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	24	21	-	37	371	286	-	505	134
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.1	10.8	8.1	6.0	16.0	0.6	0.4	0.5	2.4
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	143	22	68	15	-	-	0.2
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	-	EB (meq/kg)	423
		CF_DI	0.96	CAD (meq/kg)	246

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	77		DCCP	-	DCCP	-	
DCCFAT	94		DCCFATh	-	DCCFAT	-	
DCCF	41		DCCF	-	DCCF	-	
DCNFE	69		DCNFE	-	DCNFE	-	
DCOM	66		DCOM	-	DCNFE	-	
			DCNSPh	-			
DVE	1991	2007	DCiSTA	-	Broilers	Horses	
%RUP	30	31	StaDCP	-	DCCP	DCCP	-
%DRUP	87	87	AppDCP	-	DCCFATh	DCOM	-
%RUSTA	-	-			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	32	32			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	800 /kg	NE2015	MEpo	MErab	-
VEVI	789 /kg	NE2015	MEpo	MErab	-
FOM-91	465 g/kg	EW2015	MEla		
FOMr-07	444 g/kg	StaDP	MEla		
FOMr2-07	159 g/kg	AppDP	DPpo		
FOMr2/FOMr	0.36 /kg				
DVE-91	104 g/kg		Broilers	Horses	
DVE-07	96 g/kg		MEbr	NEm	-
OEB-91	129 g/kg		MEbr	NEm	-
OEB-07	139 g/kg		DPpo	EWpa	-
OEB2-07	60 g/kg			DCPho	-
DVMET-91	2.1 g/kg				
DVLYS-91	5.5 g/kg				
DVMET-07	2.0 g/kg				
DVLYS-07	5.0 g/kg				
SW	0.45 /kg				
VW	0.34 /kg				

Cottonseed meal, extracted-non-dehulled, CF > 200 g/kg 3018.407/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			296	-	-	-	-	-	-
LYS	4.1	0.3	12.1	-	-	-	-	58	7.0
MET	1.6	0.1	4.7	-	-	-	-	77	3.6
CYS	1.7	0.1	5.0	-	-	-	-	71	3.6
THR	3.2	0.2	9.5	-	-	-	-	66	6.2
TRP	1.2	0.1	3.5	-	-	-	-	77	2.7
ILE	3.1	0.2	9.2	-	-	-	-	69	6.3
ARG	10.7	0.6	31.6	-	-	-	-	86	27.2
PHE	5.2	0.3	15.4	-	-	-	-	80	12.3
HIS	2.7	0.2	8.0	-	-	-	-	75	6.0
LEU	5.9	0.3	17.5	-	-	-	-	71	12.4
TYR	2.9	0.3	8.6	-	-	-	-	77	6.6
VAL	4.4	0.3	13.0	-	-	-	-	71	9.2
ALA	4.1	0.3	12.1	-	-	-	-	70	8.5
ASP	9.3	0.4	27.5	-	-	-	-	75	20.6
GLU	18.9	0.8	55.9	-	-	-	-	83	46.4
GLY	4.2	0.2	12.4	-	-	-	-	70	8.7
PRO	3.7	0.3	10.9	-	-	-	-	74	8.1
SER	4.3	0.2	12.7	-	-	-	-	73	9.3
Sum AA	91.2		270	-	-	-	-	-	205

Fatty acids

	% FA	g/kg
CFAT(h)		37.8
<=C10	-	0.0
C12:0	0.4	0.1
C14:0	1.0	0.2
C16:0	24.0	5.9
C16:1	1.0	0.2
C18:0	2.0	0.5
C18:1	19.0	4.7
C:18:2	51.0	12.5
C18:3	0.4	0.1
>=C20	1.0	0.2
Sum FA	99.8	24.5
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

DDGS, Maize 1002.310/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	903	44	265	115	132	63	417	400		
sd	9	3	9	6	5	7	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	48	29	4	15	288	119	35	384	96	
sd	16	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	8.1	2.4	3.1	10.8	-	-	-	1.8
sd	-	0.5	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	102	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	30	SUGe/SUG	80	EB (meq/kg)	-
		CF_DI	-	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	83		DCCP	66	DCCP	-
DCCFAT	89		DCCFATh	85	DCCFAT	-
DCCF	64		DCCF	34	DCNFE	-
DCNFE	84		DCNFE	58	DCPpo	-
DCOM	83		DCOM	63		
			DCNSPh	46		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	58	DCCP	-
%RUP	52	71	AppDCP	56	DCCFATh	-
%DRUP	93	94			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	37	37				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1190 /kg	NE2015	8.78 MJ/kg	MEpo	-
VEVI	1296 /kg	NE2015	2099 kcal/kg	MEpo	-
FOM-91	425 g/kg	EW2015	1.00 /kg	MEIa	-
FOMr-07	356 g/kg	StaDP	4.7 g/kg	MEIa	-
FOMr2-07	123 g/kg	AppDP	4.5 g/kg	DPpo	-
FOMr2/FOMr	0.34 /kg				
DVE-91	169 g/kg			Broilers	Horses
DVE-07	198 g/kg			MEbr	-
OEB-91	49 g/kg			MEbr	-
OEB-07	24 g/kg			DPpo	-
OEB2-07	13 g/kg				EWpa
DVMET-91	2.3 g/kg				DCPho
DVLYS-91	5.8 g/kg				
DVMET-07	2.5 g/kg				
DVLYS-07	5.9 g/kg				
SW	0.31 /kg				
VW	0.26 /kg				

DDGS, Maize 1002.310/0/0

Amino acids

Ileal digestible

Standardized ileal

digestible

AA pigs

AA poultry

	g/16g N		g/kg	AA pigs				Standardized ileal digestible	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			265	73	-	69	183	-	-
LYS	2.4	-	6.3	58	3.7	52	3.3	61	3.9
MET	1.0	-	2.6	86	2.3	82	2.2	81	2.1
CYS	1.8	-	4.8	66	3.1	62	3.0	73	3.5
THR	3.6	-	9.5	73	7.0	67	6.4	66	6.3
TRP	0.7	-	1.9	77	1.4	70	1.3	78	1.4
ILE	4.0	-	10.6	79	8.4	76	8.0	74	7.8
ARG	4.1	-	10.8	84	9.1	81	8.8	78	8.5
PHE	5.0	-	13.2	85	11.2	83	11.0	79	10.4
HIS	2.5	-	6.6	78	5.2	76	5.0	73	4.8
LEU	11.9	-	31.5	86	27.1	85	26.6	83	26.1
TYR	-	-	-	-	-	-	-	80	-
VAL	5.0	-	13.2	80	10.6	76	10.1	72	9.5
ALA	7.2	-	19.0	82	15.6	80	15.2	80	15.2
ASP	6.8	-	18.0	67	12.1	63	11.3	63	11.3
GLU	18.1	-	47.9	84	40.2	82	39.2	81	38.8
GLY	3.9	-	10.3	60	6.2	52	5.4	69	7.1
PRO	7.9	-	20.9	67	14.0	62	13.0	76	15.9
SER	4.6	-	12.2	84	10.2	79	9.6	77	9.4
Sum AA	90.5		-	-	-	-	-	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		132.4	FP	34	-
<=C10	-	-	LA	34	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction			NH3	-	

DDGS, Wheat 1010.310/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	916	46	324	-	68	71	-	408	
sd	18	3	26	-	4	6	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	11	5	49	305	166	77	360	55
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	8.4	2.5	-	-	-	-	-	2.5
sd	-	0.6	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	30	SUGe/SUG	95	EB (meq/kg)	-
		CF_DI	-	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	84		DCCP	66	DCCP	-
DCCFAT	88		DCCFATh	71	DCCFAT	-
DCCF	64		DCCF	34	DCNFE	-
DCNFE	84		DCNFE	69	DCPpo	-
DCOM	83		DCOM	66		
			DCNSPh	53		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	58	DCCP	-
%RUP	42	58	AppDCP	56	DCCFATh	-
%DRUP	91	94			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	39	39				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1071 /kg	NE2015	7.65 MJ/kg	MEpo	-
VEVI	1146 /kg	NE2015	1829 kcal/kg	MEpo	-
FOM-91	486 g/kg	EW2015	0.87 /kg	MEla	-
FOMr-07	416 g/kg	StaDP	4.9 g/kg	MEla	-
FOMr2-07	166 g/kg	AppDP	4.7 g/kg	DPpo	-
FOMr2/FOMr	0.40 /kg				
DVE-91	172 g/kg			Broilers	Horses
DVE-07	202 g/kg			MEbr	-
OEB-91	99 g/kg			MEbr	-
OEB-07	77 g/kg			DPpo	-
OEB2-07	24 g/kg				EWpa
DVMET-91	3.1 g/kg				DCPho
DVLYS-91	5.8 g/kg				
DVMET-07	3.5 g/kg				
DVLYS-07	5.7 g/kg				
SW	0.30 /kg				
VW	0.27 /kg				

DDGS, Wheat 1010.310/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			324	77	-	74	239	-	-
LYS	2.1	-	6.8	57	3.9	52	3.5	49	3.3
MET	1.5	-	4.9	81	3.9	79	3.8	77	3.7
CYS	1.7	-	5.5	79	4.3	76	4.2	67	3.7
THR	3.2	-	10.4	74	7.7	69	7.1	63	6.5
TRP	0.9	-	2.9	84	2.4	80	2.3	78	2.3
ILE	3.6	-	11.6	80	9.3	77	9.0	74	8.6
ARG	4.0	-	12.9	84	10.9	81	10.5	75	9.7
PHE	4.5	-	14.6	87	12.7	85	12.4	81	11.8
HIS	2.0	-	6.5	79	5.1	76	4.9	71	4.6
LEU	7.5	-	24.3	83	20.1	81	19.7	79	19.2
TYR	-	-	-	-	-	-	-	79	-
VAL	4.3	-	13.9	77	10.7	74	10.2	71	9.9
ALA	4.3	-	13.9	73	10.2	70	9.7	72	10.0
ASP	5.4	-	17.5	62	10.8	58	10.1	56	9.8
GLU	23.7	-	76.7	88	67.5	87	66.4	83	63.6
GLY	3.9	-	12.6	69	8.7	62	7.9	65	8.2
PRO	8.5	-	27.5	80	22.0	76	21.0	82	22.6
SER	4.4	-	14.2	80	11.4	76	10.8	71	10.1
Sum AA	85.5		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		67.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	18	-
LA	18	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	44.0	-
	<u>% of CP</u>	
NH3	-	-

Fat/oil, Animal fat- 8006.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	994	1	-	993	993	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	0.2	0.4	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	9	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	90	DCCFATh	90	DCCFAT	90
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	90	DCOM	90		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	90
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits				
VEM	3264 /kg	NE2015	31.82 MJ/kg	MEpo	35.47 MJ/kg	MErab	33.78 MJ/kg
VEVI	3843 /kg	NE2015	7606 kcal/kg	MEpo	8478 kcal/kg	MErab	8074 kcal/kg
FOM-91	-99 g/kg	EW2015	3.62 /kg	MEIa	40.79 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEIa	9750 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-17 g/kg			Broilers		Horses	
DVE-07	-7 g/kg			MEbr	30.59 MJ/kg	NEm	23.59 MJ/kg
OEB-91	15 g/kg			MEbr	7311 kcal/kg	NEm	5638 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.64 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Animal fat- 8006.000/1/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible AA poultry		
			AA pigs						
	mean	sdc	g/kg	standardized DC	g/kg	apparent DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		993.0
<=C10	0.1	0.6
C12:0	0.1	0.6
C14:0	2.1	18.6
C16:0	26.4	236.3
C16:1	2.7	23.8
C18:0	18.3	163.8
C18:1	38.2	341.0
C:18:2	6.0	53.6
C18:3	3.6	32.3
>=C20	2.6	23.2
Sum FA	100.0	893.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Animal fat- 8006.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	994	1	-	993	993	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	0.2	0.4	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	9	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	90	DCCFATh	90	DCCFAT	90
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	90	DCOM	90		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	90
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits				
VEM	3264 /kg	NE2015	32.08 MJ/kg	MEpo	35.47 MJ/kg	MErab	33.78 MJ/kg
VEVI	3843 /kg	NE2015	7668 kcal/kg	MEpo	8478 kcal/kg	MErab	8074 kcal/kg
FOM-91	-99 g/kg	EW2015	3.65 /kg	MEla	40.79 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9750 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-17 g/kg			Broilers		Horses	
DVE-07	-7 g/kg			MEbr	31.13 MJ/kg	NEm	23.59 MJ/kg
OEB-91	15 g/kg			MEbr	7440 kcal/kg	NEm	5638 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.64 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Animal fat- 8006.000/2/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible AA poultry		
			AA pigs		AA poultry				
	mean	sdc	g/kg	standardized DC	g/kg	apparent DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		993.0
<=C10	0.2	2.1
C12:0	0.2	2.1
C14:0	2.1	18.5
C16:0	25.3	226.5
C16:1	3.0	26.5
C18:0	15.7	140.2
C18:1	41.1	367.4
C:18:2	9.0	80.4
C18:3	1.8	16.4
>=C20	1.5	13.6
Sum FA	100.0	893.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Coconut oil 3015.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP	-	DCCP
DCCFAT	95	DCCFATh	95	DCCFAT
DCCF	-	DCCF	-	DCCF
DCNFE	-	DCNFE	-	DCNFE
DCOM	95	DCOM	95	
		DCNSPh		
DVE	1991	2007	Broilers	Horses
%RUP	-	DCiSTA	DCCP	DCCP
%DRUP	-	StaDCP	DCCFATh	DCOM
%RUSTA	-	AppDCP	DC(S+S)	
%DASH	-		DCNFEh	
DASHmax	-		DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.82 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8083 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.84 /kg	MEIa	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEIa	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-			Broilers		Horses	
DVE-91	-8 g/kg			MEbr	35.39 MJ/kg	NEm	24.94 MJ/kg
DVE-07	-4 g/kg			MEbr	8459 kcal/kg	NEm	5959 kcal/kg
OEB-91	7 g/kg			DPpo	-	EWpa	2.79 /kg
OEB-07	0 g/kg					DCPho	-
OEB2-07	0 g/kg						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Coconut oil 3015.421/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		
				standardized	apparent	DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	13.0	122.9
C12:0	48.0	453.7
C14:0	18.0	170.1
C16:0	9.0	85.1
C16:1	0.0	0.0
C18:0	3.0	28.4
C18:1	7.0	66.2
C:18:2	2.0	18.9
C18:3	0.0	0.0
>=C20	0.0	0.0
Sum FA	100.0	945.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Fish oil 8015.425/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	994	1	-	993	993	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	0.2	0.4	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	9	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	90	DCCFATh	93	DCCFAT	90
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	90	DCOM	93		
		DCNSPh	-	Broilers	Horses
DVE	1991	2007	DCiSTA	DCCP	-
%RUP	-	-	StaDCP	DCCFATh	88
%DRUP	-	-	AppDCP	DC(S+S)	-
%RUSTA	-	-		DCNFEh	-
%DASH	-	-		DCPpo	-
DASHmax	-	-			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	3264 /kg	NE2015	32.87 MJ/kg	MEpo	-	
VEVI	3843 /kg	NE2015	7855 kcal/kg	MEpo	-	
FOM-91	-99 g/kg	EW2015	3.73 /kg	MEIa	-	
FOMr-07	0 g/kg	StaDP	-	MEIa	-	
FOMr2-07	0 g/kg	AppDP	-	DPpo	-	
FOMr2/FOMr	-			Broilers	Horses	
DVE-91	-17 g/kg			MEbr	33.87 MJ/kg	
DVE-07	-7 g/kg			MEbr	8096 kcal/kg	
OEB-91	15 g/kg			DPpo	-	
OEB-07	0 g/kg				NEm	23.59 MJ/kg
OEB2-07	0 g/kg				NEm	5638 kcal/kg
DVMET-91	-				EWpa	2.64 /kg
DVLYS-91	-				DCPho	-
DVMET-07	-					
DVLYS-07	-					
SW	0.32 /kg					
VW	0.29 /kg					

Fat/oil, Fish oil 8015.425/0/0

Amino acids	Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs		AA poultry
	mean	sdc		standardized	apparent	DC
			DC	g/kg	DC	g/kg
CP			-	-	-	-
LYS	-	-	-	-	-	-
MET	-	-	-	-	-	-
CYS	-	-	-	-	-	-
THR	-	-	-	-	-	-
TRP	-	-	-	-	-	-
ILE	-	-	-	-	-	-
ARG	-	-	-	-	-	-
PHE	-	-	-	-	-	-
HIS	-	-	-	-	-	-
LEU	-	-	-	-	-	-
TYR	-	-	-	-	-	-
VAL	-	-	-	-	-	-
ALA	-	-	-	-	-	-
ASP	-	-	-	-	-	-
GLU	-	-	-	-	-	-
GLY	-	-	-	-	-	-
PRO	-	-	-	-	-	-
SER	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		993.0	FP	-	-
<=C10	0.0	0.0	LA	-	-
C12:0	0.0	0.0	AC	-	-
C14:0	9.8	87.1	ETH	-	-
C16:0	18.9	168.7	PR	-	-
C16:1	19.5	174.4	BU	-	-
C18:0	3.1	28.1	Glycerol	-	-
C18:1	13.0	115.9			
C:18:2	1.6	14.6			
C18:3	5.7	51.2			
>=C20	28.4	253.7			
Sum FA	100.0	893.7			
% FA in CFAT-fraction		90	NH3	-	-

Fat/oil, Groundnut oil 2013.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	95
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	95	DCOM	95		
		DCNSPh	-		
DVE	1991	2007		Horses	
%RUP	-	DCiSTA	-	DCCP	-
%DRUP	-	StaDCP	-	DCCFATh	91
%RUSTA	-	AppDCP	-	DC(S+S)	-
%DASH	-			DCNFEh	-
DASHmax	-			DCPpo	-

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.81 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8082 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.84 /kg	MEla	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	35.24 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8422 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Groundnut oil 2013.421/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		
				standardized	apparent	DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-		-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.0	0.0
C14:0	0.0	0.0
C16:0	10.1	95.0
C16:1	1.0	9.5
C18:0	3.0	28.5
C18:1	47.7	451.2
C:18:2	30.2	285.0
C18:3	1.0	9.5
>=C20	7.0	66.5
Sum FA	100.0	945.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Lard 8050.425/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	994	1	-	993	993	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	0.2	0.4	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	9	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	90	DCCFATh	90	DCCFAT	90
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	90	DCOM	90		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	90
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3264 /kg	NE2015	31.90 MJ/kg	MEpo	35.32 MJ/kg	MErab	33.78 MJ/kg
VEVI	3843 /kg	NE2015	7624 kcal/kg	MEpo	8441 kcal/kg	MErab	8074 kcal/kg
FOM-91	-99 g/kg	EW2015	3.63 /kg	MEla	40.61 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9707 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-17 g/kg			Broilers		Horses	
DVE-07	-7 g/kg			MEbr	30.63 MJ/kg	NEm	23.59 MJ/kg
OEB-91	15 g/kg			MEbr	7321 kcal/kg	NEm	5638 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.64 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Lard 8050.425/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			-	-	-	-	-	-	
LYS	-	-	-	-	-	-	-	-	
MET	-	-	-	-	-	-	-	-	
CYS	-	-	-	-	-	-	-	-	
THR	-	-	-	-	-	-	-	-	
TRP	-	-	-	-	-	-	-	-	
ILE	-	-	-	-	-	-	-	-	
ARG	-	-	-	-	-	-	-	-	
PHE	-	-	-	-	-	-	-	-	
HIS	-	-	-	-	-	-	-	-	
LEU	-	-	-	-	-	-	-	-	
TYR	-	-	-	-	-	-	-	-	
VAL	-	-	-	-	-	-	-	-	
ALA	-	-	-	-	-	-	-	-	
ASP	-	-	-	-	-	-	-	-	
GLU	-	-	-	-	-	-	-	-	
GLY	-	-	-	-	-	-	-	-	
PRO	-	-	-	-	-	-	-	-	
SER	-	-	-	-	-	-	-	-	
Sum AA	-	-	-	-	-	-	-	-	

Fatty acids

	% FA	g/kg
CFAT(h)		993.0
<=C10	0.1	0.9
C12:0	0.2	1.8
C14:0	1.8	16.5
C16:0	27.2	242.7
C16:1	2.4	21.1
C18:0	17.3	154.8
C18:1	38.9	348.0
C:18:2	10.5	93.4
C18:3	1.0	9.2
>=C20	0.6	5.5
Sum FA	100.0	893.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Linseed oil 3006.437/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	95
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	95	DCOM	95		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	95
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.87 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8094 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.85 /kg	MEla	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	35.53 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8491 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Linseed oil 3006.437/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	AA pigs		AA poultry		DC	g/kg
			standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg		
CP			-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.0	0.0
C14:0	0.1	1.0
C16:0	7.0	66.6
C16:1	0.1	1.0
C18:0	4.0	38.1
C18:1	18.1	171.3
C:18:2	16.1	152.3
C18:3	54.4	514.0
>=C20	0.1	1.0
Sum FA	100.0	945.2
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Maize oil 1002.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
DCCP	-	DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	97	DCCFAT	95
DCCF	-	DCCF	-	DCNFE	-	DCCF	-
DCNFE	-	DCNFE	-	DCPpo	-	DCNFE	-
DCOM	95	DCOM	95				
		DCNSPh	-	Broilers		Horses	
DVE	1991	2007	DCiSTA	DCCP	-	DCCP	-
%RUP	-	-	StaDCP	DCCFATh	91	DCOM	95
%DRUP	-	-	AppDCP	DC(S+S)	-		
%RUSTA	-	-		DCNFEh	-		
%DASH	-	-		DCPpo	-		
DASHmax	-	-					

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	3514 /kg	NE2015	33.81 MJ/kg	MEpo	37.48 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8080 kcal/kg	MEpo	8957 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.84 /kg	MEIa	43.10 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEIa	10300 kcal/kg		
		AppDP	-	DPpo	-		
FOMr2-07	0 g/kg						
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	35.09 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8388 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Maize oil 1002.421/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible AA poultry		
			AA pigs						
	mean	sdc	g/kg	standardized DC	g/kg	apparent DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.2	1.8
C14:0	0.2	1.8
C16:0	12.0	107.9
C16:1	0.2	1.8
C18:0	2.0	18.0
C18:1	28.1	251.7
C:18:2	55.2	494.5
C18:3	1.0	9.0
>=C20	1.0	9.0
Sum FA	100.0	895.5
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Olive oil 7001.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	95
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	95	DCOM	95		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	95
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.75 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8066 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.84 /kg	MEla	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	34.84 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8327 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Olive oil 7001.421/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			-	-	-	-	-	-	
LYS	-	-	-	-	-	-	-	-	
MET	-	-	-	-	-	-	-	-	
CYS	-	-	-	-	-	-	-	-	
THR	-	-	-	-	-	-	-	-	
TRP	-	-	-	-	-	-	-	-	
ILE	-	-	-	-	-	-	-	-	
ARG	-	-	-	-	-	-	-	-	
PHE	-	-	-	-	-	-	-	-	
HIS	-	-	-	-	-	-	-	-	
LEU	-	-	-	-	-	-	-	-	
TYR	-	-	-	-	-	-	-	-	
VAL	-	-	-	-	-	-	-	-	
ALA	-	-	-	-	-	-	-	-	
ASP	-	-	-	-	-	-	-	-	
GLU	-	-	-	-	-	-	-	-	
GLY	-	-	-	-	-	-	-	-	
PRO	-	-	-	-	-	-	-	-	
SER	-	-	-	-	-	-	-	-	
Sum AA	-	-	-	-	-	-	-	-	

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.0	0.0
C14:0	0.0	0.0
C16:0	12.8	121.0
C16:1	1.4	13.2
C18:0	3.0	28.4
C18:1	62.3	588.9
C:18:2	15.3	144.6
C18:3	3.0	28.4
>=C20	2.2	20.8
Sum FA	100.0	945.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Palm oil, chemically refined 3001.437/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	89	DCCFAT	95
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	95	DCOM	89		
		DCNSPh	-	Horses	
DVE	1991	2007	DCiSTA	DCCP	-
%RUP	-	-	StaDCP	DCCFATh	78
%DRUP	-	-	AppDCP	DC(S+S)	-
%RUSTA	-	-		DCNFEh	-
%DASH	-	-		DCPpo	-
DASHmax	-	-			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	31.79 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	7597 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.61 /kg	MEla	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-			Broilers		Horses	
DVE-91	-8 g/kg			MEbr	30.25 MJ/kg	NEm	24.94 MJ/kg
DVE-07	-4 g/kg			MEbr	7231 kcal/kg	NEm	5959 kcal/kg
OEB-91	7 g/kg			DPpo	-	EWpa	2.79 /kg
OEB-07	0 g/kg					DCPho	-
OEB2-07	0 g/kg						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Palm oil, chemically refined 3001.437/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.1	1.0
C14:0	0.9	8.9
C16:0	42.7	403.7
C16:1	0.3	3.0
C18:0	4.8	45.3
C18:1	38.2	361.4
C:18:2	11.1	105.4
C18:3	0.3	3.0
>=C20	1.5	13.8
Sum FA	100.0	945.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Palmkernel oil, chemically refined 3001.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	-
DCCFAT	95
DCCF	-
DCNFE	-
DCOM	95

DVE 1991 2007

%RUP	-	-
%DRUP	-	-
%RUSTA	-	-
%DASH	-	-
DASHmax	-	-

Pigs

DCCP	-
DCCFATh	95
DCCF	-
DCNFE	-
DCOM	95
DCNSPh	-
DCiSTA	-
StaDCP	-
AppDCP	-

Roosters/Laying hens

DCCP	-
DCCFAT	92
DCNFE	-
DCPpo	-
DCCP	-
DCCFATh	92
DC(S+S)	-
DCNFEh	-
DCPpo	-

Broilers

DCCP	-
DCCFATh	92
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	-
DCCFAT	95
DCCF	-
DCNFE	-

Horses

DCCP	-
DCOM	95

Nutritional value (in product)

Ruminants

VEM	3514 /kg
VEVI	4191 /kg
FOM-91	-49 g/kg
FOMr-07	0 g/kg
FOMr2-07	0 g/kg
FOMr2/FOMr	-
DVE-91	-8 g/kg
DVE-07	-4 g/kg
OEB-91	7 g/kg
OEB-07	0 g/kg
OEB2-07	0 g/kg
DVMET-91	-
DVLYS-91	-
DVMET-07	-
DVLYS-07	-
SW	0.32 /kg
VW	0.29 /kg

Pigs

NE2015	33.84 MJ/kg
NE2015	8087 kcal/kg
EW2015	3.85 /kg
StaDP	-
AppDP	-

Roosters/Laying hens

MEpo	35.54 MJ/kg
MEpo	8495 kcal/kg
MEla	40.88 MJ/kg
MEla	9770 kcal/kg
DPpo	-

Broilers

MEbr	35.38 MJ/kg
MEbr	8457 kcal/kg
DPpo	-

Rabbits

MErab	35.73 MJ/kg
MErab	8540 kcal/kg

Horses

NEm	24.94 MJ/kg
NEm	5959 kcal/kg
EWpa	2.79 /kg
DCPho	-

Fat/oil, Palmkernel oil, chemically refined 3001.421/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	AA pigs				AA poultry	
			standardized		apparent		DC	g/kg
		g/kg	DC	g/kg	DC	g/kg	DC	g/kg
CP		-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	7.0	66.5
C12:0	47.2	446.5
C14:0	15.1	142.5
C16:0	9.0	85.5
C16:1	0.0	0.0
C18:0	3.0	28.5
C18:1	16.1	152.0
C:18:2	2.0	19.0
C18:3	0.5	4.7
>=C20	0.0	0.0
Sum FA	100.0	945.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Poultry fat 8051.425/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	994	1	-	993	993	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	0.2	0.4	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	9	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	90	DCCFATh	94	DCCFAT	90
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	90	DCOM	94		
		DCNSPh	-		
DVE	1991	2007		Horses	
%RUP	-	DCiSTA	-	DCCP	-
%DRUP	-	StaDCP	-	DCCFATh	88
%RUSTA	-	AppDCP	-	DC(S+S)	-
%DASH	-			DCNFEh	-
DASHmax	-			DCPpo	-

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3264 /kg	NE2015	33.42 MJ/kg	MEpo	37.39 MJ/kg	MErab	33.78 MJ/kg
VEVI	3843 /kg	NE2015	7987 kcal/kg	MEpo	8936 kcal/kg	MErab	8074 kcal/kg
FOM-91	-99 g/kg	EW2015	3.80 /kg	MEIa	43.00 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEIa	10276 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-17 g/kg			Broilers		Horses	
DVE-07	-7 g/kg			MEbr	34.06 MJ/kg	NEm	23.59 MJ/kg
OEB-91	15 g/kg			MEbr	8139 kcal/kg	NEm	5638 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.64 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Poultry fat 8051.425/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible AA poultry		
			AA pigs						
	mean	sdc	g/kg	standardized DC	g/kg	apparent DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		993.0
<=C10	0.0	0.0
C12:0	0.0	0.0
C14:0	0.1	0.5
C16:0	15.3	136.9
C16:1	2.4	21.4
C18:0	5.4	48.7
C18:1	30.9	276.1
C:18:2	36.5	325.8
C18:3	4.4	39.0
>=C20	5.1	45.3
Sum FA	100.0	893.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Rapeseed oil 3009.437/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP	-	DCCP
DCCFAT	95	DCCFATh	95	DCCFAT
DCCF	-	DCCF	-	DCCF
DCNFE	-	DCNFE	-	DCNFE
DCOM	95	DCOM	95	
		DCNSPh		
DVE	1991	2007	Broilers	Horses
%RUP	-	DCiSTA	DCCP	DCCP
%DRUP	-	StaDCP	DCCFATh	93
%RUSTA	-	AppDCP	DC(S+S)	-
%DASH	-		DCNFEh	-
DASHmax	-		DCPpo	-
				DCOM
				95

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.89 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8099 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.85 /kg	MEla	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	36.10 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8629 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Rapeseed oil 3009.437/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC		
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.2	1.9
C14:0	0.2	1.9
C16:0	5.1	48.4
C16:1	0.4	3.9
C18:0	2.0	19.4
C18:1	56.7	542.3
C:18:2	22.3	213.0
C18:3	9.1	87.2
>=C20	4.0	38.7
Sum FA	100.0	956.7
% FA in CFAT-fraction		96

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Safflower oil 3013.425/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	95
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	95	DCOM	95		
		DCNSPh	-		
DVE	1991	2007		Horses	
%RUP	-	DCiSTA	-	DCCP	-
%DRUP	-	StaDCP	-	DCCFATh	92
%RUSTA	-	AppDCP	-	DC(S+S)	-
%DASH	-			DCNFEh	-
DASHmax	-			DCPpo	-

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.88 MJ/kg	MEpo	37.48 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8097 kcal/kg	MEpo	8957 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.85 /kg	MEIa	43.10 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEIa	10300 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	35.70 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8532 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Safflower oil 3013.425/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		
				standardized	apparent	DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg
CP			-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.0	0.0
C12:0	0.1	0.9
C14:0	0.2	1.9
C16:0	7.0	66.3
C16:1	0.1	0.9
C18:0	2.9	27.1
C18:1	13.2	125.0
C:18:2	74.3	702.6
C18:3	0.9	8.4
>=C20	1.3	12.1
Sum FA	100.0	945.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Soya oil 3012.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	95
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	95	DCOM	95		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	-	DCCP	DCCP	-
%DRUP	-	-	DCCFATh	DCOM	95
%RUSTA	-	-	DC(S+S)		
%DASH	-	-	DCNFEh		
DASHmax	-	-	DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3514 /kg	NE2015	33.78 MJ/kg	MEpo	37.48 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8074 kcal/kg	MEpo	8957 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.84 /kg	MEIa	43.10 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEIa	10300 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-8 g/kg			Broilers		Horses	
DVE-07	-4 g/kg			MEbr	34.95 MJ/kg	NEm	24.94 MJ/kg
OEB-91	7 g/kg			MEbr	8354 kcal/kg	NEm	5959 kcal/kg
OEB-07	0 g/kg			DPpo	-	EWpa	2.79 /kg
OEB2-07	0 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Soya oil 3012.421/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP	-	-	-	-	-	-	-	-	
LYS	-	-	-	-	-	-	-	-	
MET	-	-	-	-	-	-	-	-	
CYS	-	-	-	-	-	-	-	-	
THR	-	-	-	-	-	-	-	-	
TRP	-	-	-	-	-	-	-	-	
ILE	-	-	-	-	-	-	-	-	
ARG	-	-	-	-	-	-	-	-	
PHE	-	-	-	-	-	-	-	-	
HIS	-	-	-	-	-	-	-	-	
LEU	-	-	-	-	-	-	-	-	
TYR	-	-	-	-	-	-	-	-	
VAL	-	-	-	-	-	-	-	-	
ALA	-	-	-	-	-	-	-	-	
ASP	-	-	-	-	-	-	-	-	
GLU	-	-	-	-	-	-	-	-	
GLY	-	-	-	-	-	-	-	-	
PRO	-	-	-	-	-	-	-	-	
SER	-	-	-	-	-	-	-	-	
Sum AA	-	-	-	-	-	-	-	-	

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		995.0	FP	-	-
<=C10	0.0	0.0	LA	-	-
C12:0	0.0	0.0	AC	-	-
C14:0	0.2	1.9	ETH	-	-
C16:0	11.0	104.2	PR	-	-
C16:1	0.2	1.9	BU	-	-
C18:0	4.0	37.9	Glycerol	-	-
C18:1	22.0	208.4			
C:18:2	54.1	511.5			
C18:3	8.0	75.8			
>=C20	0.4	3.8			
Sum FA	100.0	945.3			
% FA in CFAT-fraction		95			

Fat/oil, Sunflower oil, refined 3003.421/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	995	-	-	995	995	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-		SUGe/SUG	-		EB (meq/kg)	-
			CF_DI	0.96		CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
DCCP	-	DCCP	-	DCCP	-	DCCP	-
DCCFAT	95	DCCFATh	95	DCCFAT	92	DCCFAT	95
DCCF	-	DCCF	-	DCNFE	-	DCCF	-
DCNFE	-	DCNFE	-	DCPpo	-	DCNFE	-
DCOM	95	DCOM	95				
		DCNSPh	-	Broilers		Horses	
DVE	1991	2007	DCiSTA	DCCP	-	DCCP	-
%RUP	-	-	StaDCP	DCCFATh	92	DCOM	95
%DRUP	-	-	AppDCP	DC(S+S)	-		
%RUSTA	-	-		DCNFEh	-		
%DASH	-	-		DCPpo	-		
DASHmax	-	-					

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	3514 /kg	NE2015	33.87 MJ/kg	MEpo	35.54 MJ/kg	MErab	35.73 MJ/kg
VEVI	4191 /kg	NE2015	8094 kcal/kg	MEpo	8495 kcal/kg	MErab	8540 kcal/kg
FOM-91	-49 g/kg	EW2015	3.85 /kg	MEla	40.88 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	9770 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-			Broilers		Horses	
DVE-91	-8 g/kg			MEbr	35.53 MJ/kg	NEm	24.94 MJ/kg
DVE-07	-4 g/kg			MEbr	8492 kcal/kg	NEm	5959 kcal/kg
OEB-91	7 g/kg			DPpo	-	EWpa	2.79 /kg
OEB-07	0 g/kg					DCPho	-
OEB2-07	0 g/kg						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Sunflower oil, refined 3003.421/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		995.0
<=C10	0.1	0.9
C12:0	0.2	1.9
C14:0	0.3	2.8
C16:0	7.0	66.4
C16:1	0.3	2.8
C18:0	4.0	38.0
C18:1	22.1	208.8
C:18:2	65.3	616.9
C18:3	0.4	3.8
>=C20	0.3	2.8
Sum FA	100.0	945.2
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Fat/oil, Tallow 8020.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	994	1	-	993	993	-	0	0	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	0.2	0.4	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	9	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	90	DCCFATh	89	DCCFAT	90
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	90	DCOM	89		
		DCNSPh	-	Horses	
DVE	1991	2007	DCiSTA	DCCP	-
%RUP	-	-	StaDCP	DCCFATh	79
%DRUP	-	-	AppDCP	DC(S+S)	-
%RUSTA	-	-		DCNFEh	-
%DASH	-	-		DCPpo	-
DASHmax	-	-			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	3264 /kg	NE2015	31.73 MJ/kg	MEpo	29.10 MJ/kg	MErab	33.78 MJ/kg
VEVI	3843 /kg	NE2015	7583 kcal/kg	MEpo	6955 kcal/kg	MErab	8074 kcal/kg
FOM-91	-99 g/kg	EW2015	3.61 /kg	MEla	33.46 MJ/kg		
FOMr-07	0 g/kg	StaDP	-	MEla	7998 kcal/kg		
FOMr2-07	0 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	-			Broilers		Horses	
DVE-91	-17 g/kg			MEbr	30.38 MJ/kg	NEm	23.59 MJ/kg
DVE-07	-7 g/kg			MEbr	7262 kcal/kg	NEm	5638 kcal/kg
OEB-91	15 g/kg			DPpo	-	EWpa	2.64 /kg
OEB-07	0 g/kg					DCPho	-
OEB2-07	0 g/kg						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	0.32 /kg						
VW	0.29 /kg						

Fat/oil, Tallow 8020.000/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		993.0
<=C10	0.0	0.0
C12:0	0.0	0.0
C14:0	2.1	18.6
C16:0	26.9	240.0
C16:1	2.5	22.8
C18:0	19.3	172.7
C18:1	37.0	331.0
C:18:2	4.9	43.4
C18:3	4.3	38.3
>=C20	3.0	26.9
Sum FA	100.0	893.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Feather meal, hydrolysed 8003.629/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	938	24	833	-	93	13	-	-25	
sd	18	6	20	-	11	2	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	-12	-12
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.0	2.8	-	0.4	1.0	0.8	1.6	0.1	12.4
sd	0.8	0.7	-	0.1	0.3	0.2	0.6	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	484	18	141	13	-	-	-
sd	105	2	16	2	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	14
		CF_DI	0.96	CAD (meq/kg)	-763

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 79	DCCP 77	DCCP -
DCCFAT	-	DCCFATh 75	DCCFAT 62	DCCFAT -
DCCF	-	DCCF -	DCNFE 77	DCCF -
DCNFE	-	DCNFE 79	DCPpo 70	DCNFE -
DCOM	-	DCOM 79		
		DCNSPh -	Broilers	Horses
DVE	1991	2007	DCCP 78	DCCP -
%RUP	-	-	DCCFATh 50	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 70	
DASHmax	-	-		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 10.10 MJ/kg	MEpo 13.48 MJ/kg	MErab -
VEVI	-	NE2015 2414 kcal/kg	MEpo 3221 kcal/kg	MErab -
FOM-91	-	EW2015 1.15 /kg	MEla 13.81 MJ/kg	
FOMr-07	-	StaDP 2.3 g/kg	MEla 3301 kcal/kg	
FOMr2-07	-	AppDP 2.2 g/kg	DPpo 1.9 g/kg	
FOMr2/FOMr	-			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr 13.14 MJ/kg	NEm -
OEB-91	-		MEbr 3140 kcal/kg	NEm -
OEB-07	-		DPpo 1.9 g/kg	EWpa -
OEB2-07	-			DCPho -
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Feather meal, hydrolysed 8003.629/0/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			833	66	-	65	543	-	-
LYS	2.5	0.4	20.8	49	10.2	47	9.8	74	15.4
MET	0.7	0.1	5.8	58	3.4	56	3.3	72	4.2
CYS	5.0	0.6	41.7	64	26.7	64	26.5	69	28.7
THR	4.7	0.1	39.2	69	27.0	68	26.5	67	26.2
TRP	0.7	0.1	5.8	56	3.3	54	3.1	70	4.1
ILE	4.8	0.2	40.0	80	32.1	79	31.8	68	27.2
ARG	6.9	0.3	57.5	80	45.9	79	45.5	78	44.8
PHE	4.9	0.2	40.8	81	33.1	80	32.8	67	27.3
HIS	1.0	0.3	8.3	63	5.2	61	5.1	74	6.2
LEU	8.3	0.2	69.1	76	52.6	75	52.2	69	47.7
TYR	3.1	0.1	25.8	70	18.2	69	17.9	65	16.8
VAL	7.3	0.4	60.8	78	47.3	77	46.8	66	40.1
ALA	4.7	0.2	39.2	71	27.9	70	27.4	74	29.0
ASP	7.0	0.3	58.3	48	28.0	47	27.2	71	41.4
GLU	10.9	0.5	90.8	78	70.6	77	69.5	75	68.1
GLY	7.7	0.4	64.1	80	51.3	79	50.4	72	46.2
PRO	9.6	0.7	80.0	87	69.5	86	68.4	71	56.8
SER	10.7	0.6	89.1	80	71.5	80	70.9	72	64.2
Sum AA	100.5		837	-	624	-	615	-	594

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		93.1	FP	-	-
<=C10	2.8	1.6	LA	-	-
C12:0	1.0	0.6	AC	-	-
C14:0	2.3	1.3	ETH	-	-
C16:0	26.7	14.9	PR	-	-
C16:1	2.5	1.4	BU	-	-
C18:0	13.5	7.5	Glycerol	-	-
C18:1	32.2	18.0			
C:18:2	11.7	6.5			
C18:3	0.8	0.4			
>=C20	3.3	1.8			
Sum FA	96.8	54.1			
% FA in CFAT-fraction		60	NH3	-	

Remarks

Feather meal, hydrolysed:

1. Processing this product in feeds for ruminants is not allowed in the EU; in the Netherlands the processing of this product in feeds for pigs and poultry is forbidden as well.

Feed beans, heat treated 2001.616/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	862	52	229	16	-	45	521	-	
sd	9	8	10	2	-	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	361	326	-	40	175	75	-	201	26
sd	17	-	-	5	23	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.6	4.6	2.3	1.8	15.2	0.1	0.4	0.2	1.2
sd	0.2	0.4	-	-	-	-	0.4	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	87	29	32	9	-	-	-
sd	-	-	3	1	-	-	-

IP/P	50	SUGe/SUG	100	EB (meq/kg)	383
		CF_DI	0.96	CAD (meq/kg)	294

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	78		DCCP	79	DCCP	80
DCCFAT	67		DCCFATh	60	DCCFAT	60
DCCF	81		DCCF	74	DCCF	30
DCNFE	95		DCNFE	51	DCNFE	90
DCOM	89		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP		Horses	
%RUP	34	39	AppDCP		DCCP	85
%DRUP	90	90			DCOM	83
%RUSTA	20	20				
%DASH	50	50				
DASHmax	33	33				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	977 /kg	NE2015	MEpo	MErab
VEVI	1064 /kg	NE2015	MEpo	MErab
FOM-91	561 g/kg	EW2015	MEla	
FOMr-07	561 g/kg	StaDP	MEla	
FOMr2-07	263 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.47 /kg			
DVE-91	123 g/kg		Broilers	Horses
DVE-07	136 g/kg		MEbr	NEm
OEB-91	58 g/kg		MEbr	NEm
OEB-07	39 g/kg		DPpo	EWpa
OEB2-07	8 g/kg			DCPho
DVMET-91	2.1 g/kg			
DVLYS-91	8.5 g/kg			
DVMET-07	2.4 g/kg			
DVLYS-07	9.5 g/kg			
SW	0.10 /kg			
VW	0.25 /kg			

Feed beans, heat treated 2001.616/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	AA pigs				AA poultry		
			standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			229	53	-	49	112	-	-
LYS	6.3	0.2	14.4	68	9.8	65	9.4	78	11.3
MET	1.1	0.2	2.5	55	1.4	52	1.3	66	1.7
CYS	1.1	0.1	2.5	45	1.1	38	1.0	59	1.5
THR	4.2	0.4	9.6	55	5.3	50	4.8	67	6.5
TRP	1.0	0.2	2.3	55	1.3	50	1.1	67	1.5
ILE	4.4	0.2	10.1	54	5.4	50	5.1	67	6.8
ARG	7.2	1.3	16.5	72	11.8	70	11.5	78	12.9
PHE	5.3	0.7	12.1	43	5.3	41	5.0	64	7.8
HIS	2.8	0.2	6.4	58	3.7	55	3.5	68	4.4
LEU	7.7	0.5	17.7	55	9.6	52	9.2	69	12.2
TYR	3.2	0.5	7.3	55	4.1	52	3.8	67	4.9
VAL	5.0	0.3	11.5	53	6.1	49	5.6	66	7.6
ALA	4.2	0.1	9.6	54	5.2	50	4.8	70	6.7
ASP	11.5	0.6	26.4	47	12.5	45	11.8	65	17.1
GLU	15.7	0.6	36.0	56	20.1	53	19.1	72	25.9
GLY	4.0	0.2	9.2	50	4.5	41	3.8	64	5.9
PRO	3.9	0.4	8.9	60	5.3	49	4.4	68	6.1
SER	5.8	0.5	13.3	57	7.6	53	7.0	69	9.2
Sum AA	94.4		216	-	120	-	112	-	150

Fatty acids

	% FA	g/kg
CFAT(h)		16.4
<=C10	0.5	0.1
C12:0	0.5	0.1
C14:0	0.5	0.1
C16:0	18.0	2.2
C16:1	0.5	0.1
C18:0	3.0	0.4
C18:1	13.0	1.6
C:18:2	34.0	4.2
C18:3	29.0	3.6
>=C20	2.0	0.2
Sum FA	101.0	12.4
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Fish meal, treated-CP < 590 g/kg 8015.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	911	195	563	-	142	-	-	11	
sd	6	45	19	-	31	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	11	11
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	40.1	26.4	-	2.3	6.4	10.5	15.2	0.7	4.7
sd	-	-	-	0.4	-	2.9	4.9	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	347	17	82	7	0.5	2.4	1.8
sd	101	6	12	3	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	190
		CF_DI	0.96	CAD (meq/kg)	-151

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 87	DCCP 88	DCCP 90
DCCFAT	-	DCCFATh 92	DCCFAT 84	DCCFAT 90
DCCF	-	DCCF -	DCNFE 88	DCCF -
DCNFE	-	DCNFE 87	DCPpo 74	DCNFE 90
DCOM	-	DCOM 88		
		DCNSPh 87	Broilers	Horses
DVE	1991	2007	DCCP 88	DCCP -
%RUP	-	-	DCCFATh 87	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 74	
DASHmax	-	-		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 10.52 MJ/kg	MErab 14.64 MJ/kg
VEVI	-	NE2015 2513 kcal/kg	MErab 3498 kcal/kg
FOM-91	-	EW2015 1.19 /kg	
FOMr-07	-	StaDP 20.3 g/kg	
FOMr2-07	-	AppDP 20.2 g/kg	
FOMr2/FOMr	-		
DVE-91	-	Broilers	Horses
DVE-07	-	MEbr 13.74 MJ/kg	NEm -
OEB-91	-	MEbr 3285 kcal/kg	NEm -
OEB-07	-	DPpo 19.6 g/kg	EWpa -
OEB2-07	-		DCPho -
DVMET-91	-		
DVLYS-91	-		
DVMET-07	-		
DVLYS-07	-		
SW	-		
VW	-		

Fish meal, treated-CP < 590 g/kg 8015.000/1/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			563	85	-	83	467	-	-
LYS	7.6	0.5	42.8	89	38.2	89	37.9	85	36.4
MET	2.8	0.2	15.8	89	14.0	88	13.9	83	13.1
CYS	0.9	0.1	5.1	74	3.7	70	3.6	71	3.6
THR	4.2	0.2	23.6	88	20.9	86	20.3	81	19.1
TRP	1.1	0.1	6.2	86	5.3	84	5.2	79	4.9
ILE	4.2	0.3	23.6	90	21.3	89	21.0	83	19.6
ARG	5.9	0.4	33.2	92	30.5	91	30.2	85	28.2
PHE	3.9	0.3	22.0	87	19.1	86	18.8	82	18.0
HIS	2.6	0.5	14.6	87	12.7	85	12.5	80	11.7
LEU	7.3	0.4	41.1	90	36.8	89	36.4	85	34.9
TYR	3.1	0.3	17.4	88	15.3	86	15.1	82	14.3
VAL	4.9	0.4	27.6	89	24.6	88	24.2	83	22.9
ALA	6.3	0.3	35.5	90	31.8	89	31.4	83	29.4
ASP	9.3	0.5	52.3	79	41.2	77	40.5	74	38.7
GLU	13.0	0.7	73.2	90	66.1	89	65.0	82	60.0
GLY	6.5	0.7	36.6	87	31.9	85	31.1	77	28.2
PRO	4.4	0.5	24.8	98	24.3	94	23.3	82	20.3
SER	4.0	0.3	22.5	89	20.1	87	19.5	78	17.6
Sum AA	92.0		518	-	458	-	450	-	421

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		142.3	FP	-	-
<=C10	0.1	0.1	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	7.0	8.0	ETH	-	-
C16:0	16.0	18.2	PR	-	-
C16:1	7.0	8.0	BU	-	-
C18:0	2.0	2.3	Glycerol	-	-
C18:1	15.0	17.1			
C:18:2	1.0	1.1			
C18:3	1.0	1.1			
>=C20	45.0	51.2			
Sum FA	94.1	107.2	NH3	-	
% FA in CFAT-fraction		80			

Remarks

Fish meal, treated-CP < 590 g/kg:

1. In the EU, processing of this product in feeds for pigs and poultry is allowed but it is forbidden to process this product in feeds for ruminants.

Fish meal, treated-CP 600 - 650 g/kg 8015.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	913	168	629	98	112	5	13	-1		
sd	8	15	9	15	17	3	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	5	5	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	40.2	26.2	-	2.3	8.2	10.5	15.2	0.7	5.3
sd	4.8	3.0	-	0.4	1.3	2.9	4.9	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	348	17	82	7	0.5	2.4	1.8
sd	102	6	12	3	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	237
		CF_DI	0.96	CAD (meq/kg)	-138

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 87	DCCP 88	DCCP 90
DCCFAT	-	DCCFATh 91	DCCFAT 84	DCCFAT 90
DCCF	-	DCCF -	DCNFE 88	DCCF -
DCNFE	-	DCNFE 87	DCPpo 74	DCNFE 90
DCOM	-	DCOM 88		
		DCNSPh 87		
DVE	1991	2007	Broilers	Horses
%RUP	-	DCiSTA -	DCCP 86	DCCP -
%DRUP	-	StaDCP 77	DCCFATh 87	DCOM -
%RUSTA	-	AppDCP 76	DC(S+S) -	
%DASH	-		DCNFEh -	
DASHmax	-		DCPpo 74	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 10.12 MJ/kg	MEpo 13.62 MJ/kg	MErab 14.55 MJ/kg
VEVI	-	NE2015 2418 kcal/kg	MEpo 3255 kcal/kg	MErab 3478 kcal/kg
FOM-91	-	EW2015 1.15 /kg	MEla 14.17 MJ/kg	
FOMr-07	-	StaDP 20.2 g/kg	MEla 3386 kcal/kg	
FOMr2-07	-	AppDP 20.0 g/kg	DPpo 19.4 g/kg	
FOMr2/FOMr	-			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr 13.58 MJ/kg	NEm -
OEB-91	-		MEbr 3245 kcal/kg	NEm -
OEB-07	-		DPpo 19.4 g/kg	EWpa -
OEB2-07	-			DCPho -
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Fish meal, treated-CP 600 - 650 g/kg 8015.000/2/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sd	g/kg	standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg		
CP			629	85	-	83	522	-	-	
LYS	7.6	0.5	47.8	89	42.7	89	42.4	85	40.6	
MET	2.8	0.2	17.6	89	15.7	88	15.5	83	14.6	
CYS	0.9	0.1	5.7	74	4.2	71	4.0	71	4.0	
THR	4.2	0.2	26.4	88	23.3	86	22.8	81	21.4	
TRP	1.1	0.1	6.9	86	6.0	84	5.8	79	5.5	
ILE	4.2	0.3	26.4	90	23.8	89	23.5	83	21.9	
ARG	5.9	0.4	37.1	92	34.1	91	33.8	85	31.5	
PHE	3.9	0.3	24.5	87	21.3	86	21.0	82	20.1	
HIS	2.6	0.5	16.3	87	14.1	86	14.0	80	13.1	
LEU	7.3	0.4	45.9	90	41.2	89	40.7	85	39.0	
TYR	3.1	0.3	19.5	88	17.1	86	16.9	82	16.0	
VAL	4.9	0.4	30.8	89	27.5	88	27.0	83	25.6	
ALA	6.3	0.3	39.6	90	35.6	89	35.1	83	32.9	
ASP	9.3	0.5	58.5	79	46.0	78	45.3	74	43.3	
GLU	13.0	0.7	81.7	90	73.8	89	72.7	82	67.0	
GLY	6.5	0.7	40.9	87	35.6	85	34.8	77	31.5	
PRO	4.4	0.5	27.7	98	27.1	94	26.1	82	22.7	
SER	4.0	0.3	25.1	89	22.4	87	21.8	78	19.6	
Sum AA	92.0		578	-	512	-	503	-	470	

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		112.1	FP	-	-
<=C10	0.1	0.1	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	7.0	6.3	ETH	-	-
C16:0	16.0	14.3	PR	-	-
C16:1	7.0	6.3	BU	-	-
C18:0	2.0	1.8	Glycerol	-	-
C18:1	15.0	13.5			
C:18:2	1.0	0.9			
C18:3	1.0	0.9			
>=C20	45.0	40.4			
Sum FA	94.1	84.4			
% FA in CFAT-fraction		80	NH3	-	

Remarks

Fish meal, treated-CP 600 - 650 g/kg:

1. In the EU, processing of this product in feeds for pigs and poultry is allowed but it is forbidden to process this product in feeds for ruminants.

Fish meal, treated-CP 650 - 680 g/kg 8015.000/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	912	158	656	94	106	-	4	-8		
sd	7	10	11	20	12	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	-8	-8	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	37.9	25.0	-	2.3	9.4	10.5	15.2	0.7	5.5
sd	5.8	1.8	-	0.4	2.0	2.9	4.9	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	347	17	82	7	0.5	2.4	1.8
sd	102	6	12	3	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	268
		CF_DI	0.96	CAD (meq/kg)	-123

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 87	DCCP 88	DCCP 90
DCCFAT	-	DCCFATh 91	DCCFAT 84	DCCFAT 90
DCCF	-	DCCF -	DCNFE 88	DCCF -
DCNFE	-	DCNFE 87	DCPpo 74	DCNFE 90
DCOM	-	DCOM 88		
		DCNSPh -	Broilers	Horses
DVE	1991	2007	DCCP 87	DCCP -
%RUP	-	-	DCCFATh 87	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 74	
DASHmax	-	-		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 10.10 MJ/kg	MErab 14.71 MJ/kg
VEVI	-	NE2015 2413 kcal/kg	MErab 3515 kcal/kg
FOM-91	-	EW2015 1.15 /kg	
FOMr-07	-	StaDP 19.2 g/kg	
FOMr2-07	-	AppDP 19.0 g/kg	
FOMr2/FOMr	-		
DVE-91	-		Broilers
DVE-07	-		MEbr 13.70 MJ/kg
OEB-91	-		MEbr 3274 kcal/kg
OEB-07	-		DPpo 18.5 g/kg
OEB2-07	-		
DVMET-91	-		Horses
DVLYS-91	-		NEm -
DVMET-07	-		NEm -
DVLYS-07	-		EWpa -
SW	-		DCPho -
VW	-		

Fish meal, treated-CP 650 - 680 g/kg 8015.000/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			656	85	-	83	546	-	-
LYS	7.6	0.5	49.9	89	44.6	89	44.2	85	42.4
MET	2.8	0.2	18.4	89	16.3	88	16.2	83	15.3
CYS	0.9	0.1	5.9	74	4.4	71	4.2	71	4.2
THR	4.2	0.2	27.6	88	24.3	86	23.8	81	22.3
TRP	1.1	0.1	7.2	86	6.2	84	6.1	79	5.7
ILE	4.2	0.3	27.6	90	24.9	89	24.5	83	22.9
ARG	5.9	0.4	38.7	92	35.6	91	35.3	85	32.9
PHE	3.9	0.3	25.6	87	22.3	86	22.0	82	21.0
HIS	2.6	0.5	17.1	87	14.8	86	14.6	80	13.7
LEU	7.3	0.4	47.9	90	43.0	89	42.5	85	40.7
TYR	3.1	0.3	20.3	88	17.9	87	17.6	82	16.7
VAL	4.9	0.4	32.2	89	28.7	88	28.3	83	26.7
ALA	6.3	0.3	41.4	90	37.1	89	36.7	83	34.3
ASP	9.3	0.5	61.0	79	48.1	78	47.4	74	45.2
GLU	13.0	0.7	85.3	90	77.0	89	76.0	82	70.0
GLY	6.5	0.7	42.7	87	37.2	85	36.4	77	32.9
PRO	4.4	0.5	28.9	98	28.3	95	27.3	82	23.7
SER	4.0	0.3	26.3	89	23.4	87	22.8	78	20.5
Sum AA	92.0		604	-	534	-	526	-	491

Fatty acids

	% FA	g/kg
CFAT(h)		106.2
<=C10	0.1	0.1
C12:0	-	0.0
C14:0	7.0	5.9
C16:0	16.0	13.6
C16:1	7.0	5.9
C18:0	2.0	1.7
C18:1	15.0	12.7
C:18:2	1.0	0.8
C18:3	1.0	0.8
>=C20	45.0	38.2
Sum FA	94.1	80.0
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Fish meal, treated-CP 650 - 680 g/kg:

1. In the EU, processing of this product in feeds for pigs and poultry is allowed but it is forbidden to process this product in feeds for ruminants.

Fish meal, treated-CP > 680 g/kg 8015.000/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	917	132	707	91	101	-	-14	-23		
sd	11	19	14	25	15	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	-23	-23	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	27.0	21.9	-	2.3	14.0	10.5	15.3	0.7	5.9
sd	10.1	2.5	-	0.4	3.1	2.9	5.0	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	349	18	83	7	0.6	2.4	1.8
sd	102	6	12	3	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	386
		CF_DI	0.96	CAD (meq/kg)	-30

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 88	DCCP 88	DCCP 90
DCCFAT	-	DCCFATh 91	DCCFAT 84	DCCFAT 90
DCCF	-	DCCF -	DCNFE 88	DCCF -
DCNFE	-	DCNFE 88	DCPpo 74	DCNFE 90
DCOM	-	DCOM 88		
		DCNSPh -	Broilers	Horses
DVE	1991	2007	DCCP 87	DCCP -
%RUP	-	-	DCCFATh 87	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 74	
DASHmax	-	-		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	-	MEpo 14.15 MJ/kg	MErab 15.16 MJ/kg
VEVI	-	MEpo 3381 kcal/kg	MErab 3623 kcal/kg
FOM-91	-	MEla 14.64 MJ/kg	
FOMr-07	-	MEla 3499 kcal/kg	
FOMr2-07	-	DPpo 16.2 g/kg	
FOMr2/FOMr	-		
DVE-91	-	Broilers	Horses
DVE-07	-	MEbr 14.08 MJ/kg	NEm -
OEB-91	-	MEbr 3365 kcal/kg	NEm -
OEB-07	-	DPpo 16.2 g/kg	EWpa -
OEB2-07	-		DCPho -
DVMET-91	-		
DVLYS-91	-		
DVMET-07	-		
DVLYS-07	-		
SW	-		
VW	-		

Fish meal, treated-CP > 680 g/kg 8015.000/4/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			707	85	-	83	589	-	-
LYS	7.6	0.5	53.7	89	48.0	89	47.7	85	45.7
MET	2.8	0.2	19.8	89	17.6	88	17.5	83	16.4
CYS	0.9	0.1	6.4	74	4.7	71	4.5	71	4.5
THR	4.2	0.2	29.7	88	26.2	86	25.7	81	24.1
TRP	1.1	0.1	7.8	86	6.7	85	6.6	79	6.1
ILE	4.2	0.3	29.7	90	26.8	89	26.4	83	24.6
ARG	5.9	0.4	41.7	92	38.4	91	38.0	85	35.5
PHE	3.9	0.3	27.6	87	24.0	86	23.7	82	22.6
HIS	2.6	0.5	18.4	87	15.9	86	15.7	80	14.7
LEU	7.3	0.4	51.6	90	46.3	89	45.8	85	43.9
TYR	3.1	0.3	21.9	88	19.3	87	19.0	82	18.0
VAL	4.9	0.4	34.6	89	31.0	88	30.5	83	28.8
ALA	6.3	0.3	44.5	90	40.0	89	39.5	83	37.0
ASP	9.3	0.5	65.7	79	51.8	78	51.1	74	48.7
GLU	13.0	0.7	91.9	90	83.0	89	81.9	82	75.4
GLY	6.5	0.7	46.0	87	40.1	85	39.2	77	35.4
PRO	4.4	0.5	31.1	98	30.5	95	29.5	82	25.5
SER	4.0	0.3	28.3	89	25.2	87	24.6	78	22.1
Sum AA	92.0		650	-	575	-	567	-	529

Fatty acids

	% FA	g/kg
CFAT(h)		100.8
<=C10	0.1	0.1
C12:0	-	0.0
C14:0	7.0	5.6
C16:0	16.0	12.9
C16:1	7.0	5.6
C18:0	2.0	1.6
C18:1	15.0	12.1
C:18:2	1.0	0.8
C18:3	1.0	0.8
>=C20	45.0	36.3
Sum FA	94.1	75.9
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Fish meal, treated-CP > 680 g/kg:

1. In the EU, processing of this product in feeds for pigs and poultry is allowed but it is forbidden to process this product in feeds for ruminants.

Grass meal-CP < 140 g/kg 5010.610/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	929	108	122	25	25	235	439	439		
sd	15	22	14	7	-	29	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	13	-	122	460	272	-	543	84	
sd	-	-	-	28	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.3	3.2	0.2	2.0	24.1	2.6	7.3	3.4	0.7
sd	1.0	0.6	-	0.4	5.6	1.0	4.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	799	88	36	9	1.7	0.0	0.7
sd	367	26	7	1	0.9	0.0	0.3

IP/P	5	SUGe/SUG	45	EB (meq/kg)	521
		CF_DI	0.96	CAD (meq/kg)	262

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	59		DCCP	45	DCCP	71	
DCCFAT	-		DCCFATh	40	DCCFAT	51	
DCCF	-		DCCF	23	DCCF	15	
DCNFE	-		DCNFE	75	DCNFE	69	
DCOM	72		DCOM				
			DCNSPh				
			DCiSTA				
DVE	1991	2007	StaDCP	Broilers		Horses	
%RUP	50	57	AppDCP	DCCP	66	DCCP	59
%DRUP	65	65		DCCFATh	28	DCOM	60
%RUSTA	-	-		DC(S+S)	100		
%DASH	35	35		DCNFEh	30		
DASHmax	45	45		DCPpo	75		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	737 /kg	NE2015	MEpo	MErab	7.00 MJ/kg
VEVI	742 /kg	NE2015	MEpo	MErab	1674 kcal/kg
FOM-91	501 g/kg	EW2015	MEla		
FOMr-07	442 g/kg	StaDP	MEla		
FOMr2-07	182 g/kg	AppDP	DPpo		
FOMr2/FOMr	0.41 /kg				
DVE-91	69 g/kg		Broilers	Horses	
DVE-07	67 g/kg		MEbr	NEm	5.44 MJ/kg
OEB-91	-21 g/kg		MEbr	NEm	1299 kcal/kg
OEB-07	-17 g/kg		DPpo	EWpa	0.61 /kg
OEB2-07	-4 g/kg			DCPho	72 g/kg
DVMET-91	1.5 g/kg				
DVLYS-91	4.1 g/kg				
DVMET-07	1.5 g/kg				
DVLYS-07	3.9 g/kg				
SW	0.38 /kg				
VW	0.34 /kg				

Grass meal-CP < 140 g/kg 5010.610/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			122	48	-	39	48	-	-
LYS	3.9	0.6	4.7	48	2.3	40	1.9	47	2.2
MET	1.5	0.2	1.8	63	1.1	57	1.0	48	0.9
CYS	1.0	0.2	1.2	33	0.4	17	0.2	44	0.5
THR	4.1	0.4	5.0	48	2.4	37	1.8	45	2.2
TRP	1.4	0.1	1.7	48	0.8	40	0.7	45	0.8
ILE	3.8	0.3	4.6	48	2.2	40	1.9	46	2.1
ARG	4.1	0.5	5.0	48	2.4	41	2.0	44	2.2
PHE	4.3	0.6	5.3	48	2.5	42	2.2	45	2.4
HIS	1.9	0.3	2.3	48	1.1	40	0.9	45	1.1
LEU	6.9	0.5	8.4	48	4.0	43	3.6	45	3.8
TYR	2.7	0.3	3.3	48	1.6	40	1.3	45	1.5
VAL	5.2	0.6	6.4	48	3.0	40	2.6	46	2.9
ALA	6.4	0.8	7.8	48	3.7	42	3.3	47	3.7
ASP	9.1	1.1	11.1	48	5.3	41	4.6	45	5.0
GLU	10.0	1.0	12.2	47	5.8	38	4.7	46	5.6
GLY	4.6	0.5	5.6	48	2.7	33	1.8	47	2.6
PRO	4.6	0.6	5.6	47	2.7	29	1.7	46	2.6
SER	4.0	0.4	4.9	48	2.3	35	1.7	45	2.2
Sum AA	79.4		97	-	46	-	38	-	44

Fatty acids

	% FA	g/kg
CFAT(h)		25.0
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	2.0	0.3
C16:0	16.0	2.0
C16:1	2.0	0.3
C18:0	2.0	0.3
C18:1	3.0	0.4
C:18:2	13.0	1.6
C18:3	60.0	7.5
>=C20	-	0.0
Sum FA	98.2	12.3
% FA in CFAT-fraction		50

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Grass meal-CP < 140 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 75 g/kg DM.
2. The content of sugar may vary considerably, depending on conditions for growth and harvesting.
3. The botanical composition of this product class mostly differs from the other classes. therefore, for this class the values of VEM and VEVI are calculated differently from the other classes.

Grass meal-CP 140 - 160 g/kg 5010.610/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	928	123	151	32	32	212	410	410	
sd	16	21	7	6	-	21	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	13	-	106	414	245	-	507	93
sd	-	-	-	27	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.3	3.6	0.2	2.4	27.3	2.6	7.3	3.4	0.9
sd	1.0	0.4	-	0.3	4.4	1.0	4.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	799	88	36	9	2.1	0.0	0.7
sd	367	26	7	1	0.8	0.0	0.3

IP/P	5	SUGe/SUG	45	EB (meq/kg)	603
		CF_DI	0.96	CAD (meq/kg)	334

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	64		DCCP	43	DCCP	71	
DCCFAT	-		DCCFATh	36	DCCFAT	51	
DCCF	-		DCCF	57	DCNFE	15	
DCNFE	-		DCNFE	73	DCPpo	69	
DCOM	74		DCOM	62			
			DCNSPh	60			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	47	54	StaDCP	30	DCCP	DCCP	64
%DRUP	65	65	AppDCP	25	DCCFATh	DCOM	62
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	51	51			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	770 /kg	NE2015	5.47 MJ/kg	MEpo	3.36 MJ/kg	MErab	7.90 MJ/kg
VEVI	786 /kg	NE2015	1307 kcal/kg	MEpo	804 kcal/kg	MErab	1888 kcal/kg
FOM-91	493 g/kg	EW2015	0.62 /kg	MEla	3.44 MJ/kg		
FOMr-07	434 g/kg	StaDP	1.1 g/kg	MEla	822 kcal/kg		
FOMr2-07	175 g/kg	AppDP	0.9 g/kg	DPpo	2.7 g/kg		
FOMr2/FOMr	0.40 /kg						
DVE-91	77 g/kg			Broilers		Horses	
DVE-07	75 g/kg			MEbr	4.18 MJ/kg	NEm	5.67 MJ/kg
OEB-91	-1 g/kg			MEbr	999 kcal/kg	NEm	1354 kcal/kg
OEB-07	1 g/kg			DPpo	2.7 g/kg	EWpa	0.63 /kg
OEB2-07	8 g/kg					DCPho	89 g/kg
DVMET-91	1.6 g/kg						
DVLYS-91	4.4 g/kg						
DVMET-07	1.6 g/kg						
DVLYS-07	4.2 g/kg						
SW	0.37 /kg						
VW	0.33 /kg						

Grass meal-CP 140 - 160 g/kg 5010.610/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			151	48	-	41	62	-	-
LYS	3.9	0.6	5.9	48	2.8	42	2.4	47	2.8
MET	1.5	0.2	2.2	63	1.4	58	1.3	48	1.1
CYS	1.0	0.2	1.5	33	0.5	20	0.3	43	0.7
THR	4.1	0.4	6.2	48	2.9	39	2.4	45	2.8
TRP	1.4	0.1	2.1	48	1.0	42	0.9	44	0.9
ILE	3.8	0.3	5.7	48	2.7	42	2.4	46	2.6
ARG	4.1	0.5	6.2	48	3.0	42	2.6	44	2.7
PHE	4.3	0.6	6.6	48	3.1	43	2.8	45	3.0
HIS	1.9	0.3	2.9	48	1.4	42	1.2	45	1.3
LEU	6.9	0.5	10.4	48	5.0	44	4.6	45	4.7
TYR	2.7	0.3	4.1	48	1.9	41	1.7	45	1.8
VAL	5.2	0.6	7.9	48	3.8	42	3.3	46	3.6
ALA	6.4	0.8	9.7	48	4.6	43	4.2	47	4.5
ASP	9.1	1.1	13.8	48	6.6	42	5.8	45	6.2
GLU	10.0	1.0	15.1	47	7.1	40	6.1	46	6.9
GLY	4.6	0.5	6.9	48	3.3	36	2.5	47	3.3
PRO	4.6	0.6	7.0	47	3.3	33	2.3	46	3.2
SER	4.0	0.4	6.0	48	2.9	37	2.3	45	2.7
Sum AA	79.4		120	-	57	-	49	-	55

Fatty acids

	% FA	g/kg
CFAT(h)		32.4
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	2.0	0.3
C16:0	16.0	2.6
C16:1	2.0	0.3
C18:0	2.0	0.3
C18:1	3.0	0.5
C:18:2	13.0	2.1
C18:3	60.0	9.7
>=C20	-	0.0
Sum FA	98.2	15.9
% FA in CFAT-fraction		50

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Grass meal-CP 140 - 160 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 75 g/kg DM.
2. The content of sugar may vary considerably, depending on conditions for growth and harvesting.
3. In calculating the feeding value for ruminants the cutting date is assumed to be first of July (day 91).

Grass meal-CP 160 - 200 g/kg 5010.610/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	929	121	177	38	38	211	384	384	
sd	17	18	9	8	-	21	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	13	-	90	411	243	-	495	84
sd	-	-	-	31	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.3	3.8	0.2	2.6	29.1	2.6	7.3	3.4	1.0
sd	1.0	0.4	-	0.3	4.4	1.0	4.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	800	88	36	9	2.5	0.0	0.7
sd	368	26	7	1	1.3	0.0	0.3

IP/P	5	SUGe/SUG	45	EB (meq/kg)	650
		CF_DI	0.96	CAD (meq/kg)	371

Digestibility coefficients (%)

Ruminants

DCCP	68
DCCFAT	-
DCCF	-
DCNFE	-
DCOM	75

DVE	1991	2007
%RUP	44	52
%DRUP	75	75
%RUSTA	-	-
%DASH	35	35
DASHmax	50	50

Pigs

DCCP	50
DCCFATh	38
DCCF	57
DCNFE	72
DCOM	62
DCNSPh	60
DCiSTA	100
StaDCP	30
AppDCP	25

Roosters/Laying hens

DCCP	68
DCCFAT	43
DCNFE	35
DCPpo	75
DCCP	68
DCCFATh	28
DC(S+S)	100
DCNFEh	26
DCPpo	75

Rabbits

DCCP	79
DCCFAT	51
DCCF	20
DCNFE	74

Horses

DCCP	68
DCOM	62

Nutritional value (in product)

Ruminants

VEM	789 /kg
VEVI	806 /kg
FOM-91	488 g/kg
FOMr-07	436 g/kg
FOMr2-07	171 g/kg
FOMr2/FOMr	0.39 /kg
DVE-91	90 g/kg
DVE-07	91 g/kg
OEB-91	18 g/kg
OEB-07	17 g/kg
OEB2-07	19 g/kg
DVMET-91	1.8 g/kg
DVLYS-91	4.9 g/kg
DVMET-07	1.8 g/kg
DVLYS-07	4.8 g/kg
SW	0.39 /kg
VW	0.33 /kg

Pigs

NE2015	5.61 MJ/kg
NE2015	1340 kcal/kg
EW2015	0.64 /kg
StaDP	1.1 g/kg
AppDP	1.0 g/kg

Roosters/Laying hens

MEpo	4.50 MJ/kg
MEpo	1077 kcal/kg
MEla	4.60 MJ/kg
MEla	1099 kcal/kg
DPpo	2.9 g/kg

Broilers

MEbr	4.31 MJ/kg
MEbr	1031 kcal/kg
DPpo	2.9 g/kg

Rabbits

MErab	8.44 MJ/kg
MErab	2016 kcal/kg

Horses

NEm	5.76 MJ/kg
NEm	1378 kcal/kg
EWpa	0.65 /kg
DCPho	117 g/kg

Grass meal-CP 160 - 200 g/kg 5010.610/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			177	48	-	42	74	-	-
LYS	3.9	0.6	6.9	48	3.3	43	2.9	62	4.3
MET	1.5	0.2	2.6	63	1.6	59	1.5	62	1.6
CYS	1.0	0.2	1.8	33	0.6	22	0.4	57	1.0
THR	4.1	0.4	7.2	48	3.4	40	2.9	60	4.3
TRP	1.4	0.1	2.4	48	1.2	43	1.0	58	1.4
ILE	3.8	0.3	6.7	48	3.2	43	2.9	60	4.0
ARG	4.1	0.5	7.3	48	3.5	43	3.1	58	4.2
PHE	4.3	0.6	7.7	48	3.7	44	3.4	59	4.5
HIS	1.9	0.3	3.4	48	1.6	43	1.4	59	2.0
LEU	6.9	0.5	12.2	48	5.8	44	5.4	59	7.2
TYR	2.7	0.3	4.7	48	2.3	42	2.0	59	2.8
VAL	5.2	0.6	9.2	48	4.4	43	3.9	60	5.5
ALA	6.4	0.8	11.3	48	5.4	44	5.0	62	7.0
ASP	9.1	1.1	16.1	48	7.7	43	7.0	59	9.5
GLU	10.0	1.0	17.6	47	8.4	41	7.3	60	10.6
GLY	4.6	0.5	8.1	48	3.9	37	3.0	61	4.9
PRO	4.6	0.6	8.1	48	3.9	35	2.9	60	4.9
SER	4.0	0.4	7.0	48	3.3	39	2.7	59	4.1
Sum AA	79.4		140	-	67	-	59	-	84

Fatty acids

	% FA	g/kg
CFAT(h)		37.8
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	2.0	0.4
C16:0	16.0	3.0
C16:1	2.0	0.4
C18:0	2.0	0.4
C18:1	3.0	0.6
C:18:2	13.0	2.5
C18:3	60.0	11.3
>=C20	-	0.0
Sum FA	98.2	18.6
% FA in CFAT-fraction		50

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Grass meal-CP 160 - 200 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 75 g/kg DM.
2. The content of sugar may vary considerably, depending on conditions for growth and harvesting.
3. In calculating the feeding value for ruminants the cutting date is assumed to be first of July (day 91).

Grass meal-CP > 200 g/kg 5010.610/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	917	126	208	40	40	201	342	342	
sd	17	16	8	-	-	20	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	13	-	88	393	233	-	445	52
sd	-	-	-	34	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.3	3.9	0.2	2.5	31.5	2.5	7.2	3.4	1.2
sd	1.0	0.5	-	0.4	4.8	0.9	4.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	789	87	35	9	2.0	0.0	0.7
sd	363	26	7	1	-	0.0	0.3

IP/P	5	SUGe/SUG	45	EB (meq/kg)	713
		CF_DI	0.96	CAD (meq/kg)	425

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	71		DCCP	57	DCCP	82
DCCFAT	-		DCCFATh	39	DCCFAT	51
DCCF	-		DCCF	59	DCNFE	20
DCNFE	-		DCNFE	74	DCPpo	76
DCOM	76		DCOM	64		
			DCNSPh	62	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	71
%RUP	40	49	StaDCP	30	DCCFATh	28
%DRUP	80	80	AppDCP	25	DC(S+S)	100
%RUSTA	-	-			DCNFEh	28
%DASH	35	35			DCPpo	75
DASHmax	52	52				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	795 /kg	NE2015	5.77 MJ/kg	MErab	9.10 MJ/kg
VEVI	814 /kg	NE2015	1379 kcal/kg	MEpo	2174 kcal/kg
FOM-91	479 g/kg	EW2015	0.66 /kg	MEla	5.40 MJ/kg
FOMr-07	439 g/kg	StaDP	1.2 g/kg	MEla	1291 kcal/kg
FOMr2-07	181 g/kg	AppDP	1.0 g/kg	DPpo	2.9 g/kg
FOMr2/FOMr	0.41 /kg			Broilers	
DVE-91	99 g/kg			MEbr	4.72 MJ/kg
DVE-07	104 g/kg			MEbr	1128 kcal/kg
OEB-91	45 g/kg			DPpo	2.9 g/kg
OEB-07	39 g/kg			Horses	
OEB2-07	33 g/kg			NEm	5.82 MJ/kg
DVMET-91	2.0 g/kg			NEm	1392 kcal/kg
DVLYS-91	5.2 g/kg			EWpa	0.65 /kg
DVMET-07	2.0 g/kg			DCPho	142 g/kg
DVLYS-07	5.3 g/kg				
SW	0.38 /kg				
VW	0.32 /kg				

Grass meal-CP > 200 g/kg 5010.610/4/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			208	48	-	43	90	-	-
LYS	3.9	0.6	8.1	48	3.9	43	3.5	71	5.7
MET	1.5	0.2	3.0	63	1.9	60	1.8	72	2.2
CYS	1.0	0.2	2.1	33	0.7	24	0.5	66	1.4
THR	4.1	0.4	8.5	48	4.0	41	3.5	69	5.8
TRP	1.4	0.1	2.9	48	1.4	43	1.2	67	1.9
ILE	3.8	0.3	7.9	48	3.8	44	3.4	70	5.5
ARG	4.1	0.5	8.6	48	4.1	44	3.7	67	5.7
PHE	4.3	0.6	9.0	48	4.3	45	4.0	68	6.1
HIS	1.9	0.3	4.0	48	1.9	44	1.7	68	2.7
LEU	6.9	0.5	14.4	48	6.9	45	6.4	68	9.8
TYR	2.7	0.3	5.6	48	2.7	43	2.4	69	3.8
VAL	5.2	0.6	10.8	48	5.2	43	4.7	69	7.5
ALA	6.4	0.8	13.3	48	6.4	45	5.9	71	9.4
ASP	9.1	1.1	18.9	48	9.1	44	8.3	68	12.9
GLU	10.0	1.0	20.8	48	9.9	42	8.8	69	14.3
GLY	4.6	0.5	9.5	48	4.6	39	3.7	70	6.7
PRO	4.6	0.6	9.6	48	4.6	37	3.6	69	6.6
SER	4.0	0.4	8.3	48	3.9	40	3.4	68	5.6
Sum AA	79.4		165	-	79	-	71	-	114

Fatty acids

	% FA	g/kg
CFAT(h)		40.3
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	2.0	0.4
C16:0	16.0	3.2
C16:1	2.0	0.4
C18:0	2.0	0.4
C18:1	3.0	0.6
C:18:2	13.0	2.6
C18:3	60.0	12.1
>=C20	-	0.0
Sum FA	98.2	19.8
% FA in CFAT-fraction		50

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Grass meal-CP > 200 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 75 g/kg DM.
2. The content of sugar may vary considerably, depending on conditions for growth and harvesting.
3. In calculating the feeding value for ruminants the cutting date is assumed to be first of July (day 91).

grass seed 7009.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	863	47	107	11	-	104	594	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	445	427	-	13	-	-	-	258	258
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	63		DCCP	-	DCCP
DCCFAT	71		DCCFATh	-	DCCFAT
DCCF	16		DCCF	-	DCCF
DCNFE	68		DCNFE	-	DCNFE
DCOM	61		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	40	42	StaDCP	-	DCCP
%DRUP	75	75	AppDCP	-	DCOM
%RUSTA	13	12		DC(S+S)	
%DASH	50	50		DCNFEh	
DASHmax	30	30		DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	617 /kg	NE2015	MEpo	MErab
VEVI	600 /kg	NE2015	MEpo	MErab
FOM-91	387 g/kg	EW2015	MEla	
FOMr-07	538 g/kg	StaDP	MEla	
FOMr2-07	301 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.56 /kg			
DVE-91	47 g/kg		Broilers	Horses
DVE-07	72 g/kg		MEbr	NEm
OEB-91	2 g/kg		MEbr	NEm
OEB-07	-39 g/kg		DPpo	EWpa
OEB2-07	-34 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	0.07 /kg			
VW	0.27 /kg			

grass seed 7009.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			107	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		11.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Greaves meal-CP 580 - 725 g/kg 8007.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	-	-	-	-	-	-	-	-		
sd	-	-	-	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	1000	1000	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	-	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	-	DCCFATh	-	DCCFAT	-
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	-	DCOM	-		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	-
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits	
VEM	-	MEpo	MErab	-
VEVI	-	NE2015	MErab	-
FOM-91	-	NE2015		
FOMr-07	-	EW2015	MEIa	-
FOMr2-07	-	StaDP	MEIa	-
FOMr2/FOMr	-	AppDP	DPpo	-
DVE-91	-			
DVE-07	-	Broilers	Horses	
OEB-91	-	MEbr	NEm	-
OEB-07	-	MEbr	NEm	-
OEB2-07	-	DPpo	EWpa	-
DVMET-91	-		DCPho	-
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Greaves meal-CP 580 - 725 g/kg 8007.000/1/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg				
CP			-	-	-	-	-	-	-	
LYS	-	-	-	-	-	-	-	-	-	
MET	-	-	-	-	-	-	-	-	-	
CYS	-	-	-	-	-	-	-	-	-	
THR	-	-	-	-	-	-	-	-	-	
TRP	-	-	-	-	-	-	-	-	-	
ILE	-	-	-	-	-	-	-	-	-	
ARG	-	-	-	-	-	-	-	-	-	
PHE	-	-	-	-	-	-	-	-	-	
HIS	-	-	-	-	-	-	-	-	-	
LEU	-	-	-	-	-	-	-	-	-	
TYR	-	-	-	-	-	-	-	-	-	
VAL	-	-	-	-	-	-	-	-	-	
ALA	-	-	-	-	-	-	-	-	-	
ASP	-	-	-	-	-	-	-	-	-	
GLU	-	-	-	-	-	-	-	-	-	
GLY	-	-	-	-	-	-	-	-	-	
PRO	-	-	-	-	-	-	-	-	-	
SER	-	-	-	-	-	-	-	-	-	
Sum AA	-	-	-	-	-	-	-	-	-	

Fatty acids			Fermentation products	
	% FA	g/kg	g/kg	sdc
CFAT(h)		0.0	FP	-
<=C10	-	-	LA	-
C12:0	-	-	AC	-
C14:0	-	-	ETH	-
C16:0	-	-	PR	-
C16:1	-	-	BU	-
C18:0	-	-	Glycerol	-
C18:1	-	-		
C:18:2	-	-		
C18:3	-	-		
>=C20	-	-		
Sum FA	-	-		
% FA in CFAT-fraction		-		

Remarks

Greaves meal-CP 580 - 725 g/kg:

1. Processing this product in feeds for livestock animals is prohibited in the EU.

Greaves meal-CP > 725 g/kg 8007.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	964	48	817	127	138	-	-29	-40		
sd	9	8	20	12	23	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	-40	-40	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	6.3	6.8	-	0.6	7.0	6.7	6.1	-	4.0
sd	3.2	1.6	-	0.2	0.5	0.6	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	7	-	-	-
sd	-	-	-	1	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	301
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 88	DCCP -	DCCP -
DCCFAT	-	DCCFATh 87	DCCFAT -	DCCFAT -
DCCF	-	DCCF -	DCNFE -	DCCF -
DCNFE	-	DCNFE 88	DCPpo -	DCNFE -
DCOM	-	DCOM 88		
		DCNSPh -	Broilers	Horses
DVE	1991	2007	DCCP -	DCCP -
%RUP	-	-	DCCFATh -	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo -	
DASHmax	-	-		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 12.34 MJ/kg	MEpo -	MErab -
VEVI	-	NE2015 2950 kcal/kg	MEpo -	MErab -
FOM-91	-	EW2015 1.40 /kg	MEla -	
FOMr-07	-	StaDP 5.4 g/kg	MEla -	
FOMr2-07	-	AppDP 5.2 g/kg	DPpo -	
FOMr2/FOMr	-			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr -	NEm -
OEB-91	-		MEbr -	NEm -
OEB-07	-		DPpo -	EWpa -
OEB2-07	-			DCPho -
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Greaves meal-CP > 725 g/kg 8007.000/2/0

Amino acids	Ileal digestible				Standardized ileal digestible	
	g/16g N			AA pigs		AA poultry
	mean	sdc	g/kg	standardized DC	apparent g/kg	DC g/kg
CP			817	-	-	-
LYS	5.0	0.4	40.9	-	-	-
MET	1.4	0.2	11.7	-	-	-
CYS	0.7	0.1	5.6	-	-	-
THR	3.0	-	24.5	-	-	-
TRP	0.7	-	5.7	-	-	-
ILE	2.7	-	22.1	-	-	-
ARG	6.9	-	56.4	-	-	-
PHE	3.3	-	27.0	-	-	-
HIS	1.7	-	13.9	-	-	-
LEU	5.7	-	46.6	-	-	-
TYR	2.1	-	17.2	-	-	-
VAL	4.4	-	36.0	-	-	-
ALA	7.9	-	64.5	-	-	-
ASP	7.3	-	59.6	-	-	-
GLU	11.3	-	92.3	-	-	-
GLY	14.2	-	116.0	-	-	-
PRO	8.9	-	72.7	-	-	-
SER	3.8	-	31.0	-	-	-
Sum AA	91.0		744	-	-	-

Fatty acids			Fermentation products	
	% FA	g/kg	g/kg	sdc
CFAT(h)		138.1	FP	-
<=C10	0.1	-	LA	-
C12:0	0.2	-	AC	-
C14:0	2.5	-	ETH	-
C16:0	25.0	-	PR	-
C16:1	3.0	-	BU	-
C18:0	17.0	-	Glycerol	-
C18:1	40.5	-		
C:18:2	6.5	-		
C18:3	1.0	-		
>=C20	0.5	-		
Sum FA	96.3	-		
% FA in CFAT-fraction		-		

Remarks

Greaves meal-CP > 725 g/kg:

1. Processing this product in feeds for livestock animals is prohibited in the EU.

Groundnut expeller-dehulled, CF < 75 g/kg 2013.401/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	932	64	476	81	94	61	250	237	
sd	19	12	-	9	-	10	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	62	-	93	130	-	-	160	30
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	4.8	3.1	3.1	9.9	0.2	0.4	0.4	3.0
sd	0.9	1.1	-	0.4	2.9	-	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	58	-	-	-	-
sd	-	-	12	-	-	-	-

IP/P	65	SUGe/SUG	90	EB (meq/kg)	251
		CF_DI	0.96	CAD (meq/kg)	40

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	91		DCCP	86	DCCP	82	
DCCFAT	97		DCCFATh	85	DCCFAT	79	
DCCF	53		DCCF	56	DCNFE	20	
DCNFE	84		DCNFE	92	DCPpo	83	
DCOM	87		DCOM	85			
			DCNSPh	70			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	27	28	StaDCP	25	DCCP	DCCP	92
%DRUP	97	97	AppDCP	21	DCCFATh	DCOM	87
%RUSTA	10	9			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	28	28			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1176 /kg	NE2015	10.67 MJ/kg	MEpo	12.10 MJ/kg	MErab	13.60 MJ/kg
VEVI	1267 /kg	NE2015	2550 kcal/kg	MEpo	2892 kcal/kg	MErab	3249 kcal/kg
FOM-91	539 g/kg	EW2015	1.21 /kg	MEla	12.51 MJ/kg		
FOMr-07	570 g/kg	StaDP	1.2 g/kg	MEla	2991 kcal/kg		
FOMr2-07	301 g/kg	AppDP	1.0 g/kg	DPpo	1.8 g/kg		
FOMr2/FOMr	0.53 /kg						
DVE-91	178 g/kg			Broilers		Horses	
DVE-07	171 g/kg			MEbr	11.55 MJ/kg	NEm	9.46 MJ/kg
OEB-91	253 g/kg			MEbr	2760 kcal/kg	NEm	2261 kcal/kg
OEB-07	260 g/kg			DPpo	1.8 g/kg	EWpa	1.06 /kg
OEB2-07	108 g/kg					DCPho	438 g/kg
DVMET-91	2.8 g/kg						
DVLYS-91	7.9 g/kg						
DVMET-07	2.8 g/kg						
DVLYS-07	7.7 g/kg						
SW	0.21 /kg						
VW	0.27 /kg						

Groundnut expeller-dehulled, CF < 75 g/kg 2013.401/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			476	85	-	83	394	-	-
LYS	3.3	0.3	15.7	81	12.7	78	12.3	82	12.9
MET	1.2	0.2	5.7	85	4.9	83	4.8	90	5.1
CYS	1.4	0.2	6.7	78	5.2	75	5.0	76	5.1
THR	2.6	0.1	12.4	83	10.3	79	9.7	81	10.0
TRP	1.0	0.1	4.8	86	4.1	83	4.0	88	4.2
ILE	3.3	0.2	15.7	88	13.8	86	13.5	89	14.0
ARG	10.9	0.6	51.9	94	48.7	93	48.3	90	46.7
PHE	4.9	0.2	23.3	92	21.4	91	21.1	92	21.5
HIS	2.3	0.1	11.0	83	9.1	81	8.9	84	9.2
LEU	6.3	0.2	30.0	87	26.2	86	25.7	88	26.4
TYR	3.7	0.3	17.6	91	16.0	89	15.8	91	16.0
VAL	4.0	0.2	19.1	87	16.6	85	16.2	89	17.0
ALA	3.9	0.1	18.6	84	15.6	81	15.1	87	16.2
ASP	11.3	0.3	53.8	87	46.8	86	46.1	88	47.4
GLU	18.5	0.7	88.1	89	78.3	88	77.2	90	79.3
GLY	5.5	0.3	26.2	76	19.9	73	19.1	77	20.2
PRO	4.3	0.3	20.5	92	18.8	87	17.8	86	17.6
SER	4.7	0.2	22.4	86	19.2	83	18.6	85	19.0
Sum AA	93.1		444	-	388	-	379	-	388

Fatty acids

	% FA	g/kg
CFAT(h)		81.4
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	10.0	6.1
C16:1	1.0	0.6
C18:0	3.0	1.8
C18:1	47.5	29.0
C:18:2	30.0	18.3
C18:3	1.0	0.6
>=C20	7.0	4.3
Sum FA	99.5	60.8
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Groundnut expeller-partly dehulled, CF 75 - 145 g/kg 2013.401/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	920	51	423	87	99	95	264	252	
sd	16	9	-	-	-	14	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	61	-	92	151	-	-	210	59
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.2	4.7	3.1	3.0	9.8	0.2	0.4	0.4	2.7
sd	0.9	1.1	-	0.4	2.9	-	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	57	-	-	-	-
sd	-	-	12	-	-	-	-

IP/P	65	SUGe/SUG	90	EB (meq/kg)	248
		CF_DI	0.96	CAD (meq/kg)	58

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	90		DCCP	85	DCCP	82	
DCCFAT	97		DCCFATh	83	DCCFAT	79	
DCCF	39		DCCF	53	DCNFE	20	
DCNFE	84		DCNFE	77	DCPpo	83	
DCOM	84		DCOM	79			
			DCNSPh	47			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	27	28	StaDCP	25	DCCP	DCCP	92
%DRUP	97	97	AppDCP	21	DCCFATh	DCOM	84
%RUSTA	10	9			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	23	23			DCPpo	38	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1139 /kg	NE2015	10.06 MJ/kg	MEpo	11.24 MJ/kg	MErab	13.26 MJ/kg
VEVI	1220 /kg	NE2015	2405 kcal/kg	MEpo	2687 kcal/kg	MErab	3169 kcal/kg
FOM-91	519 g/kg	EW2015	1.14 /kg	MEla	11.69 MJ/kg		
FOMr-07	535 g/kg	StaDP	1.2 g/kg	MEla	2793 kcal/kg		
FOMr2-07	284 g/kg	AppDP	1.0 g/kg	DPpo	1.8 g/kg		
FOMr2/FOMr	0.53 /kg						
DVE-91	159 g/kg			Broilers		Horses	
DVE-07	152 g/kg			MEbr	-	NEm	9.17 MJ/kg
OEB-91	219 g/kg			MEbr	-	NEm	2191 kcal/kg
OEB-07	226 g/kg			DPpo	1.8 g/kg	EWpa	1.03 /kg
OEB2-07	93 g/kg					DCPho	389 g/kg
DVMET-91	2.6 g/kg						
DVLYS-91	7.1 g/kg						
DVMET-07	2.5 g/kg						
DVLYS-07	6.9 g/kg						
SW	0.24 /kg						
VW	0.28 /kg						

Groundnut expeller-partly dehulled, CF 75 - 145 g/kg 2013.401/2/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			423	85	-	83	349	-	-
LYS	3.3	0.3	14.0	81	11.3	78	10.9	82	11.5
MET	1.2	0.2	5.1	85	4.3	83	4.2	90	4.6
CYS	1.4	0.2	5.9	78	4.6	75	4.4	76	4.5
THR	2.6	0.1	11.0	83	9.1	78	8.6	81	8.9
TRP	1.0	0.1	4.2	86	3.6	83	3.5	88	3.7
ILE	3.3	0.2	14.0	88	12.3	85	11.9	89	12.4
ARG	10.9	0.6	46.1	94	43.3	93	42.9	90	41.5
PHE	4.9	0.2	20.7	92	19.0	90	18.7	92	19.1
HIS	2.3	0.1	9.7	83	8.1	81	7.9	84	8.2
LEU	6.3	0.2	26.7	87	23.2	86	22.8	88	23.5
TYR	3.7	0.3	15.7	91	14.2	89	14.0	91	14.2
VAL	4.0	0.2	16.9	87	14.8	84	14.3	89	15.1
ALA	3.9	0.1	16.5	84	13.9	81	13.4	87	14.4
ASP	11.3	0.3	47.8	87	41.6	85	40.8	88	42.1
GLU	18.5	0.7	78.3	89	69.6	88	68.5	90	70.5
GLY	5.5	0.3	23.3	76	17.7	72	16.8	77	17.9
PRO	4.3	0.3	18.2	92	16.7	86	15.7	86	15.6
SER	4.7	0.2	19.9	86	17.1	83	16.5	85	16.9
Sum AA	93.1		394	-	344	-	336	-	345

Fatty acids

	% FA	g/kg
CFAT(h)		87.4
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	10.0	6.6
C16:1	1.0	0.7
C18:0	3.0	2.0
C18:1	47.5	31.1
C:18:2	30.0	19.7
C18:3	1.0	0.7
>=C20	7.0	4.6
Sum FA	99.5	65.2
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Groundnut expeller-non-dehulled, CF > 145 g/kg 2013.401/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	933	41	346	97	109	157	292	280	
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	62	-	93	268	-	-	298	30
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	4.8	3.1	3.1	9.9	0.2	0.4	0.4	2.2
sd	0.9	1.1	-	0.4	2.9	-	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	58	-	-	-	-
sd	-	-	12	-	-	-	-

IP/P	65	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.96	CAD (meq/kg)	91

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	89		DCCP	83	DCCP	-
DCCFAT	98		DCCFATh	91	DCCFAT	-
DCCF	29		DCCF	28	DCCF	-
DCNFE	84		DCNFE	38	DCNFE	-
DCOM	78		DCOM			
			DCNSPh			
DVE	1991	2007	DCiSTA		Horses	
%RUP	27	28	StaDCP		DCCP	91
%DRUP	97	97	AppDCP		DCCFATh	76
%RUSTA	10	9			DC(S+S)	
%DASH	35	35			DCNFEh	
DASHmax	19	19			DCPpo	38

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1096 /kg	NE2015	MEpo	MErab
VEVI	1159 /kg	NE2015	MEpo	MErab
FOM-91	497 g/kg	EW2015	MEla	
FOMr-07	482 g/kg	StaDP	MEla	
FOMr2-07	260 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.54 /kg			
DVE-91	131 g/kg		Broilers	Horses
DVE-07	124 g/kg		MEbr	NEm
OEB-91	168 g/kg		MEbr	NEm
OEB-07	176 g/kg		DPpo	EWpa
OEB2-07	71 g/kg			DCPho
DVMET-91	2.2 g/kg			
DVLYS-91	6.0 g/kg			
DVMET-07	2.1 g/kg			
DVLYS-07	5.7 g/kg			
SW	0.30 /kg			
VW	0.31 /kg			

Groundnut expeller-non-dehulled, CF > 145 g/kg 2013.401/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			346	-	-	-	-	-	-
LYS	3.3	0.3	11.4	-	-	-	-	-	-
MET	1.2	0.2	4.2	-	-	-	-	-	-
CYS	1.4	0.2	4.8	-	-	-	-	-	-
THR	2.6	0.1	9.0	-	-	-	-	-	-
TRP	1.0	0.1	3.5	-	-	-	-	-	-
ILE	3.3	0.2	11.4	-	-	-	-	-	-
ARG	10.9	0.6	37.7	-	-	-	-	-	-
PHE	4.9	0.2	17.0	-	-	-	-	-	-
HIS	2.3	0.1	8.0	-	-	-	-	-	-
LEU	6.3	0.2	21.8	-	-	-	-	-	-
TYR	3.7	0.3	12.8	-	-	-	-	-	-
VAL	4.0	0.2	13.8	-	-	-	-	-	-
ALA	3.9	0.1	13.5	-	-	-	-	-	-
ASP	11.3	0.3	39.1	-	-	-	-	-	-
GLU	18.5	0.7	64.0	-	-	-	-	-	-
GLY	5.5	0.3	19.0	-	-	-	-	-	-
PRO	4.3	0.3	14.9	-	-	-	-	-	-
SER	4.7	0.2	16.3	-	-	-	-	-	-
Sum AA	93.1		322	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		97.0
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	10.0	7.3
C16:1	1.0	0.7
C18:0	3.0	2.2
C18:1	47.5	34.6
C:18:2	30.0	21.8
C18:3	1.0	0.7
>=C20	7.0	5.1
Sum FA	99.5	72.4
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Groundnut meal-dehulled, CF < 75 g/kg 2013.407/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	913	60	456	12	24	64	321	309	
sd	4	5	9	4	-	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	80	60	-	75	139	-	-	253	114
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	6.4	4.2	3.5	12.5	0.2	0.2	0.4	2.9
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	52	51	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	90	EB (meq/kg)	324
		CF_DI	0.96	CAD (meq/kg)	121

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	91		DCCP	86	DCCP	82
DCCFAT	80		DCCFATh	71	DCCFAT	69
DCCF	53		DCCF	56	DCNFE	20
DCNFE	84		DCNFE	84	DCPpo	83
DCOM	85		DCOM	83		
			DCNSPh	68	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	91
%RUP	27	28	StaDCP	25	DCCFATh	83
%DRUP	97	97	AppDCP	22	DC(S+S)	
%RUSTA	10	9			DCNFEh	
%DASH	35	35			DCPpo	
DASHmax	26	26				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	981 /kg	NE2015	8.57 MJ/kg	MEpo	10.00 MJ/kg	MErab	12.18 MJ/kg
VEVI	1034 /kg	NE2015	2047 kcal/kg	MEpo	2390 kcal/kg	MErab	2910 kcal/kg
FOM-91	588 g/kg	EW2015	0.97 /kg	MEla	10.04 MJ/kg		
FOMr-07	588 g/kg	StaDP	1.6 g/kg	MEla	2400 kcal/kg		
FOMr2-07	288 g/kg	AppDP	1.4 g/kg	DPpo	2.4 g/kg		
FOMr2/FOMr	0.49 /kg						
DVE-91	176 g/kg			Broilers		Horses	
DVE-07	167 g/kg			MEbr	8.59 MJ/kg	NEm	7.99 MJ/kg
OEB-91	232 g/kg			MEbr	2054 kcal/kg	NEm	1910 kcal/kg
OEB-07	241 g/kg			DPpo	2.4 g/kg	EWpa	0.89 /kg
OEB2-07	104 g/kg					DCPho	415 g/kg
DVMET-91	2.9 g/kg						
DVLYS-91	8.0 g/kg						
DVMET-07	2.8 g/kg						
DVLYS-07	7.7 g/kg						
SW	0.23 /kg						
VW	0.26 /kg						

Groundnut meal-dehulled, CF < 75 g/kg 2013.407/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			456	85	-	83	377	-	-
LYS	3.3	0.3	15.1	81	12.1	78	11.8	82	12.3
MET	1.2	0.2	5.5	85	4.7	83	4.6	90	4.9
CYS	1.4	0.2	6.4	78	5.0	75	4.8	76	4.9
THR	2.6	0.1	11.9	83	9.9	79	9.3	81	9.6
TRP	1.0	0.1	4.6	86	3.9	83	3.8	88	4.0
ILE	3.3	0.2	15.1	88	13.2	86	12.9	89	13.4
ARG	10.9	0.6	49.7	94	46.6	93	46.3	90	44.8
PHE	4.9	0.2	22.4	92	20.5	91	20.2	92	20.6
HIS	2.3	0.1	10.5	83	8.7	81	8.5	84	8.8
LEU	6.3	0.2	28.7	87	25.0	86	24.6	88	25.3
TYR	3.7	0.3	16.9	91	15.4	89	15.1	91	15.4
VAL	4.0	0.2	18.2	87	15.9	85	15.5	89	16.2
ALA	3.9	0.1	17.8	84	14.9	81	14.5	87	15.5
ASP	11.3	0.3	51.6	87	44.8	86	44.1	88	45.4
GLU	18.5	0.7	84.4	89	75.0	88	74.0	90	76.0
GLY	5.5	0.3	25.1	76	19.1	73	18.2	77	19.3
PRO	4.3	0.3	19.6	92	18.0	87	17.0	86	16.9
SER	4.7	0.2	21.4	86	18.4	83	17.8	85	18.2
Sum AA	93.1		425	-	371	-	363	-	371

Fatty acids

	% FA	g/kg
CFAT(h)		11.6
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	10.0	0.8
C16:1	1.0	0.1
C18:0	3.0	0.2
C18:1	47.5	3.6
C:18:2	30.0	2.3
C18:3	1.0	0.1
>=C20	7.0	0.5
Sum FA	99.5	7.5
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Groundnut meal-partly dehulled, CF 75 - 145 g/kg 2013.407/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	926	56	529	9	21	116	216	203	
sd	48	9	21	3	-	17	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	81	61	-	76	190	-	-	198	8
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	6.5	4.2	3.5	12.7	0.2	0.2	0.4	3.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	52	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	90	EB (meq/kg)	328
		CF_DI	0.96	CAD (meq/kg)	97

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	92		DCCP	85	DCCP	82	
DCCFAT	75		DCCFATh	58	DCCFAT	69	
DCCF	36		DCCF	50	DCNFE	20	
DCNFE	84		DCNFE	73	DCPpo	83	
DCOM	82		DCOM	77			
			DCNSPh	39			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	27	28	StaDCP	25	DCCP	DCCP	91
%DRUP	97	97	AppDCP	22	DCCFATh	DCOM	79
%RUSTA	10	9			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	25	25			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	950 /kg	NE2015	8.21 MJ/kg	MEpo	8.78 MJ/kg	MErab	11.91 MJ/kg
VEVI	980 /kg	NE2015	1963 kcal/kg	MEpo	2098 kcal/kg	MErab	2847 kcal/kg
FOM-91	557 g/kg	EW2015	0.93 /kg	MEla	8.78 MJ/kg		
FOMr-07	582 g/kg	StaDP	1.6 g/kg	MEla	2098 kcal/kg		
FOMr2-07	299 g/kg	AppDP	1.4 g/kg	DPpo	2.5 g/kg		
FOMr2/FOMr	0.51 /kg						
DVE-91	192 g/kg			Broilers		Horses	
DVE-07	183 g/kg			MEbr	-	NEm	7.69 MJ/kg
OEB-91	287 g/kg			MEbr	-	NEm	1837 kcal/kg
OEB-07	297 g/kg			DPpo	2.5 g/kg	EWpa	0.86 /kg
OEB2-07	126 g/kg					DCPho	481 g/kg
DVMET-91	3.0 g/kg						
DVLYS-91	8.3 g/kg						
DVMET-07	2.9 g/kg						
DVLYS-07	8.0 g/kg						
SW	0.28 /kg						
VW	0.29 /kg						

Groundnut meal-partly dehulled, CF 75 - 145 g/kg 2013.407/2/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			529	85	-	83	439	-	-
LYS	3.3	0.3	17.4	81	14.1	79	13.7	82	14.3
MET	1.2	0.2	6.3	85	5.4	83	5.3	90	5.7
CYS	1.4	0.2	7.4	78	5.8	75	5.6	76	5.6
THR	2.6	0.1	13.7	83	11.4	79	10.9	81	11.1
TRP	1.0	0.1	5.3	86	4.5	83	4.4	88	4.7
ILE	3.3	0.2	17.4	88	15.3	86	15.0	89	15.5
ARG	10.9	0.6	57.6	94	54.0	93	53.7	90	51.9
PHE	4.9	0.2	25.9	92	23.8	91	23.5	92	23.8
HIS	2.3	0.1	12.2	83	10.1	81	9.9	84	10.2
LEU	6.3	0.2	33.3	87	29.0	86	28.6	88	29.3
TYR	3.7	0.3	19.6	91	17.8	90	17.5	91	17.8
VAL	4.0	0.2	21.1	87	18.5	85	18.0	89	18.8
ALA	3.9	0.1	20.6	84	17.3	82	16.9	87	17.9
ASP	11.3	0.3	59.7	87	51.9	86	51.2	88	52.6
GLU	18.5	0.7	97.8	89	86.9	88	85.8	90	88.0
GLY	5.5	0.3	29.1	76	22.1	73	21.2	77	22.4
PRO	4.3	0.3	22.7	92	20.9	87	19.9	86	19.5
SER	4.7	0.2	24.8	86	21.3	83	20.7	85	21.1
Sum AA	93.1		492	-	430	-	422	-	430

Fatty acids

	% FA	g/kg
CFAT(h)		9.1
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	10.0	0.6
C16:1	1.0	0.1
C18:0	3.0	0.2
C18:1	47.5	2.8
C:18:2	30.0	1.8
C18:3	1.0	0.1
>=C20	7.0	0.4
Sum FA	99.5	5.9
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Groundnut meal-non-dehulled, CF > 145 g/kg 2013.407/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	911	55	471	10	-	155	220	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	60	-	75	265	-	-	304	39
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	6.4	-	3.5	12.5	0.2	0.2	-	3.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	51	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	323
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP	-	DCCP
DCCFAT	-	DCCFATh	-	DCCFAT
DCCF	-	DCCF	-	DCCF
DCNFE	-	DCNFE	-	DCNFE
DCOM	-	DCOM	-	
		DCNSPh		
DVE	1991	2007	Broilers	Horses
%RUP	-	-	DCCP	DCCP
%DRUP	-	-	DCCFATh	DCOM
%RUSTA	-	-	DC(S+S)	
%DASH	-	-	DCNFEh	
DASHmax	-	-	DCPpo	

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	NE2015	MEpo	MErab
VEVI	NE2015	MEpo	MErab
FOM-91	EW2015	MEla	
FOMr-07	StaDP	MEla	
FOMr2-07	AppDP	DPpo	
FOMr2/FOMr			
DVE-91		Broilers	Horses
DVE-07		MEbr	NEm
OEB-91		MEbr	NEm
OEB-07		DPpo	EWpa
OEB2-07			DCPho
DVMET-91			
DVLYS-91			
DVMET-07			
DVLYS-07			
SW			
VW			

Groundnut meal-non-dehulled, CF > 145 g/kg 2013.407/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			471	-	-	-	-	-	-
LYS	3.3	0.3	15.5	-	-	-	-	-	-
MET	1.2	0.2	5.7	-	-	-	-	-	-
CYS	1.4	0.2	6.6	-	-	-	-	-	-
THR	2.6	0.1	12.2	-	-	-	-	-	-
TRP	1.0	0.1	4.7	-	-	-	-	-	-
ILE	3.3	0.2	15.5	-	-	-	-	-	-
ARG	10.9	0.6	51.3	-	-	-	-	-	-
PHE	4.9	0.2	23.1	-	-	-	-	-	-
HIS	2.3	0.1	10.8	-	-	-	-	-	-
LEU	6.3	0.2	29.7	-	-	-	-	-	-
TYR	3.7	0.3	17.4	-	-	-	-	-	-
VAL	4.0	0.2	18.8	-	-	-	-	-	-
ALA	3.9	0.1	18.4	-	-	-	-	-	-
ASP	11.3	0.3	53.2	-	-	-	-	-	-
GLU	18.5	0.7	87.1	-	-	-	-	-	-
GLY	5.5	0.3	25.9	-	-	-	-	-	-
PRO	4.3	0.3	20.3	-	-	-	-	-	-
SER	4.7	0.2	22.1	-	-	-	-	-	-
Sum AA	93.1		438	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		10.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Groundnuts (peanuts)-dehulled, CF < 85 g/kg 2013.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	932	22	287	490	-	23	109	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	62	-	30	31	-	-	42	11
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	4.4	2.8	1.7	5.4	-	0.2	-	1.8
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	87		DCCP	-	DCCP	-
DCCFAT	100		DCCFATh	-	DCCFAT	-
DCCF	68		DCCF	-	DCNFE	82
DCNFE	84		DCNFE	-	DCPpo	38
DCOM	93		DCOM	-		
			DCNSPh	-		
			DCiSTA	-	Broilers	Horses
DVE	1991	2007	StaDCP	-	DCCP	-
%RUP	27	28	AppDCP	-	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	10	9			DCNFEh	-
%DASH	65	65			DCPpo	38
DASHmax	22	22				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	2279 /kg	NE2015	-	MEpo	23.48 MJ/kg	
VEVI	2649 /kg	NE2015	-	MEpo	5612 kcal/kg	
FOM-91	272 g/kg	EW2015	-	MEla	26.17 MJ/kg	
FOMr-07	313 g/kg	StaDP	-	MEla	6254 kcal/kg	
FOMr2-07	169 g/kg	AppDP	-	DPpo	1.7 g/kg	
FOMr2/FOMr	0.54 /kg					
DVE-91	89 g/kg			Broilers	Horses	
DVE-07	88 g/kg			MEbr	-	
OEB-91	160 g/kg			MEbr	-	
OEB-07	162 g/kg			DPpo	1.7 g/kg	
OEB2-07	67 g/kg				EWpa	-
DVMET-91	1.4 g/kg				DCPho	-
DVLYS-91	4.0 g/kg					
DVMET-07	1.4 g/kg					
DVLYS-07	4.0 g/kg					
SW	0.24 /kg					
VW	0.27 /kg					

Groundnuts (peanuts)-dehulled, CF < 85 g/kg 2013.000/1/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg				
CP			287	-	-	-	-	-	-	
LYS	3.3	0.3	9.5	-	-	-	-	83	7.9	
MET	1.2	0.2	3.4	-	-	-	-	84	2.9	
CYS	1.4	0.2	4.0	-	-	-	-	73	2.9	
THR	2.6	0.1	7.5	-	-	-	-	79	5.9	
TRP	1.0	0.1	2.9	-	-	-	-	87	2.5	
ILE	3.3	0.2	9.5	-	-	-	-	87	8.2	
ARG	10.9	0.6	31.3	-	-	-	-	92	28.8	
PHE	4.9	0.2	14.1	-	-	-	-	93	13.1	
HIS	2.3	0.1	6.6	-	-	-	-	83	5.5	
LEU	6.3	0.2	18.1	-	-	-	-	87	15.7	
TYR	3.7	0.3	10.6	-	-	-	-	91	9.7	
VAL	4.0	0.2	11.5	-	-	-	-	84	9.6	
ALA	3.9	0.1	11.2	-	-	-	-	85	9.5	
ASP	11.3	0.3	32.4	-	-	-	-	88	28.5	
GLU	18.5	0.7	53.1	-	-	-	-	89	47.3	
GLY	5.5	0.3	15.8	-	-	-	-	80	12.6	
PRO	4.3	0.3	12.3	-	-	-	-	83	10.2	
SER	4.7	0.2	13.5	-	-	-	-	84	11.3	
Sum AA	93.1		267	-	-	-	-	-	232	

Fatty acids	g/kg		Fermentation products	
	% FA	g/kg	g/kg	sdc
CFAT(h)		490.2	FP	-
<=C10	-	0.0	LA	-
C12:0	-	0.0	AC	-
C14:0	-	0.0	ETH	-
C16:0	10.0	46.6	PR	-
C16:1	1.0	4.7	BU	-
C18:0	3.0	14.0	Glycerol	-
C18:1	47.5	221.2		
C:18:2	30.0	139.7		
C18:3	1.0	4.7		
>=C20	7.0	32.6		
Sum FA	99.5	463.4		
% FA in CFAT-fraction		95		

Groundnuts (peanuts)-non-dehulled, CF > 85 g/kg 2013.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	942	28	245	353	-	174	141	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	62	-	30	264	-	-	224	-39
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.5	4.2	2.8	2.8	13.0	2.2	0.5	0.4	1.5
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	-	EB (meq/kg)	414
		CF_DI	0.96	CAD (meq/kg)	294

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	85		DCCP	-	DCCP
DCCFAT	99		DCCFATh	-	DCCFAT
DCCF	23		DCCF	-	DCCF
DCNFE	84		DCNFE	-	DCNFE
DCOM	79		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	27	28	StaDCP	-	DCCP
%DRUP	80	80	AppDCP	-	DCOM
%RUSTA	-	9		DC(S+S)	
%DASH	65	65		DCNFEh	
DASHmax	26	26		DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1718 /kg	NE2015	MEpo	MErab
VEVI	1920 /kg	NE2015	MEpo	MErab
FOM-91	301 g/kg	EW2015	MEla	
FOMr-07	324 g/kg	StaDP	MEla	
FOMr2-07	163 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.50 /kg			
DVE-91	72 g/kg		Broilers	Horses
DVE-07	71 g/kg		MEbr	NEm
OEB-91	127 g/kg		MEbr	NEm
OEB-07	127 g/kg		DPpo	EWpa
OEB2-07	54 g/kg			DCPho
DVMET-91	1.2 g/kg			
DVLYS-91	3.3 g/kg			
DVMET-07	1.2 g/kg			
DVLYS-07	3.3 g/kg			
SW	0.39 /kg			
VW	0.32 /kg			

Groundnuts (peanuts)-non-dehulled, CF > 85 g/kg 2013.000/2/0

Amino acids	Ileal digestible				Standardized ileal digestible		
	g/16g N		g/kg	AA pigs		AA poultry	
	mean	sdc		standardized	apparent	DC	
			DC	g/kg	DC	g/kg	
CP			245	-	-	-	-
LYS	3.3	0.3	8.1	-	-	-	-
MET	1.2	0.2	2.9	-	-	-	-
CYS	1.4	0.2	3.4	-	-	-	-
THR	2.6	0.1	6.4	-	-	-	-
TRP	1.0	0.1	2.4	-	-	-	-
ILE	3.3	0.2	8.1	-	-	-	-
ARG	10.9	0.6	26.7	-	-	-	-
PHE	4.9	0.2	12.0	-	-	-	-
HIS	2.3	0.1	5.6	-	-	-	-
LEU	6.3	0.2	15.4	-	-	-	-
TYR	3.7	0.3	9.1	-	-	-	-
VAL	4.0	0.2	9.8	-	-	-	-
ALA	3.9	0.1	9.6	-	-	-	-
ASP	11.3	0.3	27.7	-	-	-	-
GLU	18.5	0.7	45.3	-	-	-	-
GLY	5.5	0.3	13.5	-	-	-	-
PRO	4.3	0.3	10.5	-	-	-	-
SER	4.7	0.2	11.5	-	-	-	-
Sum AA	93.1		228	-	-	-	-

Fatty acids	Fermentation products	
	% FA	g/kg
CFAT(h)		353.3
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	10.0	33.6
C16:1	1.0	3.4
C18:0	3.0	10.1
C18:1	47.5	159.4
C:18:2	30.0	100.7
C18:3	1.0	3.4
>=C20	7.0	23.5
Sum FA	99.5	333.9
% FA in CFAT-fraction		95

Fermentation products	g/kg	
	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Hemp seed 3014.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	913	48	195	316	-	169	184	-		
sd	-	-	-	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	353	353	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.5	8.1	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	13	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	75		DCCP	-	DCCP
DCCFAT	91		DCCFATh	-	DCCFAT
DCCF	13		DCCF	-	DCCF
DCNFE	45		DCNFE	-	DCNFE
DCOM	62		DCOM	-	DCNFE
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	34	37	StaDCP	-	DCCP
%DRUP	80	80	AppDCP	-	DCOM
%RUSTA	-	-		-	
%DASH	50	50		-	
DASHmax	31	31		-	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1283 /kg	NE2015	MEpo	MErab
VEVI	1365 /kg	NE2015	MEpo	MErab
FOM-91	157 g/kg	EW2015	MEla	
FOMr-07	168 g/kg	StaDP	MEla	
FOMr2-07	57 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.34 /kg			
DVE-91	49 g/kg		Broilers	Horses
DVE-07	44 g/kg		MEbr	NEm
OEB-91	97 g/kg		MEbr	NEm
OEB-07	103 g/kg		DPpo	EWpa
OEB2-07	47 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	0.46 /kg			
VW	0.31 /kg			

Hemp seed 3014.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			195	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		315.9
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Horse beans 2002.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	870	33	251	12	17	78	496	491		
sd	16	3	12	2	-	9	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	381	329	-	28	149	101	7	218	69	
sd	24	-	-	5	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	5.4	3.0	1.2	12.2	0.1	1.0	0.3	1.3
sd	0.2	0.9	-	0.2	1.3	0.0	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	68	12	38	13	1.2	0.1	-
sd	17	3	9	3	-	-	-

IP/P	55	SUGe/SUG	65	EB (meq/kg)	289
		CF_DI	0.96	CAD (meq/kg)	192

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	84		DCCP	83	DCCP	80
DCCFAT	72		DCCFATh	50	DCCFAT	60
DCCF	85		DCCF	75	DCCF	30
DCNFE	95		DCNFE	44	DCNFE	90
DCOM	90		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP			
%RUP	21	23	AppDCP			
%DRUP	91	91				
%RUSTA	20	21				
%DASH	65	65				
DASHmax	30	30				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1020 /kg	NE2015	MEpo	MErab
VEVI	1111 /kg	NE2015	MEpo	MErab
FOM-91	624 g/kg	EW2015	MEla	
FOMr-07	628 g/kg	StaDP	MEla	
FOMr2-07	358 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.57 /kg			
DVE-91	107 g/kg			
DVE-07	113 g/kg			
OEB-91	98 g/kg			
OEB-07	87 g/kg			
OEB2-07	75 g/kg			
DVMET-91	1.8 g/kg			
DVLYS-91	7.6 g/kg			
DVMET-07	2.0 g/kg			
DVLYS-07	8.1 g/kg			
SW	0.16 /kg			
VW	0.26 /kg			

Horse beans 2002.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			251	77	-	73	183	-	-
LYS	6.3	0.2	15.8	82	13.0	80	12.6	86	13.6
MET	0.8	0.1	2.0	66	1.3	61	1.2	87	1.7
CYS	1.3	0.1	3.3	59	1.9	53	1.7	72	2.3
THR	3.5	0.2	8.8	77	6.8	71	6.3	78	6.8
TRP	0.9	0.1	2.3	68	1.5	63	1.4	66	1.5
ILE	4.1	0.2	10.3	80	8.2	77	7.9	80	8.2
ARG	9.1	0.7	22.8	89	20.2	87	19.9	87	19.9
PHE	4.1	0.2	10.3	75	7.7	72	7.4	81	8.3
HIS	2.6	0.2	6.5	80	5.2	77	5.0	79	5.2
LEU	7.3	0.2	18.3	78	14.3	76	13.9	80	14.7
TYR	3.3	0.2	8.3	77	6.4	74	6.2	82	6.8
VAL	4.5	0.5	11.3	76	8.6	72	8.2	79	8.9
ALA	4.1	0.2	10.3	75	7.7	71	7.3	88	9.1
ASP	10.9	0.5	27.3	81	22.2	79	21.5	87	23.8
GLU	16.4	0.7	41.1	83	34.3	81	33.3	90	37.0
GLY	4.2	0.2	10.5	74	7.7	66	7.0	82	8.6
PRO	4.3	0.3	10.8	80	8.6	71	7.7	76	8.2
SER	4.8	0.2	12.0	79	9.5	74	9.0	85	10.2
Sum AA	92.5		232	-	185	-	177	-	195

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		11.9	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.5	0.0	AC	-	-
C14:0	0.5	0.0	ETH	-	-
C16:0	14.0	1.2	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	3.0	0.3	Glycerol	-	-
C18:1	26.0	2.3			
C:18:2	50.0	4.4			
C18:3	4.0	0.4			
>=C20	1.0	0.1			
Sum FA	99.0	8.8	NH3	-	
% FA in CFAT-fraction		75			

Horsebeans, white 2017.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	880	35	286	14	16	80	465	463	
sd	21	3	25	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	381	341	-	40	143	-	-	165	22
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.5	5.2	2.9	1.7	13.4	0.1	0.7	0.3	1.5
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	55	9	48	15	0.4	-	-
sd	-	-	-	-	-	-	-

IP/P	55	SUGe/SUG	65	EB (meq/kg)	326
		CF_DI	0.96	CAD (meq/kg)	217

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	85		DCCP	79	DCCP	-		
DCCFAT	74		DCCFATh	62	DCCFAT	-		
DCCF	85		DCCF	59	DCNFE	79		
DCNFE	95		DCNFE	95	DCPpo	44		
DCOM	90		DCOM	85				
			DCNSPh	65				
			DCiSTA	100	Broilers	Horses		
DVE	1991	2007	StaDCP	40	DCCP	83	DCCP	-
%RUP	21	23	AppDCP	37	DCCFATh	100	DCOM	-
%DRUP	91	91			DC(S+S)	88		
%RUSTA	20	21			DCNFEh	72		
%DASH	65	65			DCPpo	44		
DASHmax	31	31						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1035 /kg	NE2015	9.32 MJ/kg	MEpo	11.23 MJ/kg	MErab	-
VEVI	1124 /kg	NE2015	2228 kcal/kg	MEpo	2685 kcal/kg	MErab	-
FOM-91	619 g/kg	EW2015	1.06 /kg	MEla	11.28 MJ/kg		
FOMr-07	636 g/kg	StaDP	2.1 g/kg	MEla	2695 kcal/kg		
FOMr2-07	375 g/kg	AppDP	1.9 g/kg	DPpo	2.3 g/kg		
FOMr2/FOMr	0.59 /kg						
DVE-91	114 g/kg			Broilers		Horses	
DVE-07	119 g/kg			MEbr	10.70 MJ/kg	NEEm	-
OEB-91	125 g/kg			MEbr	2558 kcal/kg	NEEm	-
OEB-07	117 g/kg			DPpo	2.3 g/kg	EWpa	-
OEB2-07	93 g/kg					DCPho	-
DVMET-91	1.9 g/kg						
DVLYS-91	8.1 g/kg						
DVMET-07	2.0 g/kg						
DVLYS-07	8.5 g/kg						
SW	0.15 /kg						
VW	0.26 /kg						

Horsebeans, white 2017.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			286	86	-	82	236	-	-
LYS	6.3	0.2	18.0	89	16.1	87	15.7	86	15.5
MET	0.8	0.1	2.3	86	2.0	82	1.9	87	2.0
CYS	1.3	0.1	3.7	72	2.7	67	2.5	72	2.7
THR	3.5	0.2	10.0	83	8.3	78	7.8	78	7.8
TRP	0.9	0.1	2.6	76	2.0	71	1.8	66	1.7
ILE	4.1	0.2	11.7	86	10.1	83	9.8	80	9.4
ARG	9.1	0.7	26.1	94	24.5	93	24.1	87	22.7
PHE	4.1	0.2	11.7	79	9.3	76	9.0	81	9.5
HIS	2.6	0.2	7.4	88	6.5	86	6.4	79	5.9
LEU	7.3	0.2	20.9	87	18.2	85	17.8	80	16.7
TYR	3.3	0.2	9.5	78	7.4	75	7.1	82	7.8
VAL	4.5	0.5	12.9	85	10.9	81	10.5	79	10.2
ALA	4.1	0.2	11.7	82	9.6	78	9.2	88	10.3
ASP	10.9	0.5	31.2	87	27.1	85	26.4	87	27.2
GLU	16.4	0.7	47.0	92	43.1	90	42.1	90	42.3
GLY	4.2	0.2	12.0	84	10.1	77	9.3	82	9.9
PRO	4.3	0.3	12.3	88	10.8	80	9.8	76	9.4
SER	4.8	0.2	13.7	89	12.2	85	11.6	85	11.7
Sum AA	92.5		265	-	231	-	223	-	223

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		14.1	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.5	0.1	AC	-	-
C14:0	0.5	0.1	ETH	-	-
C16:0	14.0	1.5	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	3.0	0.3	Glycerol	-	-
C18:1	26.0	2.7			
C:18:2	50.0	5.3			
C18:3	4.0	0.4			
>=C20	1.0	0.1			
Sum FA	99.0	10.5			
% FA in CFAT-fraction		75	NH3	-	

Lentils 2008.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	873	30	230	13	-	45	555	-	
sd	6	2	5	3	-	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	425	413	-	48	-	-	-	141	141
sd	15	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	3.8	2.1	1.1	9.4	0.1	1.4	0.2	1.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	107	16	33	10	-	-	0.2
sd	-	-	-	-	-	-	-

IP/P	55	SUGe/SUG	65	EB (meq/kg)	206
		CF_DI	0.96	CAD (meq/kg)	131

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	84		DCCP	83	DCCP	-
DCCFAT	73		DCCFATh	56	DCCFAT	-
DCCF	66		DCCF	49	DCNFE	-
DCNFE	92		DCNFE	93	DCPpo	-
DCOM	88		DCOM	87		
			DCNSPh	57	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	21	23	StaDCP	40	DCCFATh	-
%DRUP	85	85	AppDCP	35	DC(S+S)	-
%RUSTA	20	21			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	27	27				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1009 /kg	NE2015	9.66 MJ/kg	MEpo	-	
VEVI	1098 /kg	NE2015	2309 kcal/kg	MEpo	-	
FOM-91	600 g/kg	EW2015	1.10 /kg	MEla	-	
FOMr-07	607 g/kg	StaDP	1.5 g/kg	MEla	-	
FOMr2-07	374 g/kg	AppDP	1.3 g/kg	DPpo	-	
FOMr2/FOMr	0.62 /kg					
DVE-91	96 g/kg			Broilers		
DVE-07	101 g/kg			MEbr	-	
OEB-91	85 g/kg			MEbr	-	
OEB-07	77 g/kg			DPpo	-	
OEB2-07	63 g/kg				Horses	
DVMET-91	1.7 g/kg				NEm	-
DVLYS-91	7.5 g/kg				NEm	-
DVMET-07	1.9 g/kg				EWpa	-
DVLYS-07	7.9 g/kg				DCPho	-
SW	0.07 /kg					
VW	0.25 /kg					

Lentils 2008.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
CP			230	77	-	73	167	-	-
LYS	7.6	-	17.5	79	13.8	77	13.5	-	-
MET	0.9	-	2.1	71	1.5	66	1.4	-	-
CYS	0.9	-	2.1	66	1.4	57	1.2	-	-
THR	3.3	-	7.6	73	5.5	66	5.0	-	-
TRP	0.9	-	2.1	68	1.4	62	1.3	-	-
ILE	3.7	-	8.5	77	6.6	73	6.2	-	-
ARG	8.4	-	19.3	86	16.6	84	16.3	-	-
PHE	4.6	-	10.6	75	7.9	72	7.6	-	-
HIS	2.7	-	6.2	79	4.9	76	4.7	-	-
LEU	6.8	-	15.7	76	11.9	73	11.5	-	-
TYR	2.8	-	6.4	77	5.0	73	4.7	-	-
VAL	4.1	-	9.4	75	7.1	70	6.6	-	-
ALA	4.7	-	10.8	73	7.9	69	7.5	-	-
ASP	10.7	-	24.6	79	19.4	76	18.7	-	-
GLU	15.3	-	35.2	82	28.8	79	27.8	-	-
GLY	4.2	-	9.7	75	7.2	67	6.4	-	-
PRO	4.0	-	9.2	84	7.7	73	6.7	-	-
SER	4.3	-	9.9	78	7.7	72	7.1	-	-
Sum AA	89.9		207	-	162	-	154	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		12.8
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	18.0	1.7
C16:1	-	0.0
C18:0	-	0.0
C18:1	17.0	1.6
C:18:2	54.0	5.2
C18:3	10.0	1.0
>=C20	-	0.0
Sum FA	99.0	9.5
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Linseed 3006.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	917	42	217	349	366	73	235	218	
sd	8	11	17	22	24	16	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	49	14	-	23	167	99	32	273	106
sd	14	-	-	4	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.7	5.0	3.5	3.5	7.5	0.3	0.6	0.2	1.9
sd	0.6	0.5	-	0.2	0.7	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	296	28	46	13	0.5	0.2	0.2
sd	314	12	8	3	-	-	-

IP/P	70	SUGe/SUG	85	EB (meq/kg)	186
		CF_DI	0.97	CAD (meq/kg)	54

Digestibility coefficients (%)

Ruminants

DCCP	81	
DCCFAT	94	
DCCF	25	
DCNFE	82	
DCOM	82	
DVE	1991	2007
%RUP	28	28
%DRUP	85	85
%RUSTA	-	-
%DASH	50	50
DASHmax	28	28

Pigs

DCCP	77
DCCFATh	82
DCCF	32
DCNFE	77
DCOM	75
DCNSPh	61
DCiSTA	100
StaDCP	10
AppDCP	6

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	82
DCCFAT	85
DCCF	30
DCNFE	70
Horses	
DCCP	80
DCOM	70

Nutritional value (in product)

Ruminants

VEM	1671 /kg
VEVI	1878 /kg
FOM-91	304 g/kg
FOMr-07	342 g/kg
FOMr2-07	159 g/kg
FOMr2/FOMr	0.47 /kg
DVE-91	74 g/kg
DVE-07	71 g/kg
OEB-91	103 g/kg
OEB-07	104 g/kg
OEB2-07	79 g/kg
DVMET-91	1.7 g/kg
DVLYS-91	3.6 g/kg
DVMET-07	1.6 g/kg
DVLYS-07	3.7 g/kg
SW	0.33 /kg
VW	0.27 /kg

Pigs

NE2015	14.65 MJ/kg
NE2015	3501 kcal/kg
EW2015	1.66 /kg
StaDP	0.5 g/kg
AppDP	0.3 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-

Rabbits

MErab	17.76 MJ/kg
MErab	4244 kcal/kg
Broilers	
MEbr	-
MEbr	-
DPpo	-
Horses	
NEm	10.80 MJ/kg
NEm	2582 kcal/kg
EWpa	1.21 /kg
DCPho	173 g/kg

Linseed 3006.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			217	77	-	72	156	-	-
LYS	3.7	0.3	8.0	83	6.7	79	6.3	69	5.5
MET	1.9	0.1	4.1	85	3.5	83	3.4	68	2.8
CYS	1.8	0.2	3.9	87	3.4	82	3.2	64	2.5
THR	3.6	0.2	7.8	82	6.4	75	5.8	66	5.1
TRP	1.6	0.1	3.5	86	3.0	82	2.8	63	2.2
ILE	4.0	0.3	8.7	77	6.7	73	6.3	60	5.2
ARG	8.9	0.7	19.3	77	14.8	75	14.5	66	12.7
PHE	4.6	0.2	10.0	77	7.6	74	7.3	61	6.1
HIS	2.2	0.2	4.8	77	3.7	73	3.5	59	2.8
LEU	5.9	0.3	12.8	77	9.8	73	9.4	63	8.1
TYR	2.5	0.4	5.4	77	4.2	72	3.9	63	3.4
VAL	4.9	0.4	10.6	77	8.2	72	7.7	58	6.2
ALA	4.5	0.3	9.7	77	7.5	72	7.0	60	5.8
ASP	9.1	0.7	19.7	77	15.1	73	14.4	58	11.4
GLU	18.8	1.5	40.7	77	31.2	74	30.1	70	28.5
GLY	5.7	0.3	12.3	77	9.5	70	8.7	61	7.5
PRO	3.9	0.3	8.4	76	6.5	65	5.5	69	5.8
SER	4.5	0.4	9.7	77	7.5	71	6.9	58	5.7
Sum AA	92.1		199	-	155	-	147	-	127

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		348.8	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.1	0.3	ETH	-	-
C16:0	7.0	23.2	PR	-	-
C16:1	0.1	0.3	BU	-	-
C18:0	4.0	13.3	Glycerol	-	-
C18:1	18.0	59.6			
C:18:2	16.0	53.0			
C18:3	54.0	178.9			
>=C20	0.1	0.3			
Sum FA	99.3	329.0	NH3	-	
% FA in CFAT-fraction		95			

Linseed expeller 3006.401/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	916	54	331	109	118	85	338	329		
sd	13	3	18	20	-	8	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	27	-	42	238	133	42	356	118	
sd	-	-	-	5	42	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.5	8.2	5.7	5.1	11.8	0.8	1.3	0.8	2.9
sd	0.3	0.8	-	0.5	1.2	0.3	0.4	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	214	46	66	20	1.6	0.1	0.3
sd	92	4	7	2	-	-	-

IP/P	70	SUGe/SUG	85	EB (meq/kg)	302
		CF_DI	0.96	CAD (meq/kg)	67

Digestibility coefficients (%)

Ruminants

DCCP	85
DCCFAT	93
DCCF	25
DCNFE	82
DCOM	79

DVE	1991	2007
%RUP	42	42
%DRUP	88	88
%RUSTA	-	-
%DASH	65	65
DASHmax	45	45

Pigs

DCCP	78
DCCFATh	77
DCCF	32
DCNFE	76
DCOM	73
DCNSPh	61
DCiSTA	100
StaDCP	10
AppDCP	8

Roosters/Laying hens

DCCP	56
DCCFAT	81
DCNFE	22
DCPpo	25
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	25

Rabbits

DCCP	82
DCCFAT	83
DCCF	30
DCNFE	70

Horses

DCCP	83
DCOM	70

Nutritional value (in product)

Ruminants

VEM	1103 /kg
VEVI	1177 /kg
FOM-91	433 g/kg
FOMr-07	454 g/kg
FOMr2-07	159 g/kg
FOMr2/FOMr	0.35 /kg
DVE-91	162 g/kg
DVE-07	153 g/kg
OEB-91	111 g/kg
OEB-07	121 g/kg
OEB2-07	40 g/kg
DVMET-91	3.5 g/kg
DVLYS-91	7.4 g/kg
DVMET-07	3.3 g/kg
DVLYS-07	7.1 g/kg
SW	0.30 /kg
VW	0.27 /kg

Pigs

NE2015	9.21 MJ/kg
NE2015	2202 kcal/kg
EW2015	1.05 /kg
StaDP	0.8 g/kg
AppDP	0.6 g/kg

Roosters/Laying hens

MEpo	8.05 MJ/kg
MEpo	1923 kcal/kg
MEla	8.56 MJ/kg
MEla	2045 kcal/kg
DPpo	2.0 g/kg

Broilers

MEbr	-
MEbr	-
DPpo	2.0 g/kg

Rabbits

MErab	13.02 MJ/kg
MErab	3113 kcal/kg

Horses

NEm	7.85 MJ/kg
NEm	1876 kcal/kg
EWpa	0.88 /kg
DCPho	275 g/kg

Linseed expeller 3006.401/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			331	75	-	72	239	-	-
LYS	3.7	0.3	12.2	82	10.0	79	9.7	83	10.2
MET	1.9	0.1	6.3	85	5.3	83	5.2	88	5.5
CYS	1.8	0.2	6.0	85	5.1	82	4.9	67	4.0
THR	3.6	0.2	11.9	80	9.5	75	9.0	79	9.4
TRP	1.6	0.1	5.3	85	4.5	82	4.3	80	4.2
ILE	4.0	0.3	13.2	75	10.0	73	9.6	77	10.2
ARG	8.9	0.7	29.5	75	22.2	74	21.8	74	21.8
PHE	4.6	0.2	15.2	75	11.5	73	11.2	78	11.9
HIS	2.2	0.2	7.3	75	5.5	73	5.3	74	5.4
LEU	5.9	0.3	19.5	75	14.7	73	14.3	77	15.0
TYR	2.5	0.4	8.3	75	6.2	72	6.0	77	6.4
VAL	4.9	0.4	16.2	75	12.2	72	11.7	78	12.6
ALA	4.5	0.3	14.9	75	11.2	72	10.8	77	11.5
ASP	9.1	0.7	30.1	75	22.7	73	22.0	74	22.3
GLU	18.8	1.5	62.2	75	46.8	74	45.7	74	46.0
GLY	5.7	0.3	18.9	75	14.2	71	13.4	76	14.3
PRO	3.9	0.3	12.9	75	9.7	67	8.7	77	9.9
SER	4.5	0.4	14.9	75	11.2	71	10.6	74	11.0
Sum AA	92.1		305	-	233	-	224	-	232

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		108.6	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.1	0.1	ETH	-	-
C16:0	7.0	5.7	PR	-	-
C16:1	0.1	0.1	BU	-	-
C18:0	4.0	3.3	Glycerol	-	-
C18:1	18.0	14.7			
C:18:2	16.0	13.0			
C18:3	54.0	44.0			
>=C20	0.1	0.1			
Sum FA	99.3	80.9			
% FA in CFAT-fraction		75	NH3	-	

Linseed meal 3006.407/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	872	55	320	30	39	96	372	363	
sd	9	2	16	6	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	35	-	43	269	150	48	392	123
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.1	8.4	5.9	4.5	10.9	0.8	1.1	0.8	2.8
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	195	42	63	17	1.4	0.1	0.2
sd	-	-	-	-	-	-	-

IP/P	70	SUGe/SUG	85	EB (meq/kg)	281
		CF_DI	0.96	CAD (meq/kg)	55

Digestibility coefficients (%)

Ruminants

DCCP	85
DCCFAT	87
DCCF	25
DCNFE	82
DCOM	77

Pigs

DCCP	78
DCCFATh	69
DCCF	32
DCNFE	77
DCOM	72
DCNSPh	61
DCiSTA	100
StaDCP	10
AppDCP	8

Roosters/Laying hens

DCCP	56
DCCFAT	76
DCNFE	23
DCPpo	25
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	25

Rabbits

DCCP	82
DCCFAT	73
DCCF	30
DCNFE	70

DVE 1991 2007

%RUP	42	42
%DRUP	88	88
%RUSTA	-	-
%DASH	65	65
DASHmax	45	45

Horses

DCCP	83
DCOM	70

Nutritional value (in product)

Ruminants

VEM	864 /kg
VEVI	895 /kg
FOM-91	463 g/kg
FOMr-07	476 g/kg
FOMr2-07	167 g/kg
FOMr2/FOMr	0.35 /kg
DVE-91	160 g/kg
DVE-07	150 g/kg
OEB-91	101 g/kg
OEB-07	110 g/kg
OEB2-07	36 g/kg
DVMET-91	3.5 g/kg
DVLYS-91	7.4 g/kg
DVMET-07	3.3 g/kg
DVLYS-07	7.2 g/kg
SW	0.29 /kg
VW	0.27 /kg

Pigs

NE2015	7.18 MJ/kg
NE2015	1716 kcal/kg
EW2015	0.82 /kg
StaDP	0.8 g/kg
AppDP	0.7 g/kg

Roosters/Laying hens

MEpo	5.59 MJ/kg
MEpo	1335 kcal/kg
MEla	5.72 MJ/kg
MEla	1367 kcal/kg
DPpo	2.1 g/kg

Rabbits

MErab	10.72 MJ/kg
MErab	2562 kcal/kg

Broilers

MEbr	-
MEbr	-
DPpo	2.1 g/kg

Horses

NEm	6.60 MJ/kg
NEm	1578 kcal/kg
EWpa	0.74 /kg
DCPho	265 g/kg

Linseed meal 3006.407/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			320	75	-	72	230	-	-
LYS	3.7	0.3	11.8	82	9.7	79	9.3	83	9.8
MET	1.9	0.1	6.1	85	5.1	83	5.0	88	5.3
CYS	1.8	0.2	5.8	85	4.9	82	4.7	67	3.9
THR	3.6	0.2	11.5	79	9.1	75	8.6	78	9.0
TRP	1.6	0.1	5.1	84	4.3	82	4.2	80	4.1
ILE	4.0	0.3	12.8	75	9.6	73	9.3	77	9.8
ARG	8.9	0.7	28.5	75	21.4	74	21.0	74	21.1
PHE	4.6	0.2	14.7	75	11.0	73	10.7	77	11.3
HIS	2.2	0.2	7.0	75	5.3	73	5.1	74	5.2
LEU	5.9	0.3	18.9	75	14.1	73	13.7	77	14.5
TYR	2.5	0.4	8.0	75	6.0	72	5.7	77	6.2
VAL	4.9	0.4	15.7	75	11.8	72	11.3	77	12.1
ALA	4.5	0.3	14.4	75	10.8	72	10.4	77	11.1
ASP	9.1	0.7	29.1	75	21.8	73	21.1	74	21.5
GLU	18.8	1.5	60.1	75	45.0	73	44.0	74	44.5
GLY	5.7	0.3	18.2	75	13.7	71	12.9	75	13.7
PRO	3.9	0.3	12.5	75	9.3	67	8.4	77	9.6
SER	4.5	0.4	14.4	75	10.8	71	10.2	73	10.5
Sum AA	92.1		294	-	224	-	216	-	223

Fatty acids

	% FA	g/kg
CFAT(h)		29.8
<=C10	0.0	0.0
C12:0	0.0	0.0
C14:0	0.1	0.0
C16:0	7.0	1.4
C16:1	0.1	0.0
C18:0	4.0	0.8
C18:1	18.0	3.5
C:18:2	16.0	3.1
C18:3	54.0	10.5
>=C20	0.1	0.0
Sum FA	99.3	19.2
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Lucerne (alfalfa) meal-CP < 140 g/kg 5004.610/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	915	88	101	19	-	296	410	-	
sd	17	11	23	8	-	27	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	32	11	-	28	446	328	-	668	223
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	9.1	2.4	0.1	1.5	18.0	0.9	5.3	2.1	0.6
sd	2.7	0.5	-	0.3	5.6	0.5	1.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	591	39	22	7	-	-	2.2
sd	324	12	5	2	-	-	-

IP/P	5	SUGe/SUG	-	EB (meq/kg)	349
		CF_DI	0.97	CAD (meq/kg)	180

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	56	DCCP	-	DCCP	56
DCCFAT	-	DCCFATh	-	DCCFAT	51
DCCF	-	DCCF	-	DCCF	10
DCNFE	-	DCNFE	-	DCNFE	55
DCOM	63	DCOM	-		
		DCNSPh	-		
DVE	1991	2007	Broilers	Horses	
%RUP	57	57	DCCP	DCCP	60
%DRUP	55	55	DCCFATh	DCOM	54
%RUSTA	-	-	DC(S+S)		
%DASH	35	35	DCNFEh		
DASHmax	37	37	DCPpo		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits		
VEM	625 /kg	NE2015	MEpo	MErab	5.60 MJ/kg
VEVI	597 /kg	NE2015	MEpo	MErab	1339 kcal/kg
FOM-91	444 g/kg	EW2015	MEIa		
FOMr-07	414 g/kg	StaDP	MEIa		
FOMr2-07	105 g/kg	AppDP	DPpo		
FOMr2/FOMr	0.25 /kg				
DVE-91	50 g/kg		Broilers	Horses	
DVE-07	47 g/kg		MEbr	NEm	4.44 MJ/kg
OEB-91	-29 g/kg		MEbr	NEm	1062 kcal/kg
OEB-07	-23 g/kg		DPpo	EWpa	0.50 /kg
OEB2-07	1 g/kg			DCPho	61 g/kg
DVMET-91	1.2 g/kg				
DVLYS-91	3.2 g/kg				
DVMET-07	1.2 g/kg				
DVLYS-07	3.1 g/kg				
SW	0.54 /kg				
VW	0.36 /kg				

Lucerne (alfalfa) meal-CP < 140 g/kg 5004.610/1/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg				
CP			101	-	-	-	-	-	-	
LYS	4.3	0.4	4.3	-	-	-	-	-	-	
MET	1.5	0.1	1.5	-	-	-	-	-	-	
CYS	1.0	0.1	1.0	-	-	-	-	-	-	
THR	4.0	0.3	4.0	-	-	-	-	-	-	
TRP	1.4	0.2	1.4	-	-	-	-	-	-	
ILE	4.0	0.4	4.0	-	-	-	-	-	-	
ARG	4.1	0.3	4.1	-	-	-	-	-	-	
PHE	4.6	0.4	4.6	-	-	-	-	-	-	
HIS	2.0	0.2	2.0	-	-	-	-	-	-	
LEU	6.9	0.4	7.0	-	-	-	-	-	-	
TYR	3.1	0.3	3.1	-	-	-	-	-	-	
VAL	5.1	0.4	5.1	-	-	-	-	-	-	
ALA	5.1	0.3	5.1	-	-	-	-	-	-	
ASP	11.1	0.7	11.2	-	-	-	-	-	-	
GLU	9.6	0.8	9.7	-	-	-	-	-	-	
GLY	4.7	0.3	4.7	-	-	-	-	-	-	
PRO	4.8	0.6	4.8	-	-	-	-	-	-	
SER	4.2	0.2	4.2	-	-	-	-	-	-	
Sum AA	81.5		82	-	-	-	-	-	-	

Fatty acids	g/kg		Fermentation products	
	% FA		g/kg	sdc
CFAT(h)		19.2	FP	-
<=C10	-	0.0	LA	-
C12:0	-	0.0	AC	-
C14:0	1.0	0.1	ETH	-
C16:0	27.0	2.6	PR	-
C16:1	1.0	0.1	BU	-
C18:0	3.0	0.3	Glycerol	-
C18:1	10.0	1.0		
C:18:2	25.0	2.4		
C18:3	30.0	2.9		
>=C20	1.0	0.1		
Sum FA	98.0	9.4		
% FA in CFAT-fraction		50		

Remarks

Lucerne (alfalfa) meal-CP < 140 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 85 g/kg DM.
2. This product is usually naturally dried (sun-cured).
3. The feeding value for ruminants is calculated without an adjustment for cutting date.

Lucerne (alfalfa) meal-CP 140 - 160 g/kg 5004.610/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	911	102	152	22	22	292	343	344	
sd	16	9	5	3	-	28	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	30	11	-	26	441	323	77	599	158
sd	12	-	-	13	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	15.4	2.6	0.1	1.8	26.0	0.9	5.3	2.1	0.9
sd	3.2	0.4	-	0.2	3.8	0.4	1.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	588	39	22	7	1.5	0.5	1.7
sd	323	12	5	2	-	-	-

IP/P	5	SUGe/SUG	65	EB (meq/kg)	554
		CF_DI	0.97	CAD (meq/kg)	367

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	67		DCCP	52	DCCP	62
DCCFAT	-		DCCFATh	38	DCCFAT	51
DCCF	-		DCCF	20	DCCF	15
DCNFE	-		DCNFE	75	DCNFE	65
DCOM	63		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP	Broilers	Horses	
%RUP	50	50	AppDCP	DCCP	DCCP	68
%DRUP	67	67		DCCFATh	DCOM	54
%RUSTA	-	-		DC(S+S)		
%DASH	50	50		DCNFEh		
DASHmax	61	61		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	611 /kg	NE2015	MEpo	MErab
VEVI	579 /kg	NE2015	MEpo	MErab
FOM-91	410 g/kg	EW2015	MEla	
FOMr-07	410 g/kg	StaDP	MEla	
FOMr2-07	119 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.29 /kg			
DVE-91	69 g/kg		Broilers	Horses
DVE-07	65 g/kg		MEbr	NEm
OEB-91	7 g/kg		MEbr	NEm
OEB-07	12 g/kg		DPpo	EWpa
OEB2-07	22 g/kg			DCPho
DVMET-91	1.5 g/kg			
DVLYS-91	3.9 g/kg			
DVMET-07	1.4 g/kg			
DVLYS-07	3.8 g/kg			
SW	0.54 /kg			
VW	0.36 /kg			

Lucerne (alfalfa) meal-CP 140 - 160 g/kg 5004.610/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			152	45	-	38	58	-	-
LYS	4.3	0.4	6.5	46	3.0	40	2.6	54	3.5
MET	1.5	0.1	2.3	72	1.6	67	1.5	55	1.3
CYS	1.0	0.1	1.5	9	0.1	-	-0.1	50	0.8
THR	4.0	0.3	6.1	55	3.3	46	2.8	53	3.2
TRP	1.4	0.2	2.1	54	1.1	48	1.0	51	1.1
ILE	4.0	0.4	6.1	62	3.8	56	3.4	53	3.2
ARG	4.1	0.3	6.2	73	4.5	67	4.2	51	3.2
PHE	4.6	0.4	7.0	65	4.5	60	4.2	52	3.6
HIS	2.0	0.2	3.0	54	1.6	48	1.5	52	1.6
LEU	6.9	0.4	10.5	62	6.5	58	6.0	52	5.5
TYR	3.1	0.3	4.7	58	2.7	52	2.5	52	2.4
VAL	5.1	0.4	7.7	58	4.5	52	4.0	53	4.1
ALA	5.1	0.3	7.7	59	4.5	53	4.1	55	4.3
ASP	11.1	0.7	16.9	68	11.4	64	10.7	52	8.8
GLU	9.6	0.8	14.6	57	8.4	50	7.3	53	7.7
GLY	4.7	0.3	7.1	51	3.7	40	2.8	54	3.9
PRO	4.8	0.6	7.3	73	5.3	59	4.3	53	3.9
SER	4.2	0.2	6.4	58	3.7	49	3.1	52	3.3
Sum AA	81.5		124	-	74	-	66	-	65

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		22.0	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	1.0	0.1	ETH	-	-
C16:0	27.0	3.0	PR	-	-
C16:1	1.0	0.1	BU	-	-
C18:0	3.0	0.3	Glycerol	-	-
C18:1	10.0	1.1			
C:18:2	25.0	2.7			
C18:3	30.0	3.3			
>=C20	1.0	0.1			
Sum FA	98.0	10.8	NH3	-	
% FA in CFAT-fraction		50			

Remarks

Lucerne (alfalfa) meal-CP 140 - 160 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 85 g/kg DM.
2. The feeding value for ruminants is calculated without an adjustment for cutting date.

Lucerne (alfalfa) meal-CP 160 - 180 g/kg 5004.610/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	910	109	168	25	25	272	336	336	
sd	14	8	6	4	-	27	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	27	11	-	35	420	300	-	563	143
sd	26	-	-	17	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	16.3	2.7	0.1	1.9	27.3	0.9	5.3	2.1	1.0
sd	4.4	0.4	-	0.2	4.0	0.5	1.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	588	39	22	7	1.5	0.5	1.7
sd	322	12	5	2	-	-	-

IP/P	5	SUGe/SUG	65	EB (meq/kg)	588
		CF_DI	0.97	CAD (meq/kg)	395

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	70		DCCP	60	DCCP	66
DCCFAT	-		DCCFATh	40	DCCFAT	51
DCCF	-		DCCF	28	DCCF	20
DCNFE	-		DCNFE	75	DCNFE	65
DCOM	65		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP	Broilers	Horses	
%RUP	47	48	AppDCP	DCCP	DCCP	70
%DRUP	70	70		DCCFATh	DCOM	56
%RUSTA	-	-		DC(S+S)		
%DASH	50	50		DCNFEh		
DASHmax	65	65		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	637 /kg	NE2015	MEpo	MErab
VEVI	612 /kg	NE2015	MEpo	MErab
FOM-91	415 g/kg	EW2015	MEla	
FOMr-07	424 g/kg	StaDP	MEla	
FOMr2-07	135 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.32 /kg			
DVE-91	77 g/kg		Broilers	Horses
DVE-07	73 g/kg		MEbr	NEm
OEB-91	17 g/kg		MEbr	NEm
OEB-07	22 g/kg		DPpo	EWpa
OEB2-07	29 g/kg			DCPho
DVMET-91	1.6 g/kg			
DVLYS-91	4.3 g/kg			
DVMET-07	1.6 g/kg			
DVLYS-07	4.2 g/kg			
SW	0.51 /kg			
VW	0.36 /kg			

Lucerne (alfalfa) meal-CP 160 - 180 g/kg 5004.610/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			168	45	-	39	65	-	-
LYS	4.3	0.4	7.2	46	3.3	41	3.0	63	4.6
MET	1.5	0.1	2.5	72	1.8	68	1.7	63	1.6
CYS	1.0	0.1	1.7	9	0.1	-	0.0	58	1.0
THR	4.0	0.3	6.7	55	3.7	47	3.1	61	4.1
TRP	1.4	0.2	2.4	54	1.3	49	1.1	59	1.4
ILE	4.0	0.4	6.7	62	4.2	57	3.8	61	4.1
ARG	4.1	0.3	6.9	73	5.0	67	4.7	59	4.1
PHE	4.6	0.4	7.7	65	5.0	61	4.7	60	4.6
HIS	2.0	0.2	3.4	54	1.8	49	1.6	60	2.0
LEU	6.9	0.4	11.6	62	7.2	58	6.7	60	7.0
TYR	3.1	0.3	5.2	58	3.0	53	2.7	60	3.1
VAL	5.1	0.4	8.6	58	5.0	53	4.5	61	5.2
ALA	5.1	0.3	8.6	59	5.0	53	4.6	63	5.4
ASP	11.1	0.7	18.7	68	12.7	64	12.0	60	11.2
GLU	9.6	0.8	16.2	57	9.3	51	8.2	61	9.9
GLY	4.7	0.3	7.9	51	4.0	41	3.2	62	4.9
PRO	4.8	0.6	8.1	73	5.9	61	4.9	61	4.9
SER	4.2	0.2	7.1	58	4.1	50	3.5	60	4.2
Sum AA	81.5		137	-	82	-	74	-	83

Fatty acids

	% FA	g/kg
CFAT(h)		24.7
<=C10	-	0.0
C12:0	-	0.0
C14:0	1.0	0.1
C16:0	27.0	3.3
C16:1	1.0	0.1
C18:0	3.0	0.4
C18:1	10.0	1.2
C:18:2	25.0	3.1
C18:3	30.0	3.7
>=C20	1.0	0.1
Sum FA	98.0	12.1
% FA in CFAT-fraction		50

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Lucerne (alfalfa) meal-CP 160 - 180 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 85 g/kg DM.
2. The feeding value for ruminants is calculated without an adjustment for cutting date.

Lucerne (alfalfa) meal-CP > 180 g/kg 5004.610/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	903	115	189	30	30	233	336	336	
sd	15	8	6	6	-	29	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	51	11	-	26	382	257	-	533	151
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	15.4	2.7	0.1	2.2	29.6	0.8	5.3	2.1	1.1
sd	-	0.6	-	-	2.9	-	1.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	583	38	21	7	1.4	0.5	1.7
sd	320	12	5	2	-	-	-

IP/P	5	SUGe/SUG	65	EB (meq/kg)	644
		CF_DI	0.97	CAD (meq/kg)	445

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	72		DCCP	59	DCCP	70	
DCCFAT	-		DCCFATh	35	DCCFAT	51	
DCCF	-		DCCF	37	DCNFE	25	
DCNFE	-		DCNFE	67	DCPpo	70	
DCOM	69		DCOM	55			
			DCNSPh	52			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	44	44	StaDCP	30	DCCP	72	
%DRUP	75	75	AppDCP	23	DCCFATh	DCOM	60
%RUSTA	-	-			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	68	68			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	695 /kg	NE2015	4.83 MJ/kg	MErab	8.15 MJ/kg	
VEVI	687 /kg	NE2015	1154 kcal/kg	MEpo	1947 kcal/kg	
FOM-91	432 g/kg	EW2015	0.55 /kg	MEla		
FOMr-07	435 g/kg	StaDP	0.8 g/kg	MEla		
FOMr2-07	142 g/kg	AppDP	0.6 g/kg	DPpo		
FOMr2/FOMr	0.33 /kg					
DVE-91	89 g/kg			Broilers	Horses	
DVE-07	83 g/kg			MEbr	NEm	5.11 MJ/kg
OEB-91	31 g/kg			MEbr	NEm	1221 kcal/kg
OEB-07	38 g/kg			DPpo	EWpa	0.57 /kg
OEB2-07	43 g/kg				DCPho	136 g/kg
DVMET-91	1.8 g/kg					
DVLYS-91	4.9 g/kg					
DVMET-07	1.7 g/kg					
DVLYS-07	4.7 g/kg					
SW	0.48 /kg					
VW	0.34 /kg					

Lucerne (alfalfa) meal-CP > 180 g/kg 5004.610/4/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			189	45	-	40	75	-	-
LYS	4.3	0.4	8.1	46	3.7	41	3.4	70	5.7
MET	1.5	0.1	2.8	72	2.0	68	1.9	71	2.0
CYS	1.0	0.1	1.9	9	0.2	-	0.0	65	1.2
THR	4.0	0.3	7.6	55	4.1	48	3.6	68	5.1
TRP	1.4	0.2	2.6	54	1.4	49	1.3	66	1.7
ILE	4.0	0.4	7.6	62	4.7	57	4.3	69	5.2
ARG	4.1	0.3	7.8	73	5.6	68	5.3	66	5.1
PHE	4.6	0.4	8.7	65	5.6	61	5.3	67	5.8
HIS	2.0	0.2	3.8	54	2.0	50	1.9	67	2.5
LEU	6.9	0.4	13.0	62	8.0	58	7.6	67	8.7
TYR	3.1	0.3	5.9	58	3.4	53	3.1	68	4.0
VAL	5.1	0.4	9.6	58	5.6	53	5.2	68	6.6
ALA	5.1	0.3	9.6	59	5.7	54	5.2	70	6.8
ASP	11.1	0.7	21.0	68	14.3	65	13.6	67	14.1
GLU	9.6	0.8	18.2	57	10.4	52	9.4	68	12.3
GLY	4.7	0.3	8.9	51	4.6	42	3.7	69	6.1
PRO	4.8	0.6	9.1	73	6.6	62	5.7	68	6.2
SER	4.2	0.2	7.9	58	4.6	51	4.0	67	5.3
Sum AA	81.5		154	-	93	-	84	-	105

Fatty acids

	% FA	g/kg
CFAT(h)		30.4
<=C10	-	0.0
C12:0	-	0.0
C14:0	1.0	0.2
C16:0	27.0	4.1
C16:1	1.0	0.2
C18:0	3.0	0.5
C18:1	10.0	1.5
C:18:2	25.0	3.8
C18:3	30.0	4.6
>=C20	1.0	0.2
Sum FA	98.0	14.9
% FA in CFAT-fraction		50

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Lucerne (alfalfa) meal-CP > 180 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 75 g/kg DM.
2. The feeding value for ruminants is calculated without an adjustment for cutting date.

Lupins-CP < 335 g/kg 2004.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	908	28	314	51	61	154	362	352	
sd	11	2	9	2	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	92	12	-	53	276	179	5	453	178
sd	8	-	-	5	38	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.4	2.9	1.5	1.7	7.8	0.4	0.5	0.6	1.7
sd	0.3	0.5	-	0.1	0.4	0.2	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	51	41	32	4	3.3	0.1	-
sd	5	12	4	1	-	-	-

IP/P	50	SUGe/SUG	65	EB (meq/kg)	202
		CF_DI	0.95	CAD (meq/kg)	54

Digestibility coefficients (%)

Ruminants

DCCP	89	
DCCFAT	87	
DCCF	92	
DCNFE	92	
DCOM	91	
DVE	1991	2007
%RUP	22	27
%DRUP	94	94
%RUSTA	10	-
%DASH	65	65
DASHmax	26	26

Pigs

DCCP	83
DCCFATh	69
DCCF	81
DCNFE	90
DCOM	85
DCNSPh	86
DCiSTA	100
StaDCP	60
AppDCP	54

Roosters/Laying hens

DCCP	90
DCCFAT	64
DCNFE	18
DCPpo	49
Broilers	
DCCP	91
DCCFATh	81
DC(S+S)	100
DCNFEh	18
DCPpo	49

Rabbits

DCCP	84
DCCFAT	75
DCCF	30
DCNFE	80

Horses

DCCP	84
DCOM	87

Nutritional value (in product)

Ruminants

VEM	1150 /kg
VEVI	1250 /kg
FOM-91	677 g/kg
FOMr-07	573 g/kg
FOMr2-07	227 g/kg
FOMr2/FOMr	0.40 /kg
DVE-91	130 g/kg
DVE-07	128 g/kg
OEB-91	136 g/kg
OEB-07	143 g/kg
OEB2-07	81 g/kg
DVMET-91	2.0 g/kg
DVLYS-91	8.1 g/kg
DVMET-07	1.8 g/kg
DVLYS-07	7.7 g/kg
SW	0.37 /kg
VW	0.30 /kg

Pigs

NE2015	9.03 MJ/kg
NE2015	2159 kcal/kg
EW2015	1.03 /kg
StaDP	1.7 g/kg
AppDP	1.6 g/kg

Roosters/Laying hens

MEpo	7.49 MJ/kg
MEpo	1790 kcal/kg
MEla	7.68 MJ/kg
MEla	1835 kcal/kg
DPpo	1.4 g/kg

Broilers

MEbr	8.18 MJ/kg
MEbr	1954 kcal/kg
DPpo	1.4 g/kg

Rabbits

MErab	12.16 MJ/kg
MErab	2906 kcal/kg

Horses

NEm	9.50 MJ/kg
NEm	2271 kcal/kg
EWpa	1.06 /kg
DCPho	264 g/kg

Lupins-CP < 335 g/kg 2004.000/1/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			314	87	-	84	263	-	-
LYS	4.8	0.2	15.1	88	13.3	86	13.0	87	13.1
MET	0.7	0.1	2.2	82	1.8	78	1.7	82	1.8
CYS	1.5	0.2	4.7	87	4.1	83	3.9	81	3.8
THR	3.5	0.2	11.0	86	9.4	81	8.9	81	8.9
TRP	0.8	0.1	2.5	87	2.2	82	2.0	82	2.1
ILE	4.1	0.3	12.9	86	11.1	84	10.8	84	10.8
ARG	10.8	0.7	33.9	95	32.2	94	31.8	90	30.5
PHE	3.9	0.2	12.3	87	10.7	85	10.4	85	10.4
HIS	2.5	0.3	7.9	89	7.0	87	6.8	81	6.4
LEU	7.0	0.3	22.0	86	19.0	84	18.6	85	18.7
TYR	4.0	0.5	12.6	89	11.2	87	10.9	83	10.4
VAL	3.9	0.3	12.3	86	10.5	82	10.0	82	10.0
ALA	3.4	0.1	10.7	81	8.6	76	8.2	83	8.9
ASP	10.1	0.4	31.7	87	27.6	85	26.9	82	26.0
GLU	20.9	1.4	65.7	92	60.5	90	59.4	89	58.5
GLY	4.1	0.2	12.9	88	11.4	82	10.6	81	10.4
PRO	4.1	0.2	12.9	94	12.1	86	11.1	79	10.2
SER	4.9	0.3	15.4	89	13.7	85	13.1	82	12.6
Sum AA	95.0		299	-	266	-	258	-	254

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		50.8	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.4	0.2	ETH	-	-
C16:0	5.0	2.2	PR	-	-
C16:1	0.4	0.2	BU	-	-
C18:0	1.0	0.4	Glycerol	-	-
C18:1	31.0	13.4			
C:18:2	47.0	20.3			
C18:3	4.0	1.7			
>=C20	15.0	6.5			
Sum FA	103.8	44.8	NH3	-	
% FA in CFAT-fraction		85			

Lupins-CP > 335 g/kg 2004.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	878	39	362	46	56	138	294	284	
sd	18	3	26	3	-	10	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	63	21	-	48	259	163	-	365	106
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	3.5	1.8	1.7	8.1	0.4	0.5	0.6	2.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	49	40	35	5	3.2	0.1	-
sd	-	-	-	-	-	-	-

IP/P	50	SUGe/SUG	65	EB (meq/kg)	207
		CF_DI	0.95	CAD (meq/kg)	45

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	91		DCCP	84	DCCP	84
DCCFAT	87		DCCFATh	68	DCCFAT	75
DCCF	92		DCCF	81	DCCF	30
DCNFE	92		DCNFE	91	DCNFE	80
DCOM	91		DCOM	85		
			DCNSPh	86		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	22	27	StaDCP	60	DCCP	86
%DRUP	94	94	AppDCP	55	DCCFATh	81
%RUSTA	10	-			DC(S+S)	100
%DASH	65	65			DCNFEh	24
DASHmax	33	33			DCPpo	49

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1100 /kg	NE2015	8.74 MJ/kg	MEpo	8.12 MJ/kg	MErab	11.78 MJ/kg
VEVI	1192 /kg	NE2015	2088 kcal/kg	MEpo	1941 kcal/kg	MErab	2816 kcal/kg
FOM-91	637 g/kg	EW2015	0.99 /kg	MEla	8.29 MJ/kg		
FOMr-07	549 g/kg	StaDP	2.1 g/kg	MEla	1982 kcal/kg		
FOMr2-07	230 g/kg	AppDP	1.9 g/kg	DPpo	1.7 g/kg		
FOMr2/FOMr	0.42 /kg						
DVE-91	137 g/kg			Broilers		Horses	
DVE-07	136 g/kg			MEbr	8.93 MJ/kg	NEm	9.05 MJ/kg
OEB-91	178 g/kg			MEbr	2133 kcal/kg	NEm	2162 kcal/kg
OEB-07	184 g/kg			DPpo	1.7 g/kg	EWpa	1.01 /kg
OEB2-07	99 g/kg					DCPho	311 g/kg
DVMET-91	2.0 g/kg						
DVLYS-91	8.3 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	7.9 g/kg						
SW	0.34 /kg						
VW	0.28 /kg						

Lupins-CP > 335 g/kg 2004.000/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			362	87	-	84	304	-	-
LYS	4.8	0.2	17.4	88	15.4	86	15.0	87	15.1
MET	0.7	0.1	2.5	82	2.1	78	2.0	82	2.1
CYS	1.5	0.2	5.4	87	4.7	84	4.5	81	4.4
THR	3.5	0.2	12.7	86	10.9	82	10.4	81	10.3
TRP	0.8	0.1	2.9	87	2.5	82	2.4	82	2.4
ILE	4.1	0.3	14.8	86	12.8	84	12.5	84	12.5
ARG	10.8	0.7	39.1	95	37.0	94	36.7	90	35.2
PHE	3.9	0.2	14.1	87	12.3	85	12.0	85	12.0
HIS	2.5	0.3	9.0	89	8.0	87	7.9	81	7.3
LEU	7.0	0.3	25.3	86	21.9	85	21.4	85	21.5
TYR	4.0	0.5	14.5	89	12.8	87	12.6	83	12.0
VAL	3.9	0.3	14.1	86	12.1	82	11.6	82	11.6
ALA	3.4	0.1	12.3	81	9.9	77	9.5	83	10.2
ASP	10.1	0.4	36.5	87	31.8	85	31.1	82	30.0
GLU	20.9	1.4	75.6	92	69.6	91	68.6	89	67.3
GLY	4.1	0.2	14.8	88	13.1	83	12.3	81	12.0
PRO	4.1	0.2	14.8	94	13.9	87	13.0	79	11.7
SER	4.9	0.3	17.7	89	15.8	86	15.2	82	14.5
Sum AA	95.0		344	-	307	-	299	-	292

Fatty acids

	% FA	g/kg
CFAT(h)		46.3
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.2
C16:0	5.0	2.0
C16:1	0.4	0.2
C18:0	1.0	0.4
C18:1	31.0	12.2
C:18:2	47.0	18.5
C18:3	4.0	1.6
>=C20	15.0	5.9
Sum FA	103.8	40.8
% FA in CFAT-fraction		85

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Lupins-CP > 335 g/kg:

1. Depending on variety the content of manganese (Mn) may be higher than 1000 mg/kg.

Maize 1002.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	867	12	76	36	42	20	723	717	
sd	7	1	4	3	3	3	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	649	620	-	13	95	26	3	111	17
sd	12	-	-	3	13	6	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	2.4	2.1	0.8	3.4	0.0	0.5	0.1	0.8
sd	0.1	0.2	-	0.2	0.2	0.0	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	38	6	21	1	0.2	0.1	0.1
sd	20	2	3	1	-	-	-

IP/P	85	SUGe/SUG	90	EB (meq/kg)	72
		CF_DI	0.96	CAD (meq/kg)	17

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	59		DCCP	76	DCCP	62
DCCFAT	90		DCCFATh	84	DCCFAT	87
DCCF	51		DCCF	51	DCNFE	40
DCNFE	94		DCNFE	96	DCPpo	89
DCOM	90		DCOM	92		
			DCNSPh	61		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	59	64	StaDCP	27	DCCP	73
%DRUP	94	94	AppDCP	20	DCCFATh	88
%RUSTA	37	36			DC(S+S)	99
%DASH	65	65			DCNFEh	88
DASHmax	14	14			DCPpo	30

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1096 /kg	NE2015	11.50 MJ/kg	MEpo	13.70 MJ/kg	MErab	13.21 MJ/kg
VEVI	1225 /kg	NE2015	2749 kcal/kg	MEpo	3274 kcal/kg	MErab	3157 kcal/kg
FOM-91	459 g/kg	EW2015	1.31 /kg	MEla	13.87 MJ/kg		
FOMr-07	486 g/kg	StaDP	0.7 g/kg	MEla	3316 kcal/kg		
FOMr2-07	210 g/kg	AppDP	0.5 g/kg	DPpo	0.7 g/kg		
FOMr2/FOMr	0.43 /kg						
DVE-91	84 g/kg			Broilers		Horses	
DVE-07	99 g/kg			MEbr	13.51 MJ/kg	NEm	9.60 MJ/kg
OEB-91	-43 g/kg			MEbr	3229 kcal/kg	NEm	2294 kcal/kg
OEB-07	-67 g/kg			DPpo	0.7 g/kg	EWpa	1.08 /kg
OEB2-07	-30 g/kg					DCPho	56 g/kg
DVMET-91	2.0 g/kg						
DVLYS-91	4.4 g/kg						
DVMET-07	2.4 g/kg						
DVLYS-07	5.6 g/kg						
SW	0.14 /kg						
VW	0.25 /kg						

Maize 1002.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			76	82	-	69	53	-	-
LYS	2.9	0.3	2.2	75	1.7	60	1.3	90	2.0
MET	2.1	0.2	1.6	87	1.4	81	1.3	94	1.5
CYS	2.2	0.2	1.7	81	1.4	70	1.2	86	1.4
THR	3.6	0.2	2.7	79	2.2	61	1.7	83	2.3
TRP	0.7	0.1	0.5	76	0.4	53	0.3	85	0.5
ILE	3.4	0.2	2.6	86	2.2	73	1.9	93	2.4
ARG	4.7	0.4	3.6	88	3.1	78	2.8	93	3.3
PHE	4.8	0.3	3.7	87	3.2	80	2.9	93	3.4
HIS	3.0	0.2	2.3	86	2.0	79	1.8	90	2.1
LEU	12.1	0.7	9.2	89	8.2	84	7.8	94	8.7
TYR	3.7	0.4	2.8	86	2.4	77	2.2	88	2.5
VAL	4.8	0.3	3.7	86	3.1	73	2.7	90	3.3
ALA	7.5	0.4	5.7	87	5.0	79	4.5	93	5.3
ASP	6.7	0.4	5.1	82	4.2	68	3.5	89	4.5
GLU	18.1	1.0	13.8	89	12.3	82	11.3	95	13.1
GLY	3.9	0.3	3.0	79	2.3	52	1.6	86	2.6
PRO	8.9	0.7	6.8	85	5.7	70	4.8	91	6.2
SER	4.8	0.2	3.7	88	3.2	73	2.7	91	3.3
Sum AA	97.9		75	-	64	-	56	-	68

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		35.6	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.1	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	3.8	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	0.6	Glycerol	-	-
C18:1	28.0	9.0			
C:18:2	55.0	17.6			
C18:3	1.0	0.3			
>=C20	1.0	0.3			
Sum FA	99.6	31.9	NH3	-	
% FA in CFAT-fraction		90			

Maize bran 1002.108/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	873	14	94	34	42	99	632	624	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	311	289	-	17	433	120	11	425	-8
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	4.6	3.5	-	-	-	-	-	1.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	90	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	66		DCCP	56	DCCP	60
DCCFAT	89		DCCFATh	72	DCCFAT	87
DCCF	51		DCCF	57	DCNFE	40
DCNFE	83		DCNFE	71	DCPpo	70
DCOM	78		DCOM	68		
			DCNSPh	47		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	25	DCCP	59
%RUP	42	57	AppDCP	21	DCCFATh	73
%DRUP	88	88			DC(S+S)	
%RUSTA	22	22			DCNFEh	
%DASH	50	50			DCPpo	
DASHmax	12	12				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	919 /kg	NE2015	7.90 MJ/kg	MErab	10.40 MJ/kg	
VEVI	979 /kg	NE2015	1887 kcal/kg	MEpo	2486 kcal/kg	
FOM-91	532 g/kg	EW2015	0.90 /kg	MEla		
FOMr-07	528 g/kg	StaDP	1.2 g/kg	MEla		
FOMr2-07	194 g/kg	AppDP	1.0 g/kg	DPpo		
FOMr2/FOMr	0.37 /kg					
DVE-91	74 g/kg			Broilers	Horses	
DVE-07	92 g/kg			MEbr	7.72 MJ/kg	
OEB-91	-29 g/kg			MEbr	1845 kcal/kg	
OEB-07	-53 g/kg			DPpo	0.86 /kg	
OEB2-07	-19 g/kg				DCPho	56 g/kg
DVMET-91	1.9 g/kg					
DVLYS-91	4.3 g/kg					
DVMET-07	2.3 g/kg					
DVLYS-07	5.3 g/kg					
SW	0.22 /kg					
VW	0.27 /kg					

Maize bran 1002.108/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			94	74	-	63	60	-	-
LYS	3.2	0.6	3.0	70	2.1	59	1.8	71	2.1
MET	2.1	0.3	2.0	86	1.7	82	1.6	88	1.7
CYS	2.2	0.2	2.1	73	1.5	64	1.3	76	1.6
THR	3.7	0.3	3.5	70	2.4	55	1.9	69	2.4
TRP	0.7	0.2	0.7	73	0.5	54	0.4	79	0.5
ILE	3.5	0.3	3.3	80	2.6	70	2.3	83	2.7
ARG	5.0	0.9	4.7	89	4.2	81	3.8	83	3.9
PHE	4.7	0.6	4.4	80	3.6	74	3.3	83	3.7
HIS	2.9	0.2	2.7	80	2.2	75	2.0	78	2.1
LEU	11.1	2.0	10.5	84	8.7	80	8.3	85	8.9
TYR	3.6	0.4	3.4	83	2.8	76	2.6	79	2.7
VAL	5.1	0.4	4.8	79	3.8	69	3.3	80	3.8
ALA	7.3	0.8	6.9	80	5.5	74	5.1	86	5.9
ASP	7.0	0.6	6.6	72	4.8	62	4.1	75	4.9
GLU	17.6	2.5	16.6	79	13.2	73	12.2	82	13.6
GLY	4.2	0.6	4.0	70	2.8	50	2.0	72	2.9
PRO	8.4	1.2	7.9	77	6.1	65	5.1	79	6.3
SER	4.8	0.4	4.5	81	3.6	68	3.1	78	3.5
Sum AA	97.1		92	-	72	-	64	-	73

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		34.0	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.1	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	3.3	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	0.5	Glycerol	-	-
C18:1	28.0	7.6			
C:18:2	55.0	15.0			
C18:3	1.0	0.3	NH3	-	
>=C20	1.0	0.3			
Sum FA	99.6	27.1			
% FA in CFAT-fraction		80			

Maize feed flour 1002.103/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	875	6	76	12	17	8	774	770	
sd	18	2	6	-	-	2	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	737	685	-	10	37	11	1	87	51
sd	25	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.2	0.7	0.5	-	1.2	0.1	1.0	0.3	0.8
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	39	7	4	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	90	EB (meq/kg)	8
		CF_DI	0.96	CAD (meq/kg)	-57

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	59		DCCP	76	DCCP	-		
DCCFAT	78		DCCFATh	68	DCCFAT	-		
DCCF	51		DCCF	51	DCNFE	96		
DCNFE	95		DCNFE	98	DCPpo	36		
DCOM	92		DCOM	95				
			DCNSPh	73	Horses			
DVE	1991	2007	DCiSTA	100	DCCP	85	DCCP	56
%RUP	42	57	StaDCP	50	DCCFATh	88	DCOM	92
%DRUP	88	88	AppDCP	25	DC(S+S)	97		
%RUSTA	22	22			DCNFEh	88		
%DASH	65	65			DCPpo	36		
DASHmax	10	10						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1092 /kg	NE2015	11.48 MJ/kg	MEpo	14.28 MJ/kg	MErab	-
VEVI	1224 /kg	NE2015	2743 kcal/kg	MEpo	3412 kcal/kg	MErab	-
FOM-91	603 g/kg	EW2015	1.30 /kg	MEIa	14.33 MJ/kg		
FOMr-07	617 g/kg	StaDP	0.4 g/kg	MEIa	3424 kcal/kg		
FOMr2-07	333 g/kg	AppDP	0.2 g/kg	DPpo	0.3 g/kg		
FOMr2/FOMr	0.54 /kg			Broilers		Horses	
DVE-91	83 g/kg			MEbr	13.45 MJ/kg	NEm	10.15 MJ/kg
DVE-07	107 g/kg			MEbr	3213 kcal/kg	NEm	2427 kcal/kg
OEB-91	-50 g/kg			DPpo	0.3 g/kg	EWpa	1.14 /kg
OEB-07	-85 g/kg					DCPho	42 g/kg
OEB2-07	-47 g/kg						
DVMET-91	2.0 g/kg						
DVLYS-91	5.1 g/kg						
DVMET-07	2.6 g/kg						
DVLYS-07	6.7 g/kg						
SW	-0.05 /kg						
VW	0.25 /kg						

Maize feed flour 1002.103/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
			AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			76	83	-	70	53	-	-
LYS	3.2	0.6	2.4	80	1.9	65	1.6	93	2.2
MET	2.1	0.3	1.6	93	1.5	87	1.4	95	1.5
CYS	2.2	0.2	1.7	83	1.4	72	1.2	89	1.5
THR	3.7	0.3	2.8	81	2.3	62	1.7	85	2.4
TRP	0.7	0.2	0.5	80	0.4	57	0.3	93	0.5
ILE	3.5	0.3	2.6	89	2.3	77	2.0	95	2.5
ARG	5.0	0.9	3.8	85	3.2	76	2.9	91	3.4
PHE	4.7	0.6	3.6	86	3.0	78	2.8	92	3.3
HIS	2.9	0.2	2.2	87	1.9	80	1.8	92	2.0
LEU	11.1	2.0	8.4	93	7.8	88	7.4	99	8.3
TYR	3.6	0.4	2.7	91	2.5	82	2.2	93	2.5
VAL	5.1	0.4	3.9	87	3.4	75	2.9	92	3.5
ALA	7.3	0.8	5.5	91	5.0	83	4.6	98	5.4
ASP	7.0	0.6	5.3	83	4.4	70	3.7	90	4.8
GLU	17.6	2.5	13.3	92	12.2	84	11.2	98	13.0
GLY	4.2	0.6	3.2	81	2.6	56	1.8	88	2.8
PRO	8.4	1.2	6.3	75	4.7	59	3.8	84	5.3
SER	4.8	0.4	3.6	90	3.2	74	2.7	91	3.3
Sum AA	97.1		73	-	64	-	56	-	68

Fatty acids

	% FA	g/kg
CFAT(h)		12.3
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Maize feed meal 1002.105/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	880	23	91	72	77	40	654	649	
sd	7	3	6	18	12	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	490	455	-	23	231	64	6	217	-14
sd	27	-	-	4	63	20	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.3	4.0	3.0	2.0	4.6	0.2	0.9	0.2	0.9
sd	-	0.8	-	0.8	1.4	0.1	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	62	6	15	1	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	90	EB (meq/kg)	100
		CF_DI	0.96	CAD (meq/kg)	30

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	64		DCCP	65	DCCP	65
DCCFAT	93		DCCFATh	89	DCCFAT	87
DCCF	51		DCCF	24	DCCF	40
DCNFE	91		DCNFE	86	DCNFE	77
DCOM	87		DCOM	81		
			DCNSPh	42		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	42	57	StaDCP	25	DCCP	62
%DRUP	88	88	AppDCP	21	DCCFATh	85
%RUSTA	22	22			DC(S+S)	
%DASH	65	65			DCNFEh	
DASHmax	22	22			DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1131 /kg	NE2015	10.72 MJ/kg	MErab	12.37 MJ/kg	
VEVI	1257 /kg	NE2015	2562 kcal/kg	MEpo	2957 kcal/kg	
FOM-91	532 g/kg	EW2015	1.22 /kg	MEla	12.92 MJ/kg	
FOMr-07	504 g/kg	StaDP	1.0 g/kg	MEla	3088 kcal/kg	
FOMr2-07	243 g/kg	AppDP	0.8 g/kg	DPpo	1.5 g/kg	
FOMr2/FOMr	0.48 /kg					
DVE-91	79 g/kg			Broilers	Horses	
DVE-07	95 g/kg			MEbr	NEm	9.71 MJ/kg
OEB-91	-31 g/kg			MEbr	NEm	2320 kcal/kg
OEB-07	-53 g/kg			DPpo	EWpa	1.09 /kg
OEB2-07	-28 g/kg				DCPho	56 g/kg
DVMET-91	1.9 g/kg					
DVLYS-91	4.6 g/kg					
DVMET-07	2.3 g/kg					
DVLYS-07	5.4 g/kg					
SW	0.08 /kg					
VW	0.25 /kg					

Maize feed meal 1002.105/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			91	76	-	65	59	-	-
LYS	3.2	0.6	2.9	77	2.2	65	1.9	63	1.8
MET	2.1	0.3	1.9	92	1.8	87	1.7	81	1.5
CYS	2.2	0.2	2.0	81	1.6	71	1.4	69	1.4
THR	3.7	0.3	3.4	76	2.6	61	2.0	68	2.3
TRP	0.7	0.2	0.6	74	0.5	55	0.3	78	0.5
ILE	3.5	0.3	3.2	76	2.4	66	2.1	79	2.5
ARG	5.0	0.9	4.5	77	3.5	69	3.1	86	3.9
PHE	4.7	0.6	4.3	76	3.3	70	3.0	80	3.4
HIS	2.9	0.2	2.6	76	2.0	70	1.9	79	2.1
LEU	11.1	2.0	10.1	77	7.7	72	7.3	87	8.8
TYR	3.6	0.4	3.3	76	2.5	69	2.2	79	2.6
VAL	5.1	0.4	4.6	77	3.5	66	3.1	79	3.7
ALA	7.3	0.8	6.6	77	5.1	70	4.6	82	5.4
ASP	7.0	0.6	6.4	76	4.8	65	4.2	75	4.8
GLU	17.6	2.5	16.0	76	12.2	70	11.2	86	13.8
GLY	4.2	0.6	3.8	76	2.9	56	2.1	69	2.6
PRO	8.4	1.2	7.6	76	5.8	64	4.9	82	6.3
SER	4.8	0.4	4.4	76	3.3	63	2.7	77	3.4
Sum AA	97.1		88	-	68	-	60	-	71

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		72.4	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.1	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	6.9	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	1.2	Glycerol	-	-
C18:1	28.0	16.2			
C:18:2	55.0	31.9			
C18:3	1.0	0.6			
>=C20	1.0	0.6			
Sum FA	99.6	57.7			
% FA in CFAT-fraction		80	NH3	-	

Maize feed meal, solvent extracted 1002.416/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	867	13	86	33	-	26	709	-	
sd	10	3	6	6	-	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	526	489	-	26	160	44	4	220	60
sd	131	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	3.9	2.9	2.4	6.2	0.2	1.0	0.3	0.9
sd	0.4	1.7	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	18	46	3	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	90	EB (meq/kg)	140
		CF_DI	0.96	CAD (meq/kg)	68

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	63		DCCP	64	DCCP	-
DCCFAT	89		DCCFATh	82	DCCFAT	-
DCCF	51		DCCF	24	DCNFE	-
DCNFE	93		DCNFE	89	DCPpo	-
DCOM	89		DCOM	84		
			DCNSPh	56	Broilers	Horses
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	42	57	StaDCP	25	DCCFATh	-
%DRUP	88	88	AppDCP	20	DC(S+S)	-
%RUSTA	22	22			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	15	15				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1076 /kg	NE2015	10.06 MJ/kg	MEpo	-
VEVI	1198 /kg	NE2015	2404 kcal/kg	MEpo	-
FOM-91	582 g/kg	EW2015	1.14 /kg	MEla	-
FOMr-07	568 g/kg	StaDP	1.0 g/kg	MEla	-
FOMr2-07	276 g/kg	AppDP	0.8 g/kg	DPpo	-
FOMr2/FOMr	0.49 /kg				
DVE-91	83 g/kg			Broilers	Horses
DVE-07	103 g/kg			MEbr	-
OEB-91	-41 g/kg			MEbr	-
OEB-07	-68 g/kg			DPpo	-
OEB2-07	-35 g/kg				EWpa
DVMET-91	2.0 g/kg				DCPho
DVLYS-91	5.0 g/kg				
DVMET-07	2.5 g/kg				
DVLYS-07	6.1 g/kg				
SW	0.04 /kg				
VW	0.25 /kg				

Maize feed meal, solvent extracted 1002.416/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			86	76	-	64	55	-	-
LYS	3.2	0.6	2.8	77	2.1	64	1.8	-	-
MET	2.1	0.3	1.8	91	1.6	86	1.6	-	-
CYS	2.2	0.2	1.9	80	1.5	70	1.3	-	-
THR	3.7	0.3	3.2	75	2.4	59	1.9	-	-
TRP	0.7	0.2	0.6	74	0.4	54	0.3	-	-
ILE	3.5	0.3	3.0	76	2.3	65	2.0	-	-
ARG	5.0	0.9	4.3	76	3.3	68	2.9	-	-
PHE	4.7	0.6	4.1	76	3.1	69	2.8	-	-
HIS	2.9	0.2	2.5	76	1.9	69	1.7	-	-
LEU	11.1	2.0	9.6	76	7.3	72	6.9	-	-
TYR	3.6	0.4	3.1	76	2.4	68	2.1	-	-
VAL	5.1	0.4	4.4	76	3.3	65	2.9	-	-
ALA	7.3	0.8	6.3	76	4.8	69	4.4	-	-
ASP	7.0	0.6	6.0	75	4.6	64	3.9	-	-
GLU	17.6	2.5	15.2	75	11.5	69	10.4	-	-
GLY	4.2	0.6	3.6	76	2.7	54	2.0	-	-
PRO	8.4	1.2	7.3	76	5.5	62	4.5	-	-
SER	4.8	0.4	4.1	75	3.1	62	2.6	-	-
Sum AA	97.1		84	-	64	-	56	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		33.4
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	12.0	3.0
C16:1	0.2	0.1
C18:0	2.0	0.5
C18:1	28.0	7.0
C:18:2	55.0	13.8
C18:3	1.0	0.3
>=C20	1.0	0.3
Sum FA	99.6	24.9
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Maize germ meal feed expeller 1002.419/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	896	44	134	56	56	59	603	604		
sd	13	5	11	5	-	7	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	359	334	-	51	273	76	6	280	6	
sd	22	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	8.3	5.8	3.4	9.0	0.2	0.6	0.2	1.4
sd	0.8	1.9	-	1.0	2.6	0.4	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	422	14	62	6	-	-	-
sd	-	4	10	3	-	-	-

IP/P	70	SUGe/SUG	90	EB (meq/kg)	224
		CF_DI	0.96	CAD (meq/kg)	126

Digestibility coefficients (%)

Ruminants

DCCP	69
DCCFAT	92
DCCF	68
DCNFE	90
DCOM	85

DVE	1991	2007
%RUP	42	57
%DRUP	88	88
%RUSTA	22	22
%DASH	50	50
DASHmax	29	29

Pigs

DCCP	75
DCCFATh	74
DCCF	51
DCNFE	86
DCOM	81
DCNSPh	59
DCiSTA	100
StaDCP	20
AppDCP	18

Roosters/Laying hens

DCCP	54
DCCFAT	62
DCNFE	67
DCPpo	40
DCCP	72
DCCFATh	70
DC(S+S)	97
DCNFEh	61
DCPpo	40

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
DCCP	72
DCOM	81

Horses

DCCP	72
DCOM	81

Nutritional value (in product)

Ruminants

VEM	1065 /kg
VEVI	1168 /kg
FOM-91	541 g/kg
FOMr-07	515 g/kg
FOMr2-07	242 g/kg
FOMr2/FOMr	0.47 /kg
DVE-91	95 g/kg
DVE-07	115 g/kg
OEB-91	-9 g/kg
OEB-07	-35 g/kg
OEB2-07	-21 g/kg
DVMET-91	2.3 g/kg
DVLYS-91	5.1 g/kg
DVMET-07	2.8 g/kg
DVLYS-07	6.1 g/kg
SW	0.13 /kg
VW	0.26 /kg

Pigs

NE2015	9.62 MJ/kg
NE2015	2298 kcal/kg
EW2015	1.09 /kg
StaDP	1.7 g/kg
AppDP	1.5 g/kg

Roosters/Laying hens

MEpo	10.43 MJ/kg
MEpo	2493 kcal/kg
MEla	10.63 MJ/kg
MEla	2542 kcal/kg
DPpo	3.3 g/kg

Rabbits

MErab	-
MErab	-

Broilers

MEbr	9.67 MJ/kg
MEbr	2311 kcal/kg
DPpo	3.3 g/kg

Horses

NEm	8.63 MJ/kg
NEm	2063 kcal/kg
EWpa	0.97 /kg
DCPho	96 g/kg

Maize germ meal feed expeller 1002.419/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			134	68	-	60	80	-	-
LYS	3.2	0.6	4.3	62	2.6	54	2.3	61	2.6
MET	2.1	0.3	2.8	82	2.3	78	2.2	71	2.0
CYS	2.2	0.2	2.9	64	1.9	58	1.7	53	1.6
THR	3.7	0.3	5.0	64	3.2	53	2.6	59	2.9
TRP	0.7	0.2	0.9	58	0.5	45	0.4	66	0.6
ILE	3.5	0.3	4.7	73	3.4	66	3.1	65	3.0
ARG	5.0	0.9	6.7	82	5.5	77	5.1	65	4.4
PHE	4.7	0.6	6.3	80	5.0	75	4.7	68	4.3
HIS	2.9	0.2	3.9	69	2.7	65	2.5	59	2.3
LEU	11.1	2.0	14.9	77	11.4	74	11.0	66	9.8
TYR	3.6	0.4	4.8	85	4.1	79	3.8	67	3.2
VAL	5.1	0.4	6.8	71	4.8	64	4.4	63	4.3
ALA	7.3	0.8	9.8	68	6.6	63	6.2	64	6.3
ASP	7.0	0.6	9.4	68	6.3	60	5.6	61	5.7
GLU	17.6	2.5	23.6	68	15.9	63	14.9	60	14.1
GLY	4.2	0.6	5.6	68	3.8	53	3.0	61	3.4
PRO	8.4	1.2	11.2	68	7.6	59	6.6	63	7.1
SER	4.8	0.4	6.4	68	4.3	59	3.8	59	3.8
Sum AA	97.1		130	-	92	-	84	-	81

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		55.8	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.1	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	5.0	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	0.8	Glycerol	-	-
C18:1	28.0	11.7			
C:18:2	55.0	23.0			
C18:3	1.0	0.4			
>=C20	1.0	0.4			
Sum FA	99.6	41.7			
% FA in CFAT-fraction		75	NH3	-	

Maize germ meal feed, solvent extracted 1002.420/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	875	39	138	24	24	63	612	612		
sd	11	8	10	9	-	6	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	349	325	-	10	291	81	8	341	50	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	5.7	4.0	2.2	7.2	0.3	1.1	0.2	1.4
sd	0.5	1.1	-	0.4	2.0	0.2	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	244	18	62	5	-	-	-
sd	141	5	11	1	-	-	-

IP/P	70	SUGe/SUG	90	EB (meq/kg)	165
		CF_DI	0.96	CAD (meq/kg)	65

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	70		DCCP	75	DCCP	58	DCCP	-
DCCFAT	80		DCCFATh	63	DCCFAT	60	DCCFAT	-
DCCF	68		DCCF	51	DCNFE	68	DCCF	-
DCNFE	90		DCNFE	82	DCPpo	40	DCNFE	-
DCOM	84		DCOM	78				
			DCNSPh	58				
			DCiSTA	100	Broilers		Horses	
DVE	1991	2007	StaDCP	20	DCCP	73	DCCP	-
%RUP	42	57	AppDCP	17	DCCFATh	70	DCOM	-
%DRUP	88	88			DC(S+S)	97		
%RUSTA	22	22			DCNFEh	53		
%DASH	50	50			DCPpo	40		
DASHmax	26	26						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	963 /kg	NE2015	8.40 MJ/kg	MEpo	9.27 MJ/kg	MErab	-
VEVI	1044 /kg	NE2015	2007 kcal/kg	MEpo	2215 kcal/kg	MErab	-
FOM-91	554 g/kg	EW2015	0.95 /kg	MEla	9.35 MJ/kg		
FOMr-07	525 g/kg	StaDP	1.1 g/kg	MEla	2234 kcal/kg		
FOMr2-07	228 g/kg	AppDP	1.0 g/kg	DPpo	2.3 g/kg		
FOMr2/FOMr	0.44 /kg						
DVE-91	98 g/kg			Broilers		Horses	
DVE-07	121 g/kg			MEbr	8.04 MJ/kg	NEm	-
OEB-91	-9 g/kg			MEbr	1922 kcal/kg	NEm	-
OEB-07	-39 g/kg			DPpo	2.3 g/kg	EWpa	-
OEB2-07	-18 g/kg					DCPho	-
DVMET-91	2.4 g/kg						
DVLYS-91	5.2 g/kg						
DVMET-07	2.9 g/kg						
DVLYS-07	6.4 g/kg						
SW	0.18 /kg						
VW	0.25 /kg						

Maize germ meal feed, solvent extracted 1002.420/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			138	68	-	60	83	-	-
LYS	3.2	0.6	4.4	62	2.7	54	2.4	62	2.7
MET	2.1	0.3	2.9	82	2.4	79	2.3	85	2.5
CYS	2.2	0.2	3.0	64	1.9	58	1.8	64	1.9
THR	3.7	0.3	5.1	64	3.2	54	2.7	67	3.4
TRP	0.7	0.2	1.0	58	0.6	45	0.4	78	0.8
ILE	3.5	0.3	4.8	73	3.5	66	3.2	78	3.8
ARG	5.0	0.9	6.9	82	5.6	77	5.3	85	5.9
PHE	4.7	0.6	6.5	80	5.2	75	4.9	83	5.4
HIS	2.9	0.2	4.0	69	2.7	65	2.6	78	3.1
LEU	11.1	2.0	15.3	77	11.8	74	11.4	86	13.2
TYR	3.6	0.4	5.0	85	4.2	80	4.0	81	4.0
VAL	5.1	0.4	7.0	71	5.0	64	4.5	78	5.5
ALA	7.3	0.8	10.1	68	6.8	64	6.4	82	8.2
ASP	7.0	0.6	9.6	68	6.5	61	5.8	75	7.2
GLU	17.6	2.5	24.3	68	16.4	63	15.4	84	20.4
GLY	4.2	0.6	5.8	68	3.9	54	3.1	67	3.9
PRO	8.4	1.2	11.6	68	7.8	59	6.9	80	9.3
SER	4.8	0.4	6.6	68	4.5	59	3.9	77	5.1
Sum AA	97.1		134	-	95	-	87	-	106

Fatty acids

	% FA	g/kg
CFAT(h)		23.5
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	0.2	0.0
C16:0	12.0	1.8
C16:1	0.2	0.0
C18:0	2.0	0.3
C18:1	28.0	4.3
C:18:2	55.0	8.4
C18:3	1.0	0.2
>=C20	1.0	0.2
Sum FA	99.6	15.2
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Maize germ meal, solvent extracted 1002.418/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	878	34	199	26	34	74	546	538		
sd	10	10	17	9	-	13	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	289	269	-	3	325	90	8	348	23	
sd	63	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	5.2	3.6	2.2	4.5	0.4	0.5	0.2	2.1
sd	-	0.6	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	9	62	7	-	-	-
sd	-	-	-	-	-	-	-

IP/P	70	SUGe/SUG	90	EB (meq/kg)	119
		CF_DI	0.96	CAD (meq/kg)	-21

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	76		DCCP	58	DCCP	-	
DCCFAT	81		DCCFATh	60	DCCFAT	-	
DCCF	68		DCCF	55	DCCF	-	
DCNFE	87		DCNFE	40	DCNFE	-	
DCOM	83		DCOM				
			DCNSPh				
			DCiSTA				
DVE	1991	2007	StaDCP	Broilers		Horses	
%RUP	42	57	AppDCP	DCCP	75	DCCP	78
%DRUP	88	88		DCCFATh	70	DCOM	77
%RUSTA	22	22		DC(S+S)	97		
%DASH	50	50		DCNFEh	49		
DASHmax	23	23		DCPpo	40		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	954 /kg	NE2015	MEpo	MErab	-
VEVI	1023 /kg	NE2015	MEpo	MErab	-
FOM-91	531 g/kg	EW2015	MEla		
FOMr-07	502 g/kg	StaDP	MEla		
FOMr2-07	204 g/kg	AppDP	DPpo		
FOMr2/FOMr	0.41 /kg				
DVE-91	119 g/kg		Broilers	Horses	
DVE-07	147 g/kg		MEbr	NEm	7.66 MJ/kg
OEB-91	28 g/kg		MEbr	NEm	1831 kcal/kg
OEB-07	-7 g/kg		DPpo	EWpa	0.86 /kg
OEB2-07	-4 g/kg			DCPho	155 g/kg
DVMET-91	2.9 g/kg				
DVLYS-91	5.8 g/kg				
DVMET-07	3.5 g/kg				
DVLYS-07	7.0 g/kg				
SW	0.22 /kg				
VW	0.26 /kg				

Maize germ meal, solvent extracted 1002.418/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			199	65	-	60	119	-	-
LYS	3.2	0.6	6.4	59	3.7	53	3.4	62	3.9
MET	2.1	0.3	4.2	79	3.3	77	3.2	71	3.0
CYS	2.2	0.2	4.4	63	2.8	59	2.6	54	2.4
THR	3.7	0.3	7.4	66	4.8	59	4.3	62	4.6
TRP	0.7	0.2	1.4	62	0.9	53	0.7	67	0.9
ILE	3.5	0.3	7.0	71	4.9	66	4.6	66	4.6
ARG	5.0	0.9	9.9	80	7.9	76	7.6	66	6.6
PHE	4.7	0.6	9.3	78	7.3	75	7.0	69	6.4
HIS	2.9	0.2	5.8	74	4.3	71	4.1	63	3.6
LEU	11.1	2.0	22.1	74	16.3	72	15.9	66	14.6
TYR	3.6	0.4	7.2	79	5.6	75	5.4	66	4.7
VAL	5.1	0.4	10.1	69	7.0	64	6.5	64	6.5
ALA	7.3	0.8	14.5	65	9.4	62	9.0	65	9.4
ASP	7.0	0.6	13.9	65	9.0	60	8.3	62	8.6
GLU	17.6	2.5	35.0	65	22.6	62	21.6	61	21.3
GLY	4.2	0.6	8.3	65	5.4	55	4.6	62	5.2
PRO	8.4	1.2	16.7	65	10.8	59	9.9	64	10.7
SER	4.8	0.4	9.5	65	6.2	59	5.6	59	5.6
Sum AA	97.1		193	-	132	-	124	-	123

Fatty acids

	% FA	g/kg
CFAT(h)		26.5
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	0.2	0.0
C16:0	12.0	2.1
C16:1	0.2	0.0
C18:0	2.0	0.3
C18:1	28.0	4.8
C:18:2	55.0	9.5
C18:3	1.0	0.2
>=C20	1.0	0.2
Sum FA	99.6	17.1
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Maize germs-STAew < 200 g/kg 1002.102/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	969	14	137	450	458	70	297	289		
sd	8	2	12	-	20	6	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	125	116	-	-	-	-	-	252	252	
sd	11	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	3.8	-	1.0	4.1	0.0	0.6	-	1.3
sd	-	0.4	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	46	7	26	1	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	90	EB (meq/kg)	88
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits				
DCCP	-	DCCP	75	DCCP	-			
DCCFAT	-	DCCFATh	89	DCCFAT	-			
DCCF	-	DCCF	65	DCNFE	-			
DCNFE	-	DCNFE	80	DCPpo	-			
DCOM	-	DCOM	82					
		DCNSPh	66	Broilers	Horses			
DVE	1991	2007	DCiSTA	100	DCCP	84	DCCP	-
%RUP	-	-	StaDCP	-	DCCFATh	88	DCOM	-
%DRUP	-	-	AppDCP	-	DC(S+S)	97		
%RUSTA	-	-			DCNFEh	39		
%DASH	-	-			DCPpo	-		
DASHmax	-	-						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	-	NE2015	18.97 MJ/kg	MEpo	-		
VEVI	-	NE2015	4534 kcal/kg	MEpo	-		
FOM-91	-	EW2015	2.16 /kg	MEla	-		
FOMr-07	-	StaDP	-	MEla	-		
FOMr2-07	-	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-			Broilers	Horses		
DVE-07	-			MEbr	19.68 MJ/kg	NEm	-
OEB-91	-			MEbr	4703 kcal/kg	NEm	-
OEB-07	-			DPpo	-	EWpa	-
OEB2-07	-					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-						
VW	-						

Maize germs-STAew < 200 g/kg 1002.102/1/0

Amino acids	Ileal digestible				Standardized ileal digestible				
	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			137	-	-	-	-	-	-
LYS	4.9	0.3	6.7	-	-	-	-	-	-
MET	1.9	0.1	2.6	-	-	-	-	-	-
CYS	2.0	0.1	2.7	-	-	-	-	-	-
THR	3.8	0.1	5.2	-	-	-	-	-	-
TRP	1.0	0.0	1.4	-	-	-	-	-	-
ILE	3.2	0.1	4.3	-	-	-	-	-	-
ARG	7.0	0.6	9.6	-	-	-	-	-	-
PHE	4.2	0.1	5.7	-	-	-	-	-	-
HIS	3.0	0.2	4.1	-	-	-	-	-	-
LEU	8.0	0.6	10.9	-	-	-	-	-	-
TYR	3.3	0.5	4.5	-	-	-	-	-	-
VAL	5.1	0.3	6.9	-	-	-	-	-	-
ALA	6.5	0.4	9.0	-	-	-	-	-	-
ASP	7.6	0.2	10.4	-	-	-	-	-	-
GLU	13.8	1.0	18.9	-	-	-	-	-	-
GLY	5.2	0.2	7.1	-	-	-	-	-	-
PRO	6.3	0.6	8.6	-	-	-	-	-	-
SER	4.6	0.3	6.3	-	-	-	-	-	-
Sum AA	90.9		125	-	-	-	-	-	-

Fatty acids	CFAT(h)		Fermentation products	
	% FA	g/kg	g/kg	sdc
CFAT(h)		449.8	FP	-
<=C10	-	0.0	LA	-
C12:0	-	0.0	AC	-
C14:0	-	0.0	ETH	-
C16:0	-	0.0	PR	-
C16:1	-	0.0	BU	-
C18:0	-	0.0	Glycerol	-
C18:1	-	0.0		
C:18:2	-	0.0		
C18:3	-	0.0		
>=C20	-	0.0		
Sum FA	-	-		
% FA in CFAT-fraction		90		

Remarks

Maize germs-STAew < 200 g/kg:

1. The DCCFATH for pigs only applies for the situation when the fat has been made very well accessible to lipases by means of thorough grinding and pelleting.

Maize germs-STAew > 200 g/kg 1002.102/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	885	48	119	171	179	43	504	497	
sd	11	5	7	16	-	8	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	283	263	-	45	-	-	-	241	241
sd	17	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	10.0	-	3.6	15.0	0.1	-	-	1.1
sd	-	1.4	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	26	-	5	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	90	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	-		DCCP	75	DCCP	-		
DCCFAT	-		DCCFATh	88	DCCFAT	-		
DCCF	-		DCCF	65	DCNFE	-		
DCNFE	-		DCNFE	87	DCPpo	-		
DCOM	-		DCOM	84				
			DCNSPh	66				
			DCiSTA	100	Broilers	Horses		
DVE	1991	2007	StaDCP	-	DCCP	83	DCCP	-
%RUP	-	-	AppDCP	-	DCCFATh	88	DCOM	-
%DRUP	-	-			DC(S+S)	97		
%RUSTA	-	-			DCNFEh	60		
%DASH	-	-			DCPpo	-		
DASHmax	-	-						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	-	NE2015	12.41 MJ/kg	MEpo	-		
VEVI	-	NE2015	2965 kcal/kg	MEpo	-		
FOM-91	-	EW2015	1.41 /kg	MEla	-		
FOMr-07	-	StaDP	-	MEla	-		
FOMr2-07	-	AppDP	-	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-			Broilers	Horses		
DVE-07	-			MEbr	13.02 MJ/kg	NEm	-
OEB-91	-			MEbr	3112 kcal/kg	NEm	-
OEB-07	-			DPpo	-	EWpa	-
OEB2-07	-					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-						
VW	-						

Maize germs-STAew > 200 g/kg 1002.102/2/0

Amino acids	Ileal digestible				Standardized ileal digestible				
	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			119	-	-	-	-	-	-
LYS	4.9	0.3	5.8	-	-	-	-	-	-
MET	1.9	0.1	2.2	-	-	-	-	-	-
CYS	2.0	0.1	2.4	-	-	-	-	-	-
THR	3.8	0.1	4.5	-	-	-	-	-	-
TRP	1.0	0.0	1.2	-	-	-	-	-	-
ILE	3.2	0.1	3.7	-	-	-	-	-	-
ARG	7.0	0.6	8.3	-	-	-	-	-	-
PHE	4.2	0.1	5.0	-	-	-	-	-	-
HIS	3.0	0.2	3.5	-	-	-	-	-	-
LEU	8.0	0.6	9.4	-	-	-	-	-	-
TYR	3.3	0.5	3.9	-	-	-	-	-	-
VAL	5.1	0.3	6.0	-	-	-	-	-	-
ALA	6.5	0.4	7.7	-	-	-	-	-	-
ASP	7.6	0.2	9.0	-	-	-	-	-	-
GLU	13.8	1.0	16.3	-	-	-	-	-	-
GLY	5.2	0.2	6.1	-	-	-	-	-	-
PRO	6.3	0.6	7.4	-	-	-	-	-	-
SER	4.6	0.3	5.4	-	-	-	-	-	-
Sum AA	90.9		108	-	-	-	-	-	-

Fatty acids	Fermentation products	
	% FA	g/kg
CFAT(h)		171.2
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	-	0.0
C16:1	-	0.0
C18:0	-	0.0
C18:1	-	0.0
C:18:2	-	0.0
C18:3	-	0.0
>=C20	-	0.0
Sum FA	-	-
% FA in CFAT-fraction		90

Fermentation products	g/kg	
	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Maize germs-STAew > 200 g/kg:

1. The DCCFAT for pigs only applies for the situation when the fat has been made very well accessible to lipases by means of thorough grinding and pelleting.

Maize gluten feed-CP < 200 g/kg 1002.205/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	888	57	188	30	35	73	541	536	
sd	10	6	5	10	4	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	176	145	-	23	308	88	6	391	83
sd	29	-	-	13	32	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	9.5	6.7	3.6	12.4	3.2	2.1	1.0	1.7
sd	0.4	0.8	-	0.4	1.4	1.5	0.6	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	163	20	62	5	0.9	0.2	-
sd	62	3	9	1	-	-	-

IP/P	70	SUGe/SUG	60	EB (meq/kg)	396
		CF_DI	0.97	CAD (meq/kg)	226

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	75		DCCP	85	DCCP	75	
DCCFAT	86		DCCFATh	72	DCCFAT	87	
DCCF	68		DCCF	47	DCCF	42	
DCNFE	87		DCNFE	40	DCNFE	68	
DCOM	83		DCOM				
			DCNSPh				
			DCiSTA				
DVE	1991	2007	StaDCP	Broilers		Horses	
%RUP	30	35	AppDCP	DCCP	67	DCCP	69
%DRUP	88	88		DCCFATh	64	DCOM	71
%RUSTA	21	21		DC(S+S)	98		
%DASH	50	50		DCNFEh	31		
DASHmax	36	36		DCPpo	40		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	960 /kg	NE2015	MEpo	MErab
VEVI	1032 /kg	NE2015	MEpo	MErab
FOM-91	539 g/kg	EW2015	MEla	
FOMr-07	536 g/kg	StaDP	MEla	
FOMr2-07	292 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.55 /kg			
DVE-91	94 g/kg		Broilers	Horses
DVE-07	95 g/kg		MEbr	NEm
OEB-91	44 g/kg		MEbr	NEm
OEB-07	45 g/kg		DPpo	EWpa
OEB2-07	50 g/kg			DCPho
DVMET-91	2.1 g/kg			
DVLYS-91	4.9 g/kg			
DVMET-07	2.1 g/kg			
DVLYS-07	4.8 g/kg			
SW	0.26 /kg			
VW	0.26 /kg			

Maize gluten feed-CP < 200 g/kg 1002.205/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			188	70	-	64	121	-	-
LYS	3.0	0.4	5.6	65	3.7	59	3.3	73	4.1
MET	1.7	0.1	3.2	81	2.6	78	2.5	82	2.6
CYS	2.1	0.2	3.9	59	2.3	54	2.1	70	2.8
THR	3.6	0.2	6.8	72	4.9	64	4.3	76	5.1
TRP	0.6	0.1	1.1	66	0.7	55	0.6	82	0.9
ILE	3.1	0.2	5.8	80	4.7	74	4.3	83	4.8
ARG	4.4	0.8	8.3	85	7.0	81	6.7	88	7.3
PHE	3.8	0.3	7.1	84	6.0	80	5.7	86	6.1
HIS	3.0	0.3	5.6	76	4.3	73	4.1	83	4.7
LEU	9.0	0.6	16.9	85	14.4	82	14.0	90	15.2
TYR	3.0	0.3	5.6	84	4.7	79	4.5	83	4.7
VAL	4.7	0.3	8.8	77	6.8	72	6.3	85	7.5
ALA	6.7	0.5	12.6	84	10.6	80	10.1	86	10.8
ASP	6.1	0.5	11.5	72	8.2	66	7.5	76	8.7
GLU	15.4	0.8	29.0	82	23.7	78	22.6	87	25.2
GLY	4.5	0.3	8.5	62	5.2	52	4.4	71	6.0
PRO	8.3	0.6	15.6	78	12.1	72	11.2	84	13.1
SER	4.3	0.3	8.1	76	6.1	69	5.5	80	6.5
Sum AA	87.3		164	-	128	-	120	-	136

Fatty acids

	% FA	g/kg
CFAT(h)		35.2
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	12.0	3.4
C16:1	0.2	0.1
C18:0	2.0	0.6
C18:1	28.0	7.9
C:18:2	55.0	15.5
C18:3	1.0	0.3
>=C20	1.0	0.3
Sum FA	99.6	28.0
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sd
FP	55	-
LA	55	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Maize gluten feed-CP 200 - 230 g/kg 1002.205/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	895	59	203	34	40	73	527	521	
sd	11	6	6	6	4	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	153	122	-	24	340	88	6	398	58
sd	22	-	-	12	39	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.6	9.6	6.7	3.7	12.1	3.2	2.1	1.0	1.9
sd	1.1	0.8	-	0.4	1.4	1.5	0.6	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	164	20	63	6	0.9	0.2	-
sd	62	4	9	1	-	-	-

IP/P	70	SUGe/SUG	60	EB (meq/kg)	391
		CF_DI	0.97	CAD (meq/kg)	212

Digestibility coefficients (%)

Ruminants

DCCP	76	
DCCFAT	87	
DCCF	68	
DCNFE	87	
DCOM	83	
DVE	1991	2007
%RUP	26	31
%DRUP	88	88
%RUSTA	21	21
%DASH	50	50
DASHmax	37	37

Pigs

DCCP	64
DCCFATh	68
DCCF	39
DCNFE	58
DCOM	58
DCNSPh	34
DCiSTA	100
StaDCP	25
AppDCP	23

Roosters/Laying hens

DCCP	85
DCCFAT	72
DCNFE	42
DCPpo	40
Broilers	
DCCP	67
DCCFATh	64
DC(S+S)	98
DCNFEh	27
DCPpo	40

Rabbits

DCCP	75
DCCFAT	87
DCCF	42
DCNFE	68

Horses

DCCP	71
DCOM	71

Nutritional value (in product)

Ruminants

VEM	975 /kg
VEVI	1047 /kg
FOM-91	547 g/kg
FOMr-07	530 g/kg
FOMr2-07	289 g/kg
FOMr2/FOMr	0.55 /kg
DVE-91	91 g/kg
DVE-07	91 g/kg
OEB-91	62 g/kg
OEB-07	64 g/kg
OEB2-07	71 g/kg
DVMET-91	2.0 g/kg
DVLYS-91	4.8 g/kg
DVMET-07	2.0 g/kg
DVLYS-07	4.6 g/kg
SW	0.27 /kg
VW	0.26 /kg

Pigs

NE2015	6.47 MJ/kg
NE2015	1547 kcal/kg
EW2015	0.74 /kg
StaDP	2.4 g/kg
AppDP	2.2 g/kg

Roosters/Laying hens

MEpo	8.32 MJ/kg
MEpo	1990 kcal/kg
MEla	8.49 MJ/kg
MEla	2029 kcal/kg
DPpo	3.8 g/kg

Broilers

MEbr	6.72 MJ/kg
MEbr	1607 kcal/kg
DPpo	3.8 g/kg

Rabbits

MErab	10.76 MJ/kg
MErab	2571 kcal/kg

Horses

NEm	7.43 MJ/kg
NEm	1776 kcal/kg
EWpa	0.83 /kg
DCPho	144 g/kg

Maize gluten feed-CP 200 - 230 g/kg 1002.205/2/0

Amino acids

Ileal digestible

Standardized ileal digestible

AA pigs

AA poultry

	<u>g/16g N</u>		<u>g/kg</u>	<u>AA pigs</u>				<u>Standardized ileal digestible</u>	
	mean	sdc		<u>standardized</u>		<u>apparent</u>		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			203	70	-	65	131	-	-
LYS	3.0	0.4	6.1	65	3.9	59	3.6	73	4.4
MET	1.7	0.1	3.4	81	2.8	78	2.7	82	2.8
CYS	2.1	0.2	4.3	59	2.5	55	2.3	70	3.0
THR	3.6	0.2	7.3	72	5.2	65	4.7	76	5.5
TRP	0.6	0.1	1.2	66	0.8	56	0.7	82	1.0
ILE	3.1	0.2	6.3	80	5.0	75	4.7	83	5.2
ARG	4.4	0.8	8.9	85	7.6	81	7.2	88	7.8
PHE	3.8	0.3	7.7	84	6.5	80	6.2	86	6.6
HIS	3.0	0.3	6.1	76	4.6	73	4.5	83	5.0
LEU	9.0	0.6	18.2	85	15.5	83	15.1	90	16.4
TYR	3.0	0.3	6.1	84	5.1	80	4.8	83	5.0
VAL	4.7	0.3	9.5	77	7.3	72	6.9	85	8.1
ALA	6.7	0.5	13.6	84	11.4	81	11.0	86	11.7
ASP	6.1	0.5	12.4	72	8.9	66	8.2	76	9.4
GLU	15.4	0.8	31.2	82	25.5	78	24.5	87	27.2
GLY	4.5	0.3	9.1	62	5.6	53	4.8	71	6.5
PRO	8.3	0.6	16.8	78	13.1	72	12.1	84	14.1
SER	4.3	0.3	8.7	76	6.6	69	6.0	80	7.0
Sum AA	87.3		177	-	138	-	130	-	147

Fatty acids

Fermentation products

	<u>% FA</u>	<u>g/kg</u>		<u>g/kg</u>	<u>sdc</u>
	CFAT(h)			39.8	FP
<=C10	-	0.0	LA	56	-
C12:0	0.2	0.1	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	3.8	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	0.6	Glycerol	-	-
C18:1	28.0	8.9			
C:18:2	55.0	17.5			
C18:3	1.0	0.3	NH3	-	-
>=C20	1.0	0.3			
Sum FA	99.6	31.7			
% FA in CFAT-fraction		80			

Maize gluten feed-CP > 230 g/kg 1002.205/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	889	62	240	30	41	74	483	472	
sd	8	4	7	3	3	4	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	128	97	-	26	334	89	7	373	39
sd	15	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.0	9.5	6.7	3.6	11.2	3.2	2.1	1.0	2.2
sd	0.9	0.8	-	0.4	0.8	1.5	0.6	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	163	20	62	6	0.9	0.2	-
sd	62	3	9	1	-	-	-

IP/P	70	SUGe/SUG	60	EB (meq/kg)	365
		CF_DI	0.97	CAD (meq/kg)	166

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	78		DCCP	65	DCCP	75		
DCCFAT	88		DCCFATh	69	DCCFAT	87		
DCCF	68		DCCF	39	DCNFE	42		
DCNFE	86		DCNFE	57	DCPpo	68		
DCOM	82		DCOM	58				
			DCNSPh	34				
			DCiSTA	100	Broilers	Horses		
DVE	1991	2007	StaDCP	25	DCCP	68	DCCP	71
%RUP	21	27	AppDCP	23	DCCFATh	64	DCOM	71
%DRUP	88	88			DC(S+S)	98		
%RUSTA	21	21			DCNFEh	25		
%DASH	50	50			DCPpo	40		
DASHmax	39	39						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	961 /kg	NE2015	6.41 MJ/kg	MEpo	7.82 MJ/kg	MErab	10.78 MJ/kg
VEVI	1027 /kg	NE2015	1531 kcal/kg	MEpo	1868 kcal/kg	MErab	2575 kcal/kg
FOM-91	540 g/kg	EW2015	0.73 /kg	MEla	7.99 MJ/kg		
FOMr-07	528 g/kg	StaDP	2.4 g/kg	MEla	1909 kcal/kg		
FOMr2-07	304 g/kg	AppDP	2.2 g/kg	DPpo	3.8 g/kg		
FOMr2/FOMr	0.58 /kg						
DVE-91	87 g/kg			Broilers		Horses	
DVE-07	90 g/kg			MEbr	6.84 MJ/kg	NEm	7.39 MJ/kg
OEB-91	103 g/kg			MEbr	1636 kcal/kg	NEm	1766 kcal/kg
OEB-07	103 g/kg			DPpo	3.8 g/kg	EWpa	0.83 /kg
OEB2-07	108 g/kg					DCPho	170 g/kg
DVMET-91	2.0 g/kg						
DVLYS-91	4.7 g/kg						
DVMET-07	2.0 g/kg						
DVLYS-07	4.5 g/kg						
SW	0.28 /kg						
VW	0.26 /kg						

Maize gluten feed-CP > 230 g/kg 1002.205/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			240	70	-	66	157	-	-
LYS	3.0	0.5	7.2	65	4.7	60	4.3	73	5.3
MET	1.7	0.2	4.1	81	3.3	79	3.2	82	3.3
CYS	2.1	0.1	5.0	59	3.0	55	2.8	70	3.5
THR	3.6	0.2	8.6	72	6.2	66	5.7	76	6.6
TRP	0.6	0.1	1.4	66	1.0	57	0.8	82	1.2
ILE	3.1	0.3	7.4	80	5.9	75	5.6	83	6.2
ARG	4.4	0.4	10.6	85	9.0	82	8.6	88	9.3
PHE	3.8	0.3	9.1	84	7.6	81	7.4	86	7.8
HIS	3.0	0.5	7.2	76	5.5	74	5.3	83	6.0
LEU	9.0	0.4	21.6	85	18.3	83	17.9	90	19.4
TYR	3.0	0.3	7.2	84	6.0	80	5.8	83	6.0
VAL	4.7	0.4	11.3	77	8.7	73	8.2	85	9.6
ALA	6.7	0.3	16.1	84	13.5	81	13.1	86	13.8
ASP	6.1	0.5	14.6	72	10.5	67	9.8	76	11.1
GLU	15.4	0.7	37.0	82	30.2	79	29.2	87	32.1
GLY	4.5	0.7	10.8	62	6.7	54	5.9	71	7.7
PRO	8.3	0.5	19.9	78	15.5	73	14.5	84	16.7
SER	4.3	0.3	10.3	76	7.8	70	7.2	80	8.3
Sum AA	87.3		209	-	163	-	155	-	174

Fatty acids

	% FA	g/kg
CFAT(h)		41.4
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	12.0	4.0
C16:1	0.2	0.1
C18:0	2.0	0.7
C18:1	28.0	9.3
C:18:2	55.0	18.2
C18:3	1.0	0.3
>=C20	1.0	0.3
Sum FA	99.6	33.0
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sd
FP	55	-
LA	55	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Maize gluten meal 1002.204/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	895	15	599	-	56	10	-	216	
sd	14	6	20	-	10	3	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	176	-	1	32	16	-	50	18
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	4.3	3.0	0.5	1.4	0.4	0.5	0.4	6.0
sd	0.4	1.1	-	0.2	0.5	0.2	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	88	6	21	11	0.6	-	2.0
sd	5	5	7	5	-	-	-

IP/P	70	SUGe/SUG	60	EB (meq/kg)	35
		CF_DI	0.97	CAD (meq/kg)	-359

Digestibility coefficients (%)

Ruminants

DCCP	95
DCCFAT	67
DCCF	95
DCNFE	99
DCOM	94

DVE 1991 2007

%RUP	72	74
%DRUP	93	93
%RUSTA	12	12
%DASH	50	50
DASHmax	13	13

Pigs

DCCP	94
DCCFATh	80
DCCF	62
DCNFE	94
DCOM	92
DCNSPh	65
DCiSTA	100
StaDCP	20
AppDCP	16

Roosters/Laying hens

DCCP	95
DCCFAT	84
DCNFE	80
DCPpo	40
DCCP	90
DCCFATh	71
DC(S+S)	95
DCNFEh	77
DCPpo	40

Broilers

DCCP	90
DCCFATh	71
DC(S+S)	95
DCNFEh	77
DCPpo	40

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-

Horses

DCCP	89
DCOM	93

Nutritional value (in product)

Ruminants

VEM	1207 /kg
VEVI	1302 /kg
FOM-91	318 g/kg
FOMr-07	324 g/kg
FOMr2-07	142 g/kg
FOMr2/FOMr	0.44 /kg
DVE-91	472 g/kg
DVE-07	445 g/kg
OEB-91	71 g/kg
OEB-07	98 g/kg
OEB2-07	9 g/kg
DVMET-91	11.8 g/kg
DVLYS-91	9.7 g/kg
DVMET-07	11.2 g/kg
DVLYS-07	9.5 g/kg
SW	0.17 /kg
VW	0.26 /kg

Pigs

NE2015	10.94 MJ/kg
NE2015	2615 kcal/kg
EW2015	1.24 /kg
StaDP	0.9 g/kg
AppDP	0.7 g/kg

Roosters/Laying hens

MEpo	15.06 MJ/kg
MEpo	3599 kcal/kg
MEla	15.33 MJ/kg
MEla	3664 kcal/kg
DPpo	1.7 g/kg

Broilers

MEbr	14.14 MJ/kg
MEbr	3380 kcal/kg
DPpo	1.7 g/kg

Rabbits

MErab	-
MErab	-

Horses

NEm	10.51 MJ/kg
NEm	2511 kcal/kg
EWpa	1.18 /kg
DCPho	533 g/kg

Maize gluten meal 1002.204/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			599	90	-	88	529	-	-
LYS	1.7	0.2	10.2	87	8.9	84	8.5	79	8.0
MET	2.4	0.2	14.4	97	13.9	96	13.8	89	12.8
CYS	1.8	0.1	10.8	88	9.5	86	9.3	74	8.0
THR	3.4	0.1	20.4	90	18.4	88	17.9	79	16.1
TRP	0.5	0.1	3.0	86	2.6	82	2.4	74	2.2
ILE	4.1	0.2	24.5	89	21.9	88	21.6	85	20.9
ARG	3.2	0.2	19.2	93	17.8	91	17.5	86	16.5
PHE	6.3	0.2	37.7	91	34.3	90	34.0	88	33.2
HIS	2.1	0.2	12.6	86	10.8	85	10.6	82	10.3
LEU	16.6	0.7	99.4	91	90.8	91	90.4	89	88.5
TYR	5.2	0.4	31.1	93	28.9	92	28.7	89	27.7
VAL	4.7	0.3	28.1	88	24.6	86	24.2	84	23.6
ALA	8.9	0.4	53.3	89	47.4	88	47.0	89	47.4
ASP	6.3	0.2	37.7	94	35.4	92	34.7	81	30.6
GLU	21.6	1.1	129.3	88	113.7	87	112.7	88	113.8
GLY	2.7	0.2	16.2	75	12.1	70	11.3	74	12.0
PRO	9.4	0.5	56.3	89	50.1	87	49.1	88	49.5
SER	5.3	0.2	31.7	98	31.1	96	30.5	86	27.3
Sum AA	106.2		636	-	572	-	564	-	548

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		55.6	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.1	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	5.3	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	0.9	Glycerol	-	-
C18:1	28.0	12.4			
C:18:2	55.0	24.4			
C18:3	1.0	0.4			
>=C20	1.0	0.4			
Sum FA	99.6	44.3			
% FA in CFAT-fraction		80	NH3	-	

Maize starch 1002.201/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	892	1	6	5	-	2	878	-	
sd	26	1	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	851	-	-	9	3	-	29	20
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	0.4	0.0	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	5	SUGe/SUG	100	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	-		DCCP	-	DCCP	-	
DCCFAT	-		DCCFATh	-	DCCFAT	-	
DCCF	97		DCCF	-	DCCF	-	
DCNFE	97		DCNFE	97	DCNFE	-	
DCOM	96		DCOM	95	DCNFE	-	
			DCNSPh	0			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	42	57	StaDCP	65	DCCP	DCCP	-
%DRUP	88	88	AppDCP	25	DCCFATh	DCOM	90
%RUSTA	22	22			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	-	-			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1164 /kg	NE2015	12.03 MJ/kg	MEpo	15.21 MJ/kg	MErab	-
VEVI	1327 /kg	NE2015	2876 kcal/kg	MEpo	3635 kcal/kg	MErab	-
FOM-91	658 g/kg	EW2015	1.37 /kg	MEla	15.21 MJ/kg		
FOMr-07	678 g/kg	StaDP	0.3 g/kg	MEla	3635 kcal/kg		
FOMr2-07	381 g/kg	AppDP	0.1 g/kg	DPpo	0.2 g/kg		
FOMr2/FOMr	0.56 /kg						
DVE-91	63 g/kg			Broilers		Horses	
DVE-07	85 g/kg			MEbr	14.65 MJ/kg	NEm	10.20 MJ/kg
OEB-91	-95 g/kg			MEbr	3502 kcal/kg	NEm	2437 kcal/kg
OEB-07	-131 g/kg			DPpo	0.2 g/kg	EWpa	1.14 /kg
OEB2-07	-68 g/kg					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-0.11 /kg						
VW	0.26 /kg						

Maize starch 1002.201/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		
				standardized	apparent	DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg
CP			6	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		5.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Maize, chemical/heat treated 1002.629/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	882	13	84	33	42	21	732	722	
sd	6	1	5	7	-	3	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	623	614	-	15	94	27	2	115	20
sd	19	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	3.0	2.6	1.0	3.5	0.1	0.5	0.1	0.9
sd	-	0.3	-	-	0.3	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	60	6	19	2	0.2	0.1	0.1
sd	28	1	4	1	-	-	-

IP/P	85	SUGe/SUG	90	EB (meq/kg)	79
		CF_DI	0.96	CAD (meq/kg)	19

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	62		DCCP	77	DCCP	62
DCCFAT	91		DCCFATh	84	DCCFAT	87
DCCF	51		DCCF	51	DCNFE	91
DCNFE	94		DCNFE	95	DCPpo	30
DCOM	90		DCOM	92		
			DCNSPh	61	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	73
%RUP	59	64	StaDCP	27	DCCFATh	88
%DRUP	94	94	AppDCP	21	DC(S+S)	99
%RUSTA	5	5			DCNFEh	86
%DASH	65	65			DCPpo	30
DASHmax	15	15				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1127 /kg	NE2015	11.58 MJ/kg	MEpo	14.01 MJ/kg	
VEVI	1260 /kg	NE2015	2767 kcal/kg	MEpo	3347 kcal/kg	
FOM-91	657 g/kg	EW2015	1.32 /kg	MEla	14.21 MJ/kg	
FOMr-07	675 g/kg	StaDP	0.8 g/kg	MEla	3396 kcal/kg	
FOMr2-07	556 g/kg	AppDP	0.6 g/kg	DPpo	0.9 g/kg	
FOMr2/FOMr	0.82 /kg			Horses		
DVE-91	108 g/kg			MEbr	13.57 MJ/kg	
DVE-07	138 g/kg			MEbr	3243 kcal/kg	
OEB-91	-70 g/kg			DPpo	0.9 g/kg	
OEB-07	-117 g/kg				NEEm	9.81 MJ/kg
OEB2-07	-116 g/kg				NEEm	2345 kcal/kg
DVMET-91	2.6 g/kg				EWpa	1.10 /kg
DVLYS-91	5.9 g/kg				DCPho	61 g/kg
DVMET-07	3.4 g/kg					
DVLYS-07	8.3 g/kg					
SW	-0.25 /kg					
VW	0.25 /kg					

Maize, chemical/heat treated 1002.629/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			84	82	-	70	59	-	-
LYS	2.9	0.3	2.4	75	1.8	61	1.5	90	2.2
MET	2.1	0.2	1.8	87	1.5	82	1.4	94	1.7
CYS	2.2	0.2	1.8	81	1.5	71	1.3	86	1.6
THR	3.6	0.2	3.0	79	2.4	62	1.9	83	2.5
TRP	0.7	0.1	0.6	76	0.4	55	0.3	85	0.5
ILE	3.4	0.2	2.9	86	2.5	74	2.1	93	2.7
ARG	4.7	0.4	3.9	88	3.5	79	3.1	93	3.7
PHE	4.8	0.3	4.0	87	3.5	80	3.2	93	3.8
HIS	3.0	0.2	2.5	86	2.2	80	2.0	90	2.3
LEU	12.1	0.7	10.2	89	9.0	85	8.6	94	9.6
TYR	3.7	0.4	3.1	86	2.7	78	2.4	88	2.7
VAL	4.8	0.3	4.0	86	3.5	74	3.0	90	3.6
ALA	7.5	0.4	6.3	87	5.5	80	5.0	93	5.9
ASP	6.7	0.4	5.6	82	4.6	69	3.9	89	5.0
GLU	18.1	1.0	15.2	89	13.6	83	12.6	95	14.4
GLY	3.9	0.3	3.3	79	2.6	54	1.8	86	2.8
PRO	8.9	0.7	7.5	85	6.3	72	5.4	91	6.8
SER	4.8	0.2	4.0	88	3.6	74	3.0	91	3.7
Sum AA	97.9		82	-	71	-	63	-	75

Fatty acids

	% FA	g/kg
CFAT(h)		42.3
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	12.0	4.6
C16:1	0.2	0.1
C18:0	2.0	0.8
C18:1	28.0	10.7
C:18:2	55.0	21.0
C18:3	1.0	0.4
>=C20	1.0	0.4
Sum FA	99.6	37.9
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Maize, distillers solubles, dried 1002.308/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	894	50	260	-	98	71	-	416	
sd	17	8	10	-	30	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	53	54	-	18	241	-	-	415	175
sd	26	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.1	8.0	2.4	3.3	11.0	5.2	2.1	-	2.2
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	61	5	-	-	-
sd	-	-	-	-	-	-	-

IP/P	30	SUGe/SUG	60	EB (meq/kg)	447
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	76		DCCP	65	DCCP	-
DCCFAT	87		DCCFATh	80	DCCFAT	-
DCCF	81		DCCF	34	DCNFE	-
DCNFE	85		DCNFE	62	DCPpo	-
DCOM	82		DCOM	63		
			DCNSPh	51		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	58	DCCP	-
%RUP	42	57	AppDCP	56	DCCFATh	-
%DRUP	88	88			DC(S+S)	-
%RUSTA	15	15			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	32	32				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1085 /kg	NE2015	7.82 MJ/kg	MEpo	-
VEVI	1170 /kg	NE2015	1868 kcal/kg	MEpo	-
FOM-91	479 g/kg	EW2015	0.89 /kg	MEla	-
FOMr-07	471 g/kg	StaDP	4.6 g/kg	MEla	-
FOMr2-07	206 g/kg	AppDP	4.4 g/kg	DPpo	-
FOMr2/FOMr	0.44 /kg				
DVE-91	138 g/kg			Broilers	Horses
DVE-07	170 g/kg			MEbr	-
OEB-91	68 g/kg			MEbr	-
OEB-07	29 g/kg			DPpo	-
OEB2-07	7 g/kg				EWpa
DVMET-91	2.9 g/kg				DCPho
DVLYS-91	5.3 g/kg				
DVMET-07	3.6 g/kg				
DVLYS-07	6.4 g/kg				
SW	0.30 /kg				
VW	0.26 /kg				

Maize, distillers solubles, dried 1002.308/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			260	74	-	70	182	-	-
LYS	2.4	0.3	6.2	64	4.0	58	3.6	-	-
MET	1.8	0.1	4.7	86	4.0	84	3.9	-	-
CYS	1.7	0.4	4.4	75	3.3	71	3.1	-	-
THR	3.7	0.5	9.6	75	7.2	69	6.7	-	-
TRP	0.9	0.2	2.3	70	1.6	65	1.5	-	-
ILE	3.6	0.3	9.3	84	7.8	80	7.5	-	-
ARG	3.9	0.8	10.1	91	9.2	87	8.9	-	-
PHE	4.5	0.6	11.7	86	10.0	83	9.7	-	-
HIS	2.6	0.3	6.8	88	5.9	85	5.8	-	-
LEU	9.6	2.5	24.9	87	21.7	85	21.3	-	-
TYR	3.3	0.7	8.6	85	7.3	82	7.0	-	-
VAL	4.9	0.4	12.7	83	10.6	79	10.1	-	-
ALA	6.2	1.8	16.1	78	12.6	75	12.1	-	-
ASP	6.4	0.6	16.6	74	12.3	70	11.6	-	-
GLU	17.4	3.0	45.2	81	36.5	78	35.5	-	-
GLY	3.9	0.3	10.1	71	7.2	63	6.4	-	-
PRO	8.9	0.3	23.1	77	17.8	73	16.8	-	-
SER	4.6	0.3	11.9	80	9.5	75	8.9	-	-
Sum AA	90.3		235	-	188	-	180	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		98.1
<=C10	-	0.0
C12:0	0.2	0.2
C14:0	0.2	0.2
C16:0	12.0	9.4
C16:1	0.2	0.2
C18:0	2.0	1.6
C18:1	28.0	22.0
C:18:2	55.0	43.2
C18:3	1.0	0.8
>=C20	1.0	0.8
Sum FA	99.6	78.2
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Maize, distillers solubles, dried:

1. Because STAam is missing feeding values are calculated based on STAew.

Malt culms-CP < 200 g/kg 1005.310/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	921	55	185	20	29	144	518	509	
sd	24	12	13	-	-	14	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	109	104	-	95	427	-	-	467	40
sd	-	-	-	19	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	4.8	1.2	1.6	12.6	0.4	3.4	-	1.2
sd	-	0.5	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	114	60	36	12	1.8	0.1	0.1
sd	-	-	-	-	-	-	-

IP/P	25	SUGe/SUG	75	EB (meq/kg)	243
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	75		DCCP	66	DCCP	76
DCCFAT	66		DCCFATh	79	DCCFAT	80
DCCF	63		DCCF	22	DCNFE	15
DCNFE	63		DCNFE	60	DCPpo	63
DCOM	66		DCOM	55		
			DCNSPh	30		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	35	DCCP	-
%RUP	22	25	AppDCP	31	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	10	9			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	35	35				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	718 /kg	NE2015	6.21 MJ/kg	MEpo	-	MErab	9.21 MJ/kg
VEVI	708 /kg	NE2015	1483 kcal/kg	MEpo	-	MErab	2201 kcal/kg
FOM-91	497 g/kg	EW2015	0.71 /kg	MEla	-		
FOMr-07	502 g/kg	StaDP	1.7 g/kg	MEla	-		
FOMr2-07	260 g/kg	AppDP	1.5 g/kg	DPpo	-		
FOMr2/FOMr	0.52 /kg						
DVE-91	59 g/kg			Broilers		Horses	
DVE-07	61 g/kg			MEbr	-	NEm	-
OEB-91	65 g/kg			MEbr	-	NEm	-
OEB-07	62 g/kg			DPpo	-	EWpa	-
OEB2-07	42 g/kg					DCPho	-
DVMET-91	1.4 g/kg						
DVLYS-91	3.8 g/kg						
DVMET-07	1.4 g/kg						
DVLYS-07	3.9 g/kg						
SW	0.35 /kg						
VW	0.30 /kg						

Malt culms-CP < 200 g/kg 1005.310/1/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			185	77	-	71	131	-	-
LYS	4.2	0.2	7.7	73	5.6	68	5.3	-	-
MET	1.5	0.2	2.8	79	2.2	75	2.1	-	-
CYS	1.2	0.2	2.2	77	1.7	68	1.5	-	-
THR	3.2	0.2	5.9	77	4.5	67	4.0	-	-
TRP	1.0	-	1.8	74	1.4	67	1.2	-	-
ILE	3.0	0.2	5.5	79	4.4	73	4.0	-	-
ARG	4.4	0.2	8.1	81	6.6	76	6.2	-	-
PHE	3.3	0.5	6.1	81	4.9	76	4.6	-	-
HIS	1.7	0.1	3.1	80	2.5	74	2.3	-	-
LEU	5.6	0.4	10.3	79	8.1	75	7.7	-	-
TYR	2.2	0.2	4.1	80	3.2	73	3.0	-	-
VAL	4.4	0.4	8.1	78	6.3	72	5.8	-	-
ALA	4.7	0.3	8.7	70	6.1	65	5.6	-	-
ASP	9.9	0.9	18.3	73	13.3	69	12.6	-	-
GLU	11.3	0.8	20.8	86	17.8	80	16.8	-	-
GLY	4.0	0.2	7.4	75	5.5	63	4.7	-	-
PRO	5.7	1.1	10.5	89	9.3	79	8.3	-	-
SER	3.3	0.3	6.1	82	5.0	72	4.4	-	-
Sum AA	74.6		138	-	108	-	100	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
	CFAT(h)			20.3	FP
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-	<u>% of CP</u>		
C18:3	-	-	NH3	-	
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-			

Malt culms-CP > 200 g/kg 1005.310/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	918	56	220	20	28	131	492	484	
sd	24	6	11	3	-	7	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	115	105	-	97	374	-	-	425	51
sd	21	-	-	13	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	5.8	1.4	1.6	12.6	0.4	3.4	-	1.4
sd	-	0.5	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	113	60	36	12	1.8	0.1	0.1
sd	-	-	-	-	-	-	-

IP/P	25	SUGe/SUG	75	EB (meq/kg)	242
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	77
DCCFAT	65
DCCF	74
DCNFE	78
DCOM	77

DVE	1991	2007
%RUP	22	25
%DRUP	80	80
%RUSTA	10	9
%DASH	50	50
DASHmax	35	35

Pigs

DCCP	67
DCCFATh	79
DCCF	22
DCNFE	61
DCOM	57
DCNSPh	31
DCiSTA	100
StaDCP	35
AppDCP	32

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	76
DCCFAT	85
DCCF	18
DCNFE	66

Horses

DCCP	-
DCOM	-

Nutritional value (in product)

Ruminants

VEM	862 /kg
VEVI	893 /kg
FOM-91	585 g/kg
FOMr-07	516 g/kg
FOMr2-07	278 g/kg
FOMr2/FOMr	0.54 /kg
DVE-91	82 g/kg
DVE-07	76 g/kg
OEB-91	78 g/kg
OEB-07	87 g/kg
OEB2-07	55 g/kg
DVMET-91	1.8 g/kg
DVLYS-91	5.1 g/kg
DVMET-07	1.7 g/kg
DVLYS-07	4.7 g/kg
SW	0.30 /kg
VW	0.29 /kg

Pigs

NE2015	6.40 MJ/kg
NE2015	1530 kcal/kg
EW2015	0.73 /kg
StaDP	2.0 g/kg
AppDP	1.8 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-

Rabbits

MErab	9.74 MJ/kg
MErab	2328 kcal/kg

Broilers

MEbr	-
MEbr	-
DPpo	-

Horses

NEm	-
NEm	-
EWpa	-
DCPho	-

Malt culms-CP > 200 g/kg 1005.310/2/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			220	77	-	72	158	-	-
LYS	4.2	0.2	9.2	73	6.7	69	6.4	-	-
MET	1.5	0.2	3.3	79	2.6	76	2.5	-	-
CYS	1.2	0.2	2.6	77	2.0	70	1.8	-	-
THR	3.2	0.2	7.0	77	5.4	69	4.9	-	-
TRP	1.0	-	2.2	74	1.6	68	1.5	-	-
ILE	3.0	0.2	6.6	79	5.2	74	4.9	-	-
ARG	4.4	0.2	9.7	81	7.8	77	7.5	-	-
PHE	3.3	0.5	7.3	81	5.9	77	5.6	-	-
HIS	1.7	0.1	3.7	80	3.0	75	2.8	-	-
LEU	5.6	0.4	12.3	79	9.7	75	9.3	-	-
TYR	2.2	0.2	4.8	80	3.9	74	3.6	-	-
VAL	4.4	0.4	9.7	78	7.5	73	7.0	-	-
ALA	4.7	0.3	10.3	70	7.2	66	6.8	-	-
ASP	9.9	0.9	21.8	73	15.8	70	15.1	-	-
GLU	11.3	0.8	24.8	86	21.3	81	20.2	-	-
GLY	4.0	0.2	8.8	75	6.6	65	5.7	-	-
PRO	5.7	1.1	12.5	89	11.1	81	10.1	-	-
SER	3.3	0.3	7.3	82	5.9	73	5.3	-	-
Sum AA	74.6		164	-	129	-	121	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		19.6
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Meat meal-CFATh < 100 g/kg 8001.001/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	940	234	575	-	85	23	-	22	
sd	16	22	28	-	14	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	45	45
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	69.8	34.9	-	1.8	7.0	7.7	6.3	1.4	3.1
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1310	53	154	50	0.6	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	336
		CF_DI	0.96	CAD (meq/kg)	52

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
DCCP	-	DCCP	83	DCCP	75		
DCCFAT	-	DCCFATh	84	DCCFAT	85		
DCCF	-	DCCF	14	DCNFE	-		
DCNFE	-	DCNFE	102	DCPpo	75		
DCOM	-	DCOM	82				
		DCNSPh	57				
DVE	1991	2007		Broilers	Horses		
%RUP	-	-	DCiSTA	DCCP	77	DCCP	-
%DRUP	-	-	StaDCP	DCCFATh	90	DCOM	-
%RUSTA	-	-	AppDCP	DC(S+S)	-		
%DASH	-	-		DCNFEh	-		
DASHmax	-	-		DCPpo	62		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits				
VEM	-	NE2015	8.41 MJ/kg	MEpo	11.00 MJ/kg	MErab	11.22 MJ/kg
VEVI	-	NE2015	2011 kcal/kg	MEpo	2630 kcal/kg	MErab	2682 kcal/kg
FOM-91	-	EW2015	0.96 /kg	MEla	11.43 MJ/kg		
FOMr-07	-	StaDP	26.5 g/kg	MEla	2731 kcal/kg		
FOMr2-07	-	AppDP	26.3 g/kg	DPpo	21.6 g/kg		
FOMr2/FOMr	-						
DVE-91	-			Broilers		Horses	
DVE-07	-			MEbr	10.96 MJ/kg	NEm	-
OEB-91	-			MEbr	2620 kcal/kg	NEm	-
OEB-07	-			DPpo	21.6 g/kg	EWpa	-
OEB2-07	-					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-						
VW	-						

Meat meal-CFATh < 100 g/kg 8001.001/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			575	74	-	72	413	-	-
LYS	5.1	0.6	29.3	77	22.7	76	22.4	75	22.0
MET	1.3	0.2	7.5	77	5.7	75	5.6	77	5.8
CYS	1.0	0.2	5.8	51	2.9	48	2.7	38	2.2
THR	3.3	0.4	19.0	74	14.1	71	13.5	68	12.9
TRP	0.7	0.1	4.0	73	2.9	70	2.8	69	2.8
ILE	2.8	0.4	16.1	78	12.5	75	12.2	74	11.9
ARG	6.9	0.6	39.7	85	33.9	84	33.5	77	30.6
PHE	3.5	0.4	20.1	78	15.7	77	15.4	76	15.3
HIS	1.9	0.3	10.9	76	8.3	74	8.1	73	8.0
LEU	6.2	0.8	35.7	78	27.7	77	27.3	75	26.8
TYR	2.3	0.3	13.2	78	10.4	76	10.1	73	9.7
VAL	4.5	0.6	25.9	76	19.6	74	19.1	74	19.2
ALA	7.7	0.6	44.3	77	34.3	76	33.9	75	33.2
ASP	7.8	0.6	44.9	57	25.6	55	24.9	58	26.0
GLU	12.3	1.0	70.8	75	53.3	74	52.2	72	51.0
GLY	12.9	1.9	74.2	75	55.4	73	54.5	72	53.4
PRO	8.8	1.2	50.6	82	41.5	80	40.5	69	34.9
SER	4.1	0.5	23.6	72	17.1	70	16.5	66	15.6
Sum AA	93.1		536	-	404	-	395	-	381

Fatty acids

	% FA	g/kg
CFAT(h)		85.1
<=C10	-	0.0
C12:0	1.0	0.7
C14:0	3.0	2.0
C16:0	26.0	17.7
C16:1	3.0	2.0
C18:0	16.0	10.9
C18:1	36.0	24.5
C:18:2	7.0	4.8
C18:3	1.0	0.7
>=C20	3.0	2.0
Sum FA	96.0	65.3
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Meat meal-CFATh < 100 g/kg:

1. Processing this product in feeds for livestock animals is prohibited in the EU.
2. The content of linoleic acid may vary from 3 to 12%.

Meat meal-CFATh > 100 g/kg 8001.001/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	944	217	561	-	136	20	-	9		
sd	13	25	33	-	15	8	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	29	29	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	57.4	31.8	-	1.9	5.1	7.0	6.9	1.3	3.1
sd	9.8	2.8	-	-	0.7	1.3	2.0	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1166	37	121	15	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	243
		CF_DI	0.96	CAD (meq/kg)	-31

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 83	DCCP 80	DCCP 75
DCCFAT	-	DCCFATh 87	DCCFAT 86	DCCFAT 85
DCCF	-	DCCF 14	DCNFE 20	DCCF -
DCNFE	-	DCNFE 60	DCPpo 62	DCNFE 75
DCOM	-	DCOM 81		
		DCNSPh 29	Broilers	Horses
DVE	1991	2007	DCCP 75	DCCP -
%RUP	-	-	DCCFATh 90	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 62	
DASHmax	-	-		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 9.74 MJ/kg	MEpo 12.66 MJ/kg
VEVI	-	NE2015 2328 kcal/kg	MEpo 3026 kcal/kg
FOM-91	-	EW2015 1.11 /kg	MEla 13.34 MJ/kg
FOMr-07	-	StaDP 24.2 g/kg	MEla 3189 kcal/kg
FOMr2-07	-	AppDP 24.0 g/kg	DPpo 19.7 g/kg
FOMr2/FOMr	-		
DVE-91	-		Broilers
DVE-07	-		MEbr 12.37 MJ/kg
OEB-91	-		MEbr 2955 kcal/kg
OEB-07	-		DPpo 19.7 g/kg
OEB2-07	-		
DVMET-91	-		Horses
DVLYS-91	-		NEm -
DVMET-07	-		NEm -
DVLYS-07	-		EWpa -
SW	-		DCPho -
VW	-		

Meat meal-CFATh > 100 g/kg 8001.001/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			561	74	-	72	403	-	-
LYS	5.1	0.6	28.6	77	22.2	76	21.8	75	21.5
MET	1.3	0.2	7.3	77	5.6	75	5.5	77	5.6
CYS	1.0	0.2	5.6	51	2.9	48	2.7	38	2.1
THR	3.3	0.4	18.5	74	13.7	71	13.2	68	12.6
TRP	0.7	0.1	3.9	73	2.9	70	2.7	69	2.7
ILE	2.8	0.4	15.7	78	12.2	75	11.9	74	11.6
ARG	6.9	0.6	38.7	85	33.0	84	32.7	77	29.8
PHE	3.5	0.4	19.6	78	15.3	76	15.0	76	14.9
HIS	1.9	0.3	10.7	76	8.1	74	7.9	73	7.8
LEU	6.2	0.8	34.8	78	27.1	76	26.6	75	26.1
TYR	2.3	0.3	12.9	78	10.1	76	9.8	73	9.4
VAL	4.5	0.6	25.3	76	19.1	74	18.6	74	18.7
ALA	7.7	0.6	43.2	77	33.5	76	33.0	75	32.4
ASP	7.8	0.6	43.8	57	25.0	55	24.3	58	25.4
GLU	12.3	1.0	69.1	75	52.0	74	50.9	72	49.7
GLY	12.9	1.9	72.4	75	54.0	73	53.2	72	52.1
PRO	8.8	1.2	49.4	82	40.5	80	39.5	69	34.1
SER	4.1	0.5	23.0	72	16.7	70	16.1	66	15.2
Sum AA	93.1		523	-	394	-	385	-	372

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		136.1	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	1.0	1.1	AC	-	-
C14:0	3.0	3.3	ETH	-	-
C16:0	26.0	28.3	PR	-	-
C16:1	3.0	3.3	BU	-	-
C18:0	16.0	17.4	Glycerol	-	-
C18:1	36.0	39.2			
C:18:2	7.0	7.6			
C18:3	1.0	1.1			
>=C20	3.0	3.3			
Sum FA	96.0	104.5	NH3	-	
% FA in CFAT-fraction		80			

Remarks

Meat meal-CFATh > 100 g/kg:

1. Processing this product in feeds for livestock animals is prohibited in the EU.
2. The content of linoleic acid may vary from 3 to 12%.

Meat meal, Dutch origin 8001.003/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	946	167	581	-	138	28	-	31	
sd	9	17	15	-	18	2	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	59	59
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	46.2	22.8	-	1.6	6.2	8.4	8.5	1.3	3.6
sd	8.0	3.7	-	0.1	0.8	1.7	1.9	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1115	34	114	30	-	-	-
sd	364	7	13	12	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	284
		CF_DI	0.96	CAD (meq/kg)	-20

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 83	DCCP 80	DCCP 75
DCCFAT	-	DCCFATh 87	DCCFAT 89	DCCFAT 85
DCCF	-	DCCF 14	DCNFE 20	DCCF -
DCNFE	-	DCNFE 55	DCPpo 62	DCNFE 75
DCOM	-	DCOM 80		
		DCNSPh 36	Broilers	Horses
DVE	1991	2007	DCCP 78	DCCP -
%RUP	-	-	DCCFATh 90	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 62	
DASHmax	-	-		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 10.13 MJ/kg	MEpo 13.69 MJ/kg	MErab 13.12 MJ/kg
VEVI	-	NE2015 2420 kcal/kg	MEpo 3272 kcal/kg	MErab 3135 kcal/kg
FOM-91	-	EW2015 1.15 /kg	MEla 14.41 MJ/kg	
FOMr-07	-	StaDP 17.4 g/kg	MEla 3443 kcal/kg	
FOMr2-07	-	AppDP 17.2 g/kg	DPpo 14.2 g/kg	
FOMr2/FOMr	-			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr 13.00 MJ/kg	NEm -
OEB-91	-		MEbr 3107 kcal/kg	NEm -
OEB-07	-		DPpo 14.2 g/kg	EWpa -
OEB2-07	-			DCPho -
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Meat meal, Dutch origin 8001.003/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			581	74	-	72	417	-	-
LYS	5.9	0.3	34.3	77	26.5	76	26.2	75	25.7
MET	1.5	0.1	8.7	77	6.7	75	6.6	77	6.7
CYS	1.1	0.1	6.4	51	3.3	48	3.1	38	2.4
THR	3.8	0.1	22.1	74	16.4	72	15.8	68	15.0
TRP	0.8	0.1	4.6	73	3.4	70	3.3	69	3.2
ILE	3.2	0.2	18.6	78	14.4	76	14.1	74	13.8
ARG	6.3	0.2	36.6	85	31.2	84	30.8	77	28.2
PHE	3.9	0.2	22.7	78	17.7	77	17.4	76	17.2
HIS	2.5	0.2	14.5	76	11.0	75	10.9	73	10.6
LEU	7.1	0.3	41.2	78	32.1	77	31.6	75	30.9
TYR	2.6	0.2	15.1	78	11.8	77	11.6	73	11.0
VAL	5.0	0.2	29.0	76	22.0	74	21.5	74	21.5
ALA	6.8	0.3	39.5	77	30.6	76	30.1	75	29.6
ASP	8.1	0.3	47.0	57	26.9	56	26.1	58	27.3
GLU	12.2	0.4	70.9	75	53.4	74	52.3	72	51.0
GLY	9.9	0.4	57.5	75	42.9	73	42.0	72	41.4
PRO	7.6	0.6	44.1	82	36.2	80	35.2	69	30.5
SER	4.4	0.3	25.6	72	18.5	70	17.9	66	16.9
Sum AA	92.7		538	-	405	-	396	-	383

Fatty acids

	% FA	g/kg
CFAT(h)		138.1
<=C10	-	0.0
C12:0	1.0	1.1
C14:0	3.0	3.3
C16:0	26.0	28.7
C16:1	3.0	3.3
C18:0	16.0	17.7
C18:1	36.0	39.8
C:18:2	7.0	7.7
C18:3	1.0	1.1
>=C20	3.0	3.3
Sum FA	96.0	106.1
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Meat meal, Dutch origin:

1. Blending this product in feeds for livestock animals is prohibited in the EU.
2. The content of linoleic acid may vary from 3 to 12%.
3. The ASH content differs per supplier, the concentration of mineral vary accordingly.

Meat-and-bone meal-CFATh < 100 g/kg 8004.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	943	392	455	-	87	15	-	-6	
sd	21	21	14	-	11	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	9	9
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	130.1	62.5	-	2.6	3.1	6.3	4.0	-	2.2
sd	10.3	5.7	-	0.2	0.8	1.1	1.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	458	12	98	8	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	243
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 78	DCCP 73	DCCP -
DCCFAT	-	DCCFATh 85	DCCFAT 62	DCCFAT -
DCCF	-	DCCF -	DCNFE 73	DCCF -
DCNFE	-	DCNFE 78	DCPpo 61	DCNFE -
DCOM	-	DCOM 78		
		DCNSPh 0	Broilers	Horses
DVE	1991	2007	DCCP -	DCCP -
%RUP	-	-	DCCFATh -	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 61	
DASHmax	-	-		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	-	MEpo 8.06 MJ/kg	MErab -
VEVI	-	MEpo 1926 kcal/kg	MErab -
FOM-91	-	MEla 8.37 MJ/kg	
FOMr-07	-	MEla 2001 kcal/kg	
FOMr2-07	-	DPpo 38.1 g/kg	
FOMr2/FOMr	-		
DVE-91	-	Broilers	Horses
DVE-07	-	MEbr -	NEm -
OEB-91	-	MEbr -	NEm -
OEB-07	-	DPpo 38.1 g/kg	EWpa -
OEB2-07	-		DCPho -
DVMET-91	-		
DVLYS-91	-		
DVMET-07	-		
DVLYS-07	-		
SW	-		
VW	-		

Meat-and-bone meal-CFATh < 100 g/kg 8004.000/1/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			455	59	-	57	260	-	-
LYS	4.8	0.4	21.9	65	14.2	63	13.8	75	16.4
MET	1.3	0.1	5.9	53	3.1	51	3.0	77	4.6
CYS	0.8	0.2	3.6	44	1.6	38	1.4	38	1.4
THR	3.0	0.3	13.7	65	8.9	61	8.3	68	9.3
TRP	0.5	0.1	2.3	38	0.9	32	0.7	69	1.6
ILE	2.6	0.3	11.8	59	7.0	56	6.7	74	8.8
ARG	7.5	0.6	34.2	59	20.3	58	19.9	77	26.3
PHE	3.2	0.3	14.6	59	8.7	57	8.3	76	11.1
HIS	1.8	0.3	8.2	59	4.9	57	4.7	73	6.0
LEU	5.5	0.5	25.0	59	14.9	58	14.4	75	18.8
TYR	2.0	0.3	9.1	59	5.4	56	5.1	73	6.6
VAL	4.0	0.4	18.2	59	10.8	57	10.3	74	13.5
ALA	8.1	0.6	36.9	59	21.9	58	21.5	75	27.7
ASP	7.5	0.4	34.2	59	20.3	57	19.5	58	19.8
GLU	12.0	1.1	54.6	59	32.4	57	31.3	72	39.3
GLY	15.7	1.9	71.5	59	42.5	58	41.7	72	51.5
PRO	9.4	1.1	42.8	59	25.4	57	24.4	69	29.5
SER	3.8	0.4	17.3	59	10.3	56	9.7	66	11.4
Sum AA	93.5		426	-	253	-	245	-	303

Fatty acids

	% FA	g/kg
CFAT(h)		86.8
<=C10	-	0.0
C12:0	1.0	0.7
C14:0	3.0	2.1
C16:0	26.0	18.1
C16:1	3.0	2.1
C18:0	16.0	11.1
C18:1	36.0	25.0
C:18:2	7.0	4.9
C18:3	1.0	0.7
>=C20	3.0	2.1
Sum FA	96.0	66.7
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Meat-and-bone meal-CFATh < 100 g/kg:

1. Processing this product in feeds for livestock animals is prohibited in the EU.

Meat-and-bone meal-CFATh > 100 g/kg 8004.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	938	355	450	-	134	14	-	-15	
sd	9	15	10	-	8	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	-1	-1
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	129.3	62.2	-	2.6	3.1	6.3	4.0	-	2.2
sd	10.2	5.7	-	0.2	0.8	1.1	1.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	104	9	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	241
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP 78	DCCP 73	DCCP -
DCCFAT	-	DCCFATh 87	DCCFAT 80	DCCFAT -
DCCF	-	DCCF -	DCNFE 73	DCCF -
DCNFE	-	DCNFE 78	DCPpo 61	DCNFE -
DCOM	-	DCOM 80		
		DCNSPh -	Broilers	Horses
DVE	1991	2007	DCCP -	DCCP -
%RUP	-	-	DCCFATh -	DCOM -
%DRUP	-	-	DC(S+S) -	
%RUSTA	-	-	DCNFEh -	
%DASH	-	-	DCPpo 61	
DASHmax	-	-		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015 8.24 MJ/kg	MEpo 9.89 MJ/kg	MErab -
VEVI	-	NE2015 1969 kcal/kg	MEpo 2363 kcal/kg	MErab -
FOM-91	-	EW2015 0.94 /kg	MEla 10.51 MJ/kg	
FOMr-07	-	StaDP 47.9 g/kg	MEla 2512 kcal/kg	
FOMr2-07	-	AppDP 47.7 g/kg	DPpo 37.9 g/kg	
FOMr2/FOMr	-			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr -	NEm -
OEB-91	-		MEbr -	NEm -
OEB-07	-		DPpo 37.9 g/kg	EWpa -
OEB2-07	-			DCPho -
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Meat-and-bone meal-CFATh > 100 g/kg 8004.000/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			450	59	-	57	256	-	-
LYS	4.8	0.4	21.6	65	14.0	63	13.6	75	16.2
MET	1.3	0.1	5.8	53	3.1	51	3.0	77	4.5
CYS	0.8	0.2	3.6	44	1.6	38	1.4	38	1.4
THR	3.0	0.3	13.5	65	8.8	61	8.2	68	9.2
TRP	0.5	0.1	2.2	38	0.9	32	0.7	69	1.6
ILE	2.6	0.3	11.7	59	6.9	56	6.6	74	8.7
ARG	7.5	0.6	33.7	59	20.1	58	19.7	77	26.0
PHE	3.2	0.3	14.4	59	8.5	57	8.2	76	10.9
HIS	1.8	0.3	8.1	59	4.8	57	4.6	73	5.9
LEU	5.5	0.5	24.7	59	14.7	58	14.3	75	18.5
TYR	2.0	0.3	9.0	59	5.3	56	5.1	73	6.6
VAL	4.0	0.4	18.0	59	10.7	57	10.2	74	13.3
ALA	8.1	0.6	36.4	59	21.7	58	21.2	75	27.3
ASP	7.5	0.4	33.7	59	20.0	57	19.3	58	19.6
GLU	12.0	1.1	54.0	59	32.0	57	30.9	72	38.9
GLY	15.7	1.9	70.6	59	42.0	58	41.1	72	50.8
PRO	9.4	1.1	42.3	59	25.1	57	24.1	69	29.2
SER	3.8	0.4	17.1	59	10.1	56	9.5	66	11.3
Sum AA	93.5		420	-	250	-	242	-	300

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		134.1	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	1.0	1.1	AC	-	-
C14:0	3.0	3.2	ETH	-	-
C16:0	26.0	27.9	PR	-	-
C16:1	3.0	3.2	BU	-	-
C18:0	16.0	17.2	Glycerol	-	-
C18:1	36.0	38.6			
C:18:2	7.0	7.5			
C18:3	1.0	1.1			
>=C20	3.0	3.2			
Sum FA	96.0	103.0	NH3	-	-
% FA in CFAT-fraction		80			

Remarks

Meat-and-bone meal-CFATh > 100 g/kg:

1. Processing this product in feeds for livestock animals is prohibited in the EU.

Milk powder, whole 8012.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	949	59	267	-	243	-	-	380	
sd	3	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	367	-	-	-	31	31
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	9.4	7.6	-	3.5	12.4	3.4	7.4	0.2	2.1
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1	1	36	0	-	0.9	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	258
		CF_DI	0.95	CAD (meq/kg)	114

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	89		DCCP	93	DCCP	-
DCCFAT	99		DCCFATh	98	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	-
DCNFE	97		DCNFE	100	DCPpo	-
DCOM	95		DCOM	97		
			DCNSPh	100	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	21	22	StaDCP	90	DCCFATh	-
%DRUP	90	90	AppDCP	88	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	48	48				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1690 /kg	NE2015	16.38 MJ/kg	MEpo	-	
VEVI	1940 /kg	NE2015	3916 kcal/kg	MEpo	-	
FOM-91	549 g/kg	EW2015	1.86 /kg	MEla	-	
FOMr-07	580 g/kg	StaDP	6.8 g/kg	MEla	-	
FOMr2-07	456 g/kg	AppDP	6.6 g/kg	DPpo	-	
FOMr2/FOMr	0.79 /kg					
DVE-91	104 g/kg			Horses		
DVE-07	107 g/kg			MEbr	-	
OEB-91	123 g/kg			MEbr	-	
OEB-07	117 g/kg			DPpo	-	
OEB2-07	29 g/kg				EWpa	-
DVMET-91	2.8 g/kg				DCPho	-
DVLYS-91	8.1 g/kg					
DVMET-07	2.9 g/kg					
DVLYS-07	8.4 g/kg					
SW	-0.11 /kg					
VW	0.27 /kg					

Milk powder, whole 8012.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP			267	91	-	87	232	-	-
LYS	7.8	0.4	20.9	96	20.0	94	19.6	-	-
MET	2.7	0.2	7.2	96	6.9	95	6.8	-	-
CYS	0.8	0.1	2.1	91	1.9	82	1.7	-	-
THR	4.4	0.1	11.8	92	10.8	87	10.2	-	-
TRP	1.3	0.1	3.5	91	3.2	87	3.0	-	-
ILE	5.2	0.3	13.9	88	12.2	85	11.9	-	-
ARG	3.5	0.2	9.4	97	9.1	93	8.7	-	-
PHE	4.8	0.2	12.8	97	12.4	94	12.1	-	-
HIS	2.8	0.1	7.5	96	7.2	94	7.0	-	-
LEU	9.7	0.3	25.9	96	24.9	94	24.4	-	-
TYR	4.5	0.6	12.0	97	11.7	95	11.4	-	-
VAL	6.3	0.2	16.8	89	15.0	86	14.5	-	-
ALA	3.3	0.1	8.8	89	7.8	84	7.4	-	-
ASP	8.0	0.3	21.4	93	19.9	89	19.1	-	-
GLU	20.8	0.7	55.6	88	48.9	86	47.7	-	-
GLY	2.0	0.1	5.3	95	5.1	79	4.2	-	-
PRO	9.8	0.6	26.2	99	25.9	95	24.9	-	-
SER	5.6	0.2	15.0	81	12.1	77	11.5	-	-
Sum AA	103.3		276	-	255	-	246	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		242.9	FP	-	-
<=C10	9.5	21.5	LA	-	-
C12:0	4.0	9.0	AC	-	-
C14:0	10.0	22.6	ETH	-	-
C16:0	27.0	61.0	PR	-	-
C16:1	3.0	6.8	BU	-	-
C18:0	10.0	22.6	Glycerol	-	-
C18:1	25.0	56.5			
C:18:2	2.0	4.5			
C18:3	1.0	2.3			
>=C20	1.0	2.3			
Sum FA	92.5	209.0			
% FA in CFAT-fraction		93	NH3	-	

Remarks

Milk powder, whole:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.
3. For the digestibility of the NFE fraction in poultry complete fermentation of lactose (present in limited amounts in the diet) is assumed.

Milkpowder, skimmed 8008.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	951	79	356	8	10	-	508	506	
sd	11	2	13	6	8	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	489	-	-	-	41	41
sd	-	-	-	11	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	12.6	10.2	-	4.7	16.5	4.6	9.9	0.3	2.8
sd	0.6	0.2	-	4.9	0.3	0.6	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	2	1	48	0	-	1.1	-
sd	-	-	3	1	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	343
		CF_DI	0.95	CAD (meq/kg)	149

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	92		DCCP	94	DCCP	-
DCCFAT	77		DCCFATh	55	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	70
DCNFE	97		DCNFE	100	DCPpo	80
DCOM	95		DCOM	97		
			DCNSPh	100	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	91
%RUP	21	22	StaDCP	90	DCCFATh	-
%DRUP	90	90	AppDCP	88	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	80
DASHmax	62	62				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1113 /kg	NE2015	10.73 MJ/kg	MEpo	12.57 MJ/kg	MErab	-
VEVI	1224 /kg	NE2015	2566 kcal/kg	MEpo	3005 kcal/kg	MErab	-
FOM-91	741 g/kg	EW2015	1.22 /kg	MEla	12.63 MJ/kg		
FOMr-07	773 g/kg	StaDP	9.2 g/kg	MEla	3018 kcal/kg		
FOMr2-07	607 g/kg	AppDP	9.0 g/kg	DPpo	8.1 g/kg		
FOMr2/FOMr	0.79 /kg			Broilers		Horses	
DVE-91	140 g/kg			MEbr	-	NEm	9.95 MJ/kg
DVE-07	143 g/kg			MEbr	-	NEm	2378 kcal/kg
OEB-91	162 g/kg			DPpo	8.1 g/kg	EWpa	1.11 /kg
OEB-07	156 g/kg					DCPho	324 g/kg
OEB2-07	38 g/kg						
DVMET-91	3.8 g/kg						
DVLYS-91	11.0 g/kg						
DVMET-07	3.9 g/kg						
DVLYS-07	11.2 g/kg						
SW	-0.24 /kg						
VW	0.27 /kg						

Milkpowder, skimmed 8008.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			356	91	-	88	314	-	-
LYS	7.8	0.4	27.8	97	26.9	95	26.5	99	27.5
MET	2.7	0.2	9.6	97	9.3	96	9.2	100	9.6
CYS	0.8	0.1	2.8	91	2.6	84	2.4	88	2.5
THR	4.4	0.1	15.7	93	14.5	89	13.9	92	14.4
TRP	1.3	0.1	4.6	91	4.2	88	4.1	94	4.4
ILE	5.2	0.3	18.5	89	16.4	87	16.1	92	17.0
ARG	3.5	0.2	12.5	97	12.1	94	11.7	95	11.8
PHE	4.8	0.2	17.1	97	16.6	96	16.3	97	16.6
HIS	2.8	0.1	10.0	96	9.6	94	9.4	95	9.5
LEU	9.7	0.3	34.5	96	33.2	95	32.8	96	33.2
TYR	4.5	0.6	16.0	97	15.5	95	15.3	96	15.4
VAL	6.3	0.2	22.4	90	20.1	87	19.6	92	20.6
ALA	3.3	0.1	11.8	89	10.5	85	10.0	95	11.2
ASP	8.0	0.3	28.5	93	26.6	91	25.9	93	26.5
GLU	20.8	0.7	74.1	88	65.3	87	64.2	90	66.7
GLY	2.0	0.1	7.1	95	6.8	83	5.9	96	6.8
PRO	9.8	0.6	34.9	99	34.6	96	33.6	93	32.5
SER	5.6	0.2	19.9	81	16.2	78	15.6	86	17.2
Sum AA	103.3		368	-	341	-	333	-	343

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		10.5	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Milkpowder, skimmed:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.
3. For the digestibility of the NFE fraction in poultry complete fermentation of lactose (present in limited amounts in the diet) is assumed.

Millet 1006.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	881	32	111	40	-	99	600	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	518	497	-	8	145	93	-	194	48
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	2.8	1.8	1.3	3.0	-	1.2	-	1.2
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	104	11	25	6	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	70	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	70		DCCP	85	DCCP	-
DCCFAT	84		DCCFATh	84	DCCFAT	-
DCCF	12		DCCF	8	DCNFE	90
DCNFE	88		DCNFE	94	DCPpo	38
DCOM	77		DCOM	83		
			DCNSPh	35		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	27	DCCP	-
%RUP	56	60	AppDCP	21	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	25	25			DCNFEh	-
%DASH	50	50			DCPpo	38
DASHmax	22	22				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	904 /kg	NE2015	10.08 MJ/kg	MEpo	12.19 MJ/kg	MErab	-
VEVI	958 /kg	NE2015	2410 kcal/kg	MEpo	2913 kcal/kg	MErab	-
FOM-91	425 g/kg	EW2015	1.15 /kg	MEla	12.36 MJ/kg		
FOMr-07	496 g/kg	StaDP	0.8 g/kg	MEla	2954 kcal/kg		
FOMr2-07	218 g/kg	AppDP	0.6 g/kg	DPpo	1.1 g/kg		
FOMr2/FOMr	0.44 /kg						
DVE-91	80 g/kg			Broilers		Horses	
DVE-07	99 g/kg			MEbr	-	NEm	-
OEB-91	-22 g/kg			MEbr	-	NEm	-
OEB-07	-52 g/kg			DPpo	1.1 g/kg	EWpa	-
OEB2-07	-27 g/kg					DCPho	-
DVMET-91	2.3 g/kg						
DVLYS-91	3.2 g/kg						
DVMET-07	2.8 g/kg						
DVLYS-07	4.8 g/kg						
SW	0.16 /kg						
VW	0.27 /kg						

Millet 1006.000/0/0

Amino acids

	g/16g N		ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			111	85	-	76	84	-	-
LYS	1.8	-	2.0	82	1.6	65	1.3	87	1.7
MET	2.7	-	3.0	75	2.2	71	2.1	83	2.5
CYS	1.8	-	2.0	88	1.8	79	1.6	75	1.5
THR	3.0	-	3.3	85	2.8	69	2.3	79	2.6
TRP	1.2	-	1.3	98	1.3	88	1.2	86	1.1
ILE	3.7	-	4.1	89	3.7	81	3.3	83	3.4
ARG	3.7	-	4.1	87	3.6	79	3.2	89	3.7
PHE	5.3	-	5.9	91	5.3	86	5.1	79	4.6
HIS	2.1	-	2.3	90	2.1	83	1.9	80	1.9
LEU	11.5	-	12.8	90	11.5	87	11.1	82	10.5
TYR	3.7	-	4.1	85	3.5	79	3.2	86	3.5
VAL	5.0	-	5.6	87	4.8	78	4.4	81	4.5
ALA	10.1	-	11.2	90	10.0	86	9.6	81	9.1
ASP	6.4	-	7.1	85	6.1	76	5.4	82	5.8
GLU	21.1	-	23.4	93	21.7	88	20.7	82	19.2
GLY	2.5	-	2.8	83	2.3	55	1.5	80	2.2
PRO	6.6	-	7.3	95	6.9	81	6.0	76	5.6
SER	5.9	-	6.5	90	5.9	81	5.3	81	5.3
Sum AA	98.1		109	-	97	-	89	-	89

Fatty acids

	% FA	g/kg
CFAT(h)		39.6
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	12.0	4.3
C16:1	0.4	0.1
C18:0	5.0	1.8
C18:1	18.0	6.4
C:18:2	58.0	20.7
C18:3	3.0	1.1
>=C20	1.0	0.4
Sum FA	97.4	34.8
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Millet, (pearl millet) 1013.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	912	25	122	45	-	20	700	-	
sd	16	5	15	4	-	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	632	606	-	14	-	-	-	100	100
sd	19	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.2	3.3	2.1	1.4	3.5	-	1.2	0.1	1.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	70	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	72		DCCP	86	DCCP	-
DCCFAT	85		DCCFATh	85	DCCFAT	-
DCCF	20		DCCF	8	DCNFE	91
DCNFE	88		DCNFE	95	DCPpo	38
DCOM	84		DCOM	91		
			DCNSPh	47		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	27	DCCP	-
%RUP	56	60	AppDCP	21	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	25	25			DCNFEh	-
%DASH	50	50			DCPpo	38
DASHmax	18	18				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1065 /kg	NE2015	11.79 MJ/kg	MEpo	14.20 MJ/kg	MErab	-
VEVI	1165 /kg	NE2015	2818 kcal/kg	MEpo	3395 kcal/kg	MErab	-
FOM-91	480 g/kg	EW2015	1.34 /kg	MEla	14.40 MJ/kg		
FOMr-07	554 g/kg	StaDP	0.9 g/kg	MEla	3442 kcal/kg		
FOMr2-07	265 g/kg	AppDP	0.7 g/kg	DPpo	1.2 g/kg		
FOMr2/FOMr	0.48 /kg						
DVE-91	95 g/kg			Broilers		Horses	
DVE-07	118 g/kg			MEbr	-	NEm	-
OEB-91	-26 g/kg			MEbr	-	NEm	-
OEB-07	-62 g/kg			DPpo	1.2 g/kg	EWpa	-
OEB2-07	-34 g/kg					DCPho	-
DVMET-91	2.7 g/kg						
DVLYS-91	4.0 g/kg						
DVMET-07	3.2 g/kg						
DVLYS-07	5.8 g/kg						
SW	0.04 /kg						
VW	0.26 /kg						

Millet, (pearl millet) 1013.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
CP			122	85	-	76	93	-	-
LYS	1.8	-	2.2	82	1.8	65	1.4	87	1.9
MET	2.7	-	3.3	74	2.4	71	2.3	83	2.7
CYS	1.8	-	2.2	87	1.9	78	1.7	75	1.6
THR	3.0	-	3.7	85	3.1	70	2.6	79	2.9
TRP	1.2	-	1.5	97	1.4	88	1.3	86	1.3
ILE	3.7	-	4.5	89	4.0	81	3.7	83	3.8
ARG	3.7	-	4.5	87	3.9	79	3.6	89	4.0
PHE	5.3	-	6.5	91	5.9	86	5.6	79	5.1
HIS	2.1	-	2.6	90	2.3	83	2.1	80	2.1
LEU	11.5	-	14.1	90	12.6	87	12.2	82	11.5
TYR	3.7	-	4.5	85	3.8	79	3.6	86	3.9
VAL	5.0	-	6.1	87	5.3	79	4.8	81	4.9
ALA	10.1	-	12.3	89	11.0	85	10.5	81	10.0
ASP	6.4	-	7.8	85	6.6	75	5.9	82	6.4
GLU	21.1	-	25.8	93	23.9	89	22.8	82	21.1
GLY	2.5	-	3.1	83	2.5	57	1.7	80	2.4
PRO	6.6	-	8.1	95	7.6	82	6.6	76	6.1
SER	5.9	-	7.2	90	6.5	81	5.9	81	5.8
Sum AA	98.1		120	-	107	-	98	-	98

Fatty acids

	% FA	g/kg
CFAT(h)		45.3
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	12.0	4.9
C16:1	0.4	0.2
C18:0	5.0	2.0
C18:1	18.0	7.3
C:18:2	58.0	23.6
C18:3	3.0	1.2
>=C20	1.0	0.4
Sum FA	97.4	39.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Molasses, sugarbeet 4004.210/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	758	80	101	2	-	-	575	-	
sd	40	13	6	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	477	-	-	-	112	112
sd	-	-	-	25	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.3	0.8	0.1	0.1	38.0	5.5	18.9	-	0.1
sd	-	0.6	-	-	6.0	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	20	18	12	7	0.2	0.3	0.6
sd	-	-	-	-	-	-	-

IP/P	10	SUGe/SUG	90	EB (meq/kg)	680
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	75
DCCFAT	-
DCCF	-
DCNFE	93
DCOM	90

DVE	1991	2007
%RUP	5	5
%DRUP	-	0
%RUSTA	-	-
%DASH	65	65
DASHmax	62	62

Pigs

DCCP	39
DCCFATh	0
DCCF	-
DCNFE	91
DCOM	83
DCNSPh	53
DCiSTA	100
StaDCP	60
AppDCP	40

Roosters/Laying hens

DCCP	21
DCCFAT	-
DCNFE	90
DCPpo	50
DCCP	-
DCCFATh	-
DC(S+S)	100
DCNFEh	-
DCPpo	50

Rabbits

DCCP	79
DCCFAT	-
DCCF	-
DCNFE	95

Horses

DCCP	39
DCOM	76

Nutritional value (in product)

Ruminants

VEM	786 /kg
VEVI	868 /kg
FOM-91	602 g/kg
FOMr-07	647 g/kg
FOMr2-07	615 g/kg
FOMr2/FOMr	0.95 /kg
DVE-91	50 g/kg
DVE-07	58 g/kg
OEB-91	5 g/kg
OEB-07	-7 g/kg
OEB2-07	-4 g/kg
DVMET-91	1.3 g/kg
DVLYS-91	4.0 g/kg
DVMET-07	1.5 g/kg
DVLYS-07	4.6 g/kg
SW	-0.29 /kg
VW	0.22 /kg

Pigs

NE2015	6.96 MJ/kg
NE2015	1663 kcal/kg
EW2015	0.79 /kg
StaDP	0.5 g/kg
AppDP	0.3 g/kg

Roosters/Laying hens

MEpo	7.85 MJ/kg
MEpo	1876 kcal/kg
MEla	7.85 MJ/kg
MEla	1876 kcal/kg
DPpo	0.4 g/kg

Broilers

MEbr	8.74 MJ/kg
MEbr	2090 kcal/kg
DPpo	0.4 g/kg

Rabbits

MErab	10.86 MJ/kg
MErab	2595 kcal/kg

Horses

NEm	6.26 MJ/kg
NEm	1495 kcal/kg
EWpa	0.70 /kg
DCPho	39 g/kg

Molasses, sugarbeet 4004.210/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg	standardized		apparent		DC	g/kg
	mean	sd		DC	g/kg	DC	g/kg		
CP			101	95	-	86	87	-	-
LYS	0.5	0.2	0.5	94	0.5	35	0.2	96	0.5
MET	0.3	0.1	0.3	95	0.3	67	0.2	98	0.3
CYS	0.3	0.1	0.3	95	0.3	42	0.1	92	0.3
THR	0.7	0.1	0.7	93	0.7	30	0.2	92	0.6
TRP	0.2	-	0.2	95	0.2	42	0.1	95	0.2
ILE	1.7	0.4	1.7	95	1.6	78	1.3	96	1.6
ARG	0.3	0.1	0.3	93	0.3	-	0.0	89	0.3
PHE	0.5	-	0.5	92	0.5	44	0.2	94	0.5
HIS	0.2	-	0.2	91	0.2	24	0.0	88	0.2
LEU	1.7	0.4	1.7	94	1.6	73	1.3	95	1.6
TYR	1.6	-	1.6	95	1.5	81	1.3	93	1.5
VAL	1.1	0.2	1.1	94	1.0	58	0.6	95	1.1
ALA	2.2	0.4	2.2	95	2.1	78	1.7	98	2.2
ASP	5.6	1.2	5.6	94	5.3	84	4.7	95	5.4
GLU	36.0	5.9	36.3	95	34.4	92	33.5	94	34.1
GLY	1.8	0.4	1.8	94	1.7	57	1.0	94	1.7
PRO	0.9	-	0.9	92	0.8	-	0.0	84	0.8
SER	1.7	0.3	1.7	94	1.6	65	1.1	91	1.6
Sum AA	57.3		58	-	55	-	48	-	54

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sd
CFAT(h)		2.3	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-	NH3	-	-
% FA in CFAT-fraction		-			

Remarks

Molasses, sugarbeet:

1. SUG is represented as glucose units. Sacharose = 0.95 * SUG.

Molasses, sugarcane-SUG < 475 g/kg 7002.210/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	729	111	49	1	1	1	568	568	
sd	14	16	9	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	451	-	-	-	131	131
sd	-	-	-	17	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	7.8	0.7	0.1	2.7	40.5	1.5	18.3	8.3	0.1
sd	1.3	-	-	-	6.8	0.7	4.0	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	167	24	9	6	0.5	0.9	-
sd	-	13	-	2	-	-	-

IP/P	10	SUGe/SUG	90	EB (meq/kg)	589
		CF_DI	0.97	CAD (meq/kg)	62

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	19		DCCP	34	DCCP	68	
DCCFAT	-		DCCFATh	0	DCCFAT	-	
DCCF	-		DCCF	-	DCNFE	71	
DCNFE	86		DCNFE	89	DCPpo	50	
DCOM	80		DCOM	84			
			DCNSPh	53			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	5	5	StaDCP	60	DCCP	DCCP	-
%DRUP	-	0	AppDCP	38	DCCFATh	DCOM	80
%RUSTA	-	-			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	84	84			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	616 /kg	NE2015	6.45 MJ/kg	MEpo	7.42 MJ/kg	MErab	9.37 MJ/kg
VEVI	661 /kg	NE2015	1541 kcal/kg	MEpo	1772 kcal/kg	MErab	2240 kcal/kg
FOM-91	494 g/kg	EW2015	0.73 /kg	MEla	7.42 MJ/kg		
FOMr-07	590 g/kg	StaDP	0.4 g/kg	MEla	1772 kcal/kg		
FOMr2-07	555 g/kg	AppDP	0.2 g/kg	DPpo	0.3 g/kg		
FOMr2/FOMr	0.94 /kg						
DVE-91	35 g/kg			Broilers		Horses	
DVE-07	49 g/kg			MEbr	7.93 MJ/kg	NEm	5.93 MJ/kg
OEB-91	-28 g/kg			MEbr	1895 kcal/kg	NEm	1418 kcal/kg
OEB-07	-50 g/kg			DPpo	0.3 g/kg	EWpa	0.66 /kg
OEB2-07	-45 g/kg					DCPho	-
DVMET-91	1.0 g/kg						
DVLYS-91	3.0 g/kg						
DVMET-07	1.4 g/kg						
DVLYS-07	4.0 g/kg						
SW	-0.27 /kg						
VW	0.21 /kg						

Molasses, sugarcane-SUG < 475 g/kg 7002.210/1/0

Amino acids

Ileal digestible

Standardized ileal digestible

AA pigs

AA poultry

	g/16g N			AA pigs				Standardized ileal digestible	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			49	94	-	77	38	-	-
LYS	0.4	-	0.2	91	0.2	-	-0.1	93	0.2
MET	0.4	-	0.2	95	0.2	54	0.1	98	0.2
CYS	0.6	-	0.3	95	0.3	43	0.1	92	0.3
THR	1.0	-	0.5	92	0.4	4	0.0	91	0.4
TRP	0.2	-	0.1	95	0.1	-	0.0	95	0.1
ILE	0.9	-	0.4	93	0.4	32	0.1	94	0.4
ARG	0.2	-	0.1	87	0.1	-	-0.2	83	0.1
PHE	0.5	-	0.2	88	0.2	-	0.0	90	0.2
HIS	0.2	-	0.1	87	0.1	-	0.0	84	0.1
LEU	1.1	-	0.5	92	0.5	28	0.2	93	0.5
TYR	0.4	-	0.2	91	0.2	-	0.0	90	0.2
VAL	1.9	-	0.9	94	0.9	53	0.5	95	0.9
ALA	3.4	-	1.7	95	1.6	73	1.2	98	1.6
ASP	17.8	-	8.7	95	8.3	88	7.7	95	8.3
GLU	7.6	-	3.7	93	3.5	70	2.6	92	3.4
GLY	1.4	-	0.7	93	0.6	-	0.0	92	0.6
PRO	1.0	-	0.5	88	0.4	-	-0.4	81	0.4
SER	1.2	-	0.6	91	0.5	10	0.1	88	0.5
Sum AA	40.2		20	-	18	-	-	-	18

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		0.7	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Molasses, sugarcane-SUG < 475 g/kg:

1. This class of molasses may be mixed with vinasse.
2. SUG is represented as glucose units. Sacharose = 0.95 * SUG.
3. The S-i content of this product is variable; for a correct calculation of the CAD value of a batch the S-i content should be analyzed.

Molasses, sugarcane-SUG > 475 g/kg 7002.210/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	724	91	35	-	-	-	599	599	
sd	17	10	12	-	-	-	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	485	-	-	-	129	129
sd	-	-	-	8	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	6.8	0.7	0.1	2.7	27.5	1.6	17.3	8.3	0.1
sd	-	-	-	-	6.1	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	166	19	9	5	0.5	0.9	-
sd	-	-	-	-	-	-	-

IP/P	10	SUGe/SUG	90	EB (meq/kg)	285
		CF_DI	0.97	CAD (meq/kg)	-236

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	1		DCCP	24	DCCP	34	DCCP	68
DCCFAT	-		DCCFATh	-	DCCFAT	-	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	75	DCCF	-
DCNFE	86		DCNFE	90	DCPpo	50	DCNFE	90
DCOM	81		DCOM	86				
			DCNSPh	53				
DVE	1991	2007	DCiSTA	100	Broilers		Horses	
%RUP	5	5	StaDCP	60	DCCP	40	DCCP	-
%DRUP	-	0	AppDCP	38	DCCFATh	-	DCOM	81
%RUSTA	-	-			DC(S+S)	100		
%DASH	65	65			DCNFEh	79		
DASHmax	69	69			DCPpo	50		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	639 /kg	NE2015	6.78 MJ/kg	MEpo	7.98 MJ/kg	MErab	9.67 MJ/kg
VEVI	691 /kg	NE2015	1619 kcal/kg	MEpo	1906 kcal/kg	MErab	2310 kcal/kg
FOM-91	513 g/kg	EW2015	0.77 /kg	MEla	7.98 MJ/kg		
FOMr-07	607 g/kg	StaDP	0.4 g/kg	MEla	1906 kcal/kg		
FOMr2-07	572 g/kg	AppDP	0.2 g/kg	DPpo	0.3 g/kg		
FOMr2/FOMr	0.94 /kg						
DVE-91	38 g/kg			Broilers		Horses	
DVE-07	52 g/kg			MEbr	8.40 MJ/kg	NEm	6.16 MJ/kg
OEB-91	-44 g/kg			MEbr	2007 kcal/kg	NEm	1472 kcal/kg
OEB-07	-67 g/kg			DPpo	0.3 g/kg	EWpa	0.69 /kg
OEB2-07	-62 g/kg					DCPho	-
DVMET-91	1.1 g/kg						
DVLYS-91	3.1 g/kg						
DVMET-07	1.4 g/kg						
DVLYS-07	4.3 g/kg						
SW	-0.31 /kg						
VW	0.21 /kg						

Molasses, sugarcane-SUG > 475 g/kg 7002.210/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			35	94	-	71	25	-	-
LYS	0.4	-	0.1	91	0.1	-	-0.2	93	0.1
MET	0.4	-	0.1	95	0.1	38	0.1	98	0.1
CYS	0.6	-	0.2	95	0.2	22	0.0	92	0.2
THR	1.0	-	0.3	92	0.3	-	-0.1	91	0.3
TRP	0.2	-	0.1	95	0.1	-	0.0	95	0.1
ILE	0.9	-	0.3	93	0.3	8	0.0	94	0.3
ARG	0.2	-	0.1	86	0.1	-	-0.2	83	0.1
PHE	0.5	-	0.2	88	0.2	-	-0.1	90	0.2
HIS	0.2	-	0.1	86	0.1	-	-0.1	84	0.1
LEU	1.1	-	0.4	92	0.4	3	0.0	93	0.4
TYR	0.4	-	0.1	91	0.1	-	-0.1	90	0.1
VAL	1.9	-	0.7	94	0.6	36	0.2	95	0.6
ALA	3.4	-	1.2	94	1.1	65	0.8	98	1.2
ASP	17.8	-	6.2	95	5.9	86	5.3	95	5.9
GLU	7.6	-	2.7	93	2.5	61	1.6	92	2.4
GLY	1.4	-	0.5	93	0.5	-	-0.2	92	0.4
PRO	1.0	-	0.3	88	0.3	-	-0.5	81	0.3
SER	1.2	-	0.4	91	0.4	-	-0.1	88	0.4
Sum AA	40.2		14	-	13	-	-	-	13

Fatty acids

	% FA	g/kg
CFAT(h)		0.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Molasses, sugarcane-SUG > 475 g/kg:

1. SUG is represented as glucose units. Sacharose = 0.95 * SUG.
2. The S-i content of this product is variable; for a correct calculation of the CAD value of a batch the S-i content should be analyzed.

Niger seed 3002.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	916	47	203	409	-	145	112	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	8	-	35	-	-	-	215	215
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.0	6.9	5.2	3.3	8.2	-	-	-	2.1
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	501	33	42	13	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	50	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	79		DCCP	78	DCCP	-
DCCFAT	93		DCCFATh	69	DCCFAT	-
DCCF	30		DCCF	24	DCNFE	-
DCNFE	66		DCNFE	75	DCPpo	-
DCOM	76		DCOM	64		
			DCNSPh	35		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	10	DCCP	-
%RUP	37	39	AppDCP	7	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	30	30				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1697 /kg	NE2015	13.15 MJ/kg	MEpo	-
VEVI	1893 /kg	NE2015	3143 kcal/kg	MEpo	-
FOM-91	177 g/kg	EW2015	1.49 /kg	MEla	-
FOMr-07	185 g/kg	StaDP	0.7 g/kg	MEla	-
FOMr2-07	89 g/kg	AppDP	0.5 g/kg	DPpo	-
FOMr2/FOMr	0.48 /kg				
DVE-91	66 g/kg			Broilers	Horses
DVE-07	61 g/kg			MEbr	-
OEB-91	94 g/kg			MEbr	-
OEB-07	100 g/kg			DPpo	-
OEB2-07	36 g/kg				EWpa
DVMET-91	1.6 g/kg				DCPho
DVLYS-91	2.8 g/kg				
DVMET-07	1.5 g/kg				
DVLYS-07	2.6 g/kg				
SW	0.39 /kg				
VW	0.30 /kg				

Niger seed 3002.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP			203	63	-	58	117	-	-
LYS	3.7	-	7.5	70	5.3	65	4.9	-	-
MET	2.1	-	4.3	78	3.3	76	3.2	-	-
CYS	2.2	-	4.5	74	3.3	70	3.1	-	-
THR	3.3	-	6.7	64	4.3	56	3.7	-	-
TRP	1.5	-	3.1	63	1.9	59	1.8	-	-
ILE	4.0	-	8.1	60	4.9	56	4.5	-	-
ARG	8.5	-	17.3	76	13.1	74	12.8	-	-
PHE	4.3	-	8.7	65	5.7	61	5.4	-	-
HIS	2.2	-	4.5	74	3.3	70	3.1	-	-
LEU	6.2	-	12.6	62	7.8	58	7.4	-	-
TYR	2.5	-	5.1	69	3.5	64	3.2	-	-
VAL	5.0	-	10.2	62	6.3	57	5.8	-	-
ALA	3.7	-	7.5	63	4.7	57	4.3	-	-
ASP	8.9	-	18.1	63	11.4	59	10.7	-	-
GLU	19.7	-	40.1	63	25.1	60	24.1	-	-
GLY	4.9	-	10.0	63	6.3	55	5.4	-	-
PRO	3.6	-	7.3	62	4.6	49	3.6	-	-
SER	4.7	-	9.6	63	6.0	56	5.4	-	-
Sum AA	91.0		185	-	121	-	112	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		409.5	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	-	0.0	ETH	-	-
C16:0	10.0	38.9	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	7.0	27.2	Glycerol	-	-
C18:1	5.0	19.4			
C:18:2	78.0	303.4			
C18:3	-	0.0			
>=C20	-	0.0			
Sum FA	100.0	389.0	NH3	-	-
% FA in CFAT-fraction		95			

Oats 1004.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	878	25	102	40	46	106	605	599	
sd	7	2	12	3	-	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	401	380	-	10	228	106	-	321	92
sd	34	-	-	3	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	3.2	2.1	1.1	4.3	0.1	0.6	0.1	1.2
sd	-	0.3	-	-	-	-	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	93	44	25	3	0.7	0.2	0.3
sd	23	8	4	1	-	-	-

IP/P	65	SUGe/SUG	95	EB (meq/kg)	96
		CF_DI	0.99	CAD (meq/kg)	16

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	74		DCCP	75	DCCP	73	
DCCFAT	92		DCCFATh	72	DCCFAT	80	
DCCF	50		DCCF	9	DCNFE	10	
DCNFE	80		DCNFE	78	DCPpo	75	
DCOM	76		DCOM	69			
			DCNSPh	27			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	22	23	StaDCP	30	DCCP	80	
%DRUP	90	90	AppDCP	24	DCCFATh	DCOM	71
%RUSTA	10	9			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	18	18			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	908 /kg	NE2015	8.41 MJ/kg	MEpo	10.31 MJ/kg	MErab	10.55 MJ/kg
VEVI	964 /kg	NE2015	2010 kcal/kg	MEpo	2465 kcal/kg	MErab	2522 kcal/kg
FOM-91	550 g/kg	EW2015	0.96 /kg	MEla	10.51 MJ/kg		
FOMr-07	582 g/kg	StaDP	0.9 g/kg	MEla	2512 kcal/kg		
FOMr2-07	346 g/kg	AppDP	0.8 g/kg	DPpo	1.6 g/kg		
FOMr2/FOMr	0.59 /kg						
DVE-91	59 g/kg			Broilers		Horses	
DVE-07	73 g/kg			MEbr	9.94 MJ/kg	NEm	7.77 MJ/kg
OEB-91	-5 g/kg			MEbr	2376 kcal/kg	NEm	1857 kcal/kg
OEB-07	-27 g/kg			DPpo	1.6 g/kg	EWpa	0.87 /kg
OEB2-07	-23 g/kg					DCPho	82 g/kg
DVMET-91	1.5 g/kg						
DVLYS-91	4.1 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	5.1 g/kg						
SW	0.08 /kg						
VW	0.27 /kg						

Oats 1004.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			102	76	-	66	67	-	-
LYS	4.1	0.3	4.2	80	3.4	72	3.0	84	3.5
MET	1.7	0.1	1.7	84	1.5	79	1.4	86	1.5
CYS	3.0	0.3	3.1	75	2.3	69	2.1	67	2.1
THR	3.5	0.2	3.6	75	2.7	60	2.1	74	2.6
TRP	1.2	0.1	1.2	77	0.9	67	0.8	73	0.9
ILE	3.7	0.2	3.8	82	3.1	73	2.8	84	3.2
ARG	6.5	0.5	6.6	90	6.0	85	5.6	84	5.6
PHE	4.8	0.4	4.9	86	4.2	80	3.9	87	4.3
HIS	2.2	0.2	2.2	88	2.0	81	1.8	83	1.9
LEU	7.3	0.3	7.5	84	6.3	78	5.9	84	6.3
TYR	3.3	0.3	3.4	85	2.9	77	2.6	80	2.7
VAL	5.2	0.3	5.3	82	4.3	73	3.9	82	4.4
ALA	4.8	0.3	4.9	76	3.7	67	3.3	79	3.9
ASP	8.2	0.5	8.4	76	6.3	67	5.6	76	6.4
GLU	19.2	1.5	19.6	84	16.4	78	15.4	82	16.1
GLY	4.9	0.4	5.0	77	3.8	61	3.0	76	3.8
PRO	5.3	0.5	5.4	85	4.6	68	3.7	73	4.0
SER	4.8	0.3	4.9	80	3.9	69	3.4	76	3.7
Sum AA	93.7		96	-	78	-	70	-	77

Fatty acids

	% FA	g/kg
CFAT(h)		39.8
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.3	0.1
C16:0	19.0	6.8
C16:1	0.4	0.1
C18:0	1.0	0.4
C18:1	35.0	12.5
C:18:2	39.0	14.0
C18:3	2.0	0.7
>=C20	0.4	0.1
Sum FA	97.1	34.8
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Oats husk meal 1004.111/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	910	42	48	18	-	268	534	-	
sd	15	9	8	4	-	19	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	182	-	11	581	294	-	609	29
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	1.4	0.6	0.9	4.5	0.6	0.9	0.1	0.6
sd	-	0.3	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	133	50	22	3	-	-	-
sd	48	8	5	1	-	-	-

IP/P	45	SUGe/SUG	95	EB (meq/kg)	119
		CF_DI	0.98	CAD (meq/kg)	77

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	43		DCCP	62	DCCP	40	
DCCFAT	85		DCCFATh	56	DCCFAT	80	
DCCF	50		DCCF	9	DCNFE	12	
DCNFE	54		DCNFE	37	DCPpo	40	
DCOM	53		DCOM	30			
			DCNSPh	5	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	DCCP	40
%RUP	28	30	StaDCP	30	DCCFATh	DCOM	45
%DRUP	75	75	AppDCP	17	DC(S+S)		
%RUSTA	10	9			DCNFEh		
%DASH	50	50			DCPpo		
DASHmax	28	28					

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	555 /kg	NE2015	3.71 MJ/kg	MEpo	-	MErab	5.08 MJ/kg
VEVI	509 /kg	NE2015	886 kcal/kg	MEpo	-	MErab	1215 kcal/kg
FOM-91	407 g/kg	EW2015	0.42 /kg	MEla	-		
FOMr-07	414 g/kg	StaDP	0.4 g/kg	MEla	-		
FOMr2-07	177 g/kg	AppDP	0.2 g/kg	DPpo	-		
FOMr2/FOMr	0.43 /kg						
DVE-91	18 g/kg			Broilers		Horses	
DVE-07	24 g/kg			MEbr	-	NEm	4.64 MJ/kg
OEB-91	-28 g/kg			MEbr	-	NEm	1108 kcal/kg
OEB-07	-37 g/kg			DPpo	-	EWpa	0.52 /kg
OEB2-07	-18 g/kg					DCPho	19 g/kg
DVMET-91	0.7 g/kg						
DVLYS-91	1.6 g/kg						
DVMET-07	0.8 g/kg						
DVLYS-07	2.1 g/kg						
SW	0.40 /kg						
VW	0.35 /kg						

Oats husk meal 1004.111/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP			48	39	-	18	9	-	-
LYS	4.1	0.3	2.0	40	0.8	22	0.4	-	-
MET	1.7	0.1	0.8	40	0.3	28	0.2	-	-
CYS	3.0	0.3	1.4	40	0.6	27	0.4	-	-
THR	3.5	0.2	1.7	39	0.7	7	0.1	-	-
TRP	1.2	0.1	0.6	40	0.2	18	0.1	-	-
ILE	3.7	0.2	1.8	40	0.7	21	0.4	-	-
ARG	6.5	0.5	3.1	40	1.2	28	0.9	-	-
PHE	4.8	0.4	2.3	39	0.9	27	0.6	-	-
HIS	2.2	0.2	1.1	39	0.4	24	0.3	-	-
LEU	7.3	0.3	3.5	40	1.4	27	1.0	-	-
TYR	3.3	0.3	1.6	39	0.6	23	0.4	-	-
VAL	5.2	0.3	2.5	40	1.0	20	0.5	-	-
ALA	4.8	0.3	2.3	40	0.9	20	0.5	-	-
ASP	8.2	0.5	4.0	39	1.5	21	0.8	-	-
GLU	19.2	1.5	9.3	39	3.6	28	2.6	-	-
GLY	4.9	0.4	2.4	39	0.9	5	0.1	-	-
PRO	5.3	0.5	2.6	39	1.0	-	0.0	-	-
SER	4.8	0.3	2.3	39	0.9	13	0.3	-	-
Sum AA	93.7		45	-	18	-	10	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		17.9	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.4	0.1	ETH	-	-
C16:0	19.0	2.7	PR	-	-
C16:1	0.4	0.1	BU	-	-
C18:0	1.0	0.1	Glycerol	-	-
C18:1	35.0	5.0			
C:18:2	39.0	5.6			
C18:3	2.0	0.3			
>=C20	0.4	0.1			
Sum FA	97.2	13.9	NH3	-	
% FA in CFAT-fraction		80			

Oats mill feed, high grade 1004.105/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	886	24	91	44	-	118	609	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	269	-	10	263	133	-	448	184
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	3.6	1.6	-	-	-	-	-	1.1
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	45	SUGe/SUG	95	EB (meq/kg)	-
		CF_DI	0.98	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	71		DCCP	74	DCCP	-	
DCCFAT	93		DCCFATh	72	DCCFAT	-	
DCCF	50		DCCF	10	DCNFE	-	
DCNFE	79		DCNFE	76	DCPpo	-	
DCOM	75		DCOM	66			
			DCNSPh	43	Horses		
DVE	1991	2007	DCiSTA	100	DCCP	68	
%RUP	22	23	StaDCP	30	DCCFATh	DCOM	65
%DRUP	90	90	AppDCP	25	DC(S+S)		
%RUSTA	10	9			DCNFEh		
%DASH	50	50			DCPpo		
DASHmax	18	18					

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	903 /kg	NE2015	7.73 MJ/kg	MEpo	-	
VEVI	954 /kg	NE2015	1847 kcal/kg	MEpo	-	
FOM-91	553 g/kg	EW2015	0.88 /kg	MEIa	-	
FOMr-07	540 g/kg	StaDP	1.1 g/kg	MEIa	-	
FOMr2-07	280 g/kg	AppDP	0.9 g/kg	DPpo	-	
FOMr2/FOMr	0.52 /kg					
DVE-91	56 g/kg			Horses		
DVE-07	63 g/kg			MEbr	7.00 MJ/kg	
OEB-91	-14 g/kg			MEbr	1672 kcal/kg	
OEB-07	-26 g/kg			DPpo	EWpa	0.78 /kg
OEB2-07	-14 g/kg				DCPho	62 g/kg
DVMET-91	1.4 g/kg					
DVLYS-91	3.9 g/kg					
DVMET-07	1.6 g/kg					
DVLYS-07	4.5 g/kg					
SW	0.18 /kg					
VW	0.28 /kg					

Oats mill feed, high grade 1004.105/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			91	60	-	49	44	-	-
LYS	4.1	0.3	3.7	60	2.2	51	1.9	-	-
MET	1.7	0.1	1.6	60	0.9	54	0.8	-	-
CYS	3.0	0.3	2.7	60	1.6	53	1.5	-	-
THR	3.5	0.2	3.2	59	1.9	43	1.4	-	-
TRP	1.2	0.1	1.1	60	0.7	49	0.5	-	-
ILE	3.7	0.2	3.4	60	2.0	50	1.7	-	-
ARG	6.5	0.5	5.9	60	3.6	54	3.2	-	-
PHE	4.8	0.4	4.4	60	2.6	53	2.3	-	-
HIS	2.2	0.2	2.0	60	1.2	52	1.0	-	-
LEU	7.3	0.3	6.7	60	4.0	53	3.6	-	-
TYR	3.3	0.3	3.0	60	1.8	51	1.5	-	-
VAL	5.2	0.3	4.7	60	2.8	50	2.4	-	-
ALA	4.8	0.3	4.4	60	2.6	50	2.2	-	-
ASP	8.2	0.5	7.5	60	4.5	50	3.8	-	-
GLU	19.2	1.5	17.5	59	10.4	54	9.4	-	-
GLY	4.9	0.4	4.5	60	2.7	42	1.9	-	-
PRO	5.3	0.5	4.8	59	2.9	39	1.9	-	-
SER	4.8	0.3	4.4	59	2.6	46	2.0	-	-
Sum AA	93.7		86	-	51	-	43	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		44.3
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.1
C16:0	19.0	6.7
C16:1	0.4	0.1
C18:0	1.0	0.4
C18:1	35.0	12.4
C:18:2	39.0	13.8
C18:3	2.0	0.7
>=C20	0.4	0.1
Sum FA	97.2	34.4
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Oats, peeled 1004.116/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	887	19	132	66	66	16	654	654	
sd	14	1	16	-	-	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	574	545	-	14	53	16	9	111	58
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.6	4.3	2.8	1.2	4.0	0.1	0.3	0.1	1.5
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	48	44	28	3	0.2	-	0.0
sd	10	12	3	0	-	-	-

IP/P	65	SUGe/SUG	95	EB (meq/kg)	98
		CF_DI	0.98	CAD (meq/kg)	-4

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	80		DCCP	77	DCCP	-		
DCCFAT	94		DCCFATh	75	DCCFAT	-		
DCCF	50		DCCF	35	DCNFE	-		
DCNFE	93		DCNFE	96	DCPpo	-		
DCOM	90		DCOM	91				
			DCNSPh	69				
DVE	1991	2007	DCiSTA	100	Broilers	Horses		
%RUP	22	23	StaDCP	30	DCCP	89	DCCP	85
%DRUP	90	90	AppDCP	26	DCCFATh	88	DCOM	90
%RUSTA	10	9			DC(S+S)	100		
%DASH	50	50			DCNFEh	85		
DASHmax	15	15			DCPpo	50		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1188 /kg	NE2015	11.60 MJ/kg	MEpo	14.61 MJ/kg	MErab	-
VEVI	1330 /kg	NE2015	2772 kcal/kg	MEpo	3491 kcal/kg	MErab	-
FOM-91	630 g/kg	EW2015	1.32 /kg	MEIa	14.94 MJ/kg		
FOMr-07	673 g/kg	StaDP	1.3 g/kg	MEIa	3570 kcal/kg		
FOMr2-07	467 g/kg	AppDP	1.1 g/kg	DPpo	2.2 g/kg		
FOMr2/FOMr	0.69 /kg						
DVE-91	82 g/kg			Broilers	Horses		
DVE-07	101 g/kg			MEbr	14.07 MJ/kg	NEm	10.48 MJ/kg
OEB-91	5 g/kg			MEbr	3363 kcal/kg	NEm	2504 kcal/kg
OEB-07	-25 g/kg			DPpo	2.2 g/kg	EWpa	1.17 /kg
OEB2-07	-34 g/kg					DCPho	112 g/kg
DVMET-91	1.9 g/kg						
DVLYS-91	5.4 g/kg						
DVMET-07	2.4 g/kg						
DVLYS-07	6.9 g/kg						
SW	-0.13 /kg						
VW	0.25 /kg						

Oats, peeled 1004.116/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			132	81	-	73	96	-	-
LYS	4.1	0.3	5.4	86	4.7	80	4.3	90	4.9
MET	1.7	0.1	2.2	90	2.0	86	1.9	92	2.1
CYS	3.0	0.3	3.9	81	3.2	76	3.0	73	2.9
THR	3.5	0.2	4.6	81	3.7	69	3.2	80	3.7
TRP	1.2	0.1	1.6	83	1.3	75	1.2	79	1.2
ILE	3.7	0.2	4.9	88	4.3	81	4.0	90	4.4
ARG	6.5	0.5	8.6	96	8.2	92	7.9	90	7.7
PHE	4.8	0.4	6.3	92	5.8	88	5.5	93	5.9
HIS	2.2	0.2	2.9	94	2.7	88	2.6	89	2.6
LEU	7.3	0.3	9.6	90	8.6	86	8.2	90	8.6
TYR	3.3	0.3	4.3	91	3.9	85	3.7	86	3.7
VAL	5.2	0.3	6.8	88	6.0	81	5.5	88	6.0
ALA	4.8	0.3	6.3	82	5.2	75	4.7	85	5.4
ASP	8.2	0.5	10.8	82	8.8	75	8.1	82	8.8
GLU	19.2	1.5	25.3	90	22.6	86	21.6	88	22.2
GLY	4.9	0.4	6.4	83	5.3	70	4.5	82	5.3
PRO	5.3	0.5	7.0	91	6.4	78	5.4	79	5.5
SER	4.8	0.3	6.3	86	5.4	77	4.9	82	5.2
Sum AA	93.7		123	-	108	-	100	-	106

Fatty acids

	% FA	g/kg
CFAT(h)		66.5
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.2
C16:0	19.0	11.4
C16:1	0.4	0.2
C18:0	1.0	0.6
C18:1	35.0	20.9
C:18:2	39.0	23.3
C18:3	2.0	1.2
>=C20	0.4	0.2
Sum FA	97.2	58.2
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Palm kernel expeller-CF < 180 g/kg 3001.401/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	915	44	155	76	78	167	472	471	
sd	12	5	5	13	-	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	9	4	-	15	542	344	82	621	79
sd	11	-	-	5	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	5.8	3.7	2.7	6.7	0.1	1.6	1.1	1.3
sd	0.4	0.3	-	0.2	0.3	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	733	275	41	24	0.5	0.1	0.1
sd	370	34	3	1	-	-	-

IP/P	65	SUGe/SUG	75	EB (meq/kg)	130
		CF_DI	0.96	CAD (meq/kg)	-16

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	75		DCCP	30	DCCP	67
DCCFAT	97		DCCFATh	85	DCCFAT	80
DCCF	49		DCCF	32	DCNFE	20
DCNFE	85		DCNFE	82	DCPpo	65
DCOM	77		DCOM	63		
			DCNSPh	68	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	67
%RUP	64	73	StaDCP	40	DCCFATh	70
%DRUP	83	83	AppDCP	37	DC(S+S)	
%RUSTA	-	-			DCNFEh	
%DASH	35	35			DCPpo	
DASHmax	20	20				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1017 /kg	NE2015	7.24 MJ/kg	MEpo	-	MErab	10.07 MJ/kg
VEVI	1085 /kg	NE2015	1730 kcal/kg	MEpo	-	MErab	2407 kcal/kg
FOM-91	499 g/kg	EW2015	0.82 /kg	MEla	-		
FOMr-07	383 g/kg	StaDP	2.3 g/kg	MEla	-		
FOMr2-07	114 g/kg	AppDP	2.1 g/kg	DPpo	-		
FOMr2/FOMr	0.30 /kg						
DVE-91	122 g/kg			Broilers		Horses	
DVE-07	116 g/kg			MEbr	-	NEm	7.30 MJ/kg
OEB-91	-30 g/kg			MEbr	-	NEm	1744 kcal/kg
OEB-07	-19 g/kg			DPpo	-	EWpa	0.82 /kg
OEB2-07	-2 g/kg					DCPho	104 g/kg
DVMET-91	2.7 g/kg						
DVLYS-91	5.4 g/kg						
DVMET-07	2.6 g/kg						
DVLYS-07	4.8 g/kg						
SW	0.44 /kg						
VW	0.31 /kg						

Palm kernel expeller-CF < 180 g/kg 3001.401/1/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			155	65	-	58	91	-	-
LYS	3.0	-	4.7	65	3.0	57	2.7	-	-
MET	1.9	-	2.9	74	2.2	70	2.1	-	-
CYS	1.5	-	2.3	67	1.6	58	1.4	-	-
THR	3.1	-	4.8	70	3.4	59	2.8	-	-
TRP	0.8	-	1.2	59	0.7	48	0.6	-	-
ILE	3.3	-	5.1	65	3.3	59	3.0	-	-
ARG	12.0	-	18.6	65	12.2	63	11.8	-	-
PHE	4.1	-	6.4	65	4.1	60	3.8	-	-
HIS	1.7	-	2.6	65	1.7	59	1.5	-	-
LEU	6.3	-	9.8	65	6.4	61	5.9	-	-
TYR	2.6	-	4.0	65	2.6	59	2.4	-	-
VAL	4.8	-	7.4	65	4.9	59	4.4	-	-
ALA	4.0	-	6.2	65	4.0	58	3.6	-	-
ASP	8.3	-	12.9	65	8.4	60	7.7	-	-
GLU	17.9	-	27.8	65	18.1	61	17.0	-	-
GLY	4.6	-	7.1	65	4.6	54	3.8	-	-
PRO	3.4	-	5.3	65	3.4	46	2.4	-	-
SER	4.2	-	6.5	65	4.2	56	3.6	-	-
Sum AA	87.5		136	-	89	-	80	-	-

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		76.3	FP	-	-
<=C10	7.0	4.0	LA	-	-
C12:0	47.0	26.9	AC	-	-
C14:0	15.0	8.6	ETH	-	-
C16:0	9.0	5.1	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	3.0	1.7	Glycerol	-	-
C18:1	16.0	9.2			
C:18:2	2.0	1.1			
C18:3	0.4	0.2			
>=C20	-	0.0			
Sum FA	99.4	56.8	NH3	-	-
% FA in CFAT-fraction		75			

Palm kernel expeller-CF > 180 g/kg 3001.401/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	918	43	150	79	81	195	450	448	
sd	13	5	6	12	-	9	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	6	2	-	15	591	372	96	629	38
sd	2	-	-	4	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	5.7	3.7	2.7	6.7	0.1	1.6	1.1	1.2
sd	0.4	0.2	-	0.2	0.3	0.2	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	735	276	41	24	0.5	0.1	0.1
sd	372	34	3	1	-	-	-

IP/P	65	SUGe/SUG	75	EB (meq/kg)	133
		CF_DI	0.96	CAD (meq/kg)	-11

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	75		DCCP	29	DCCP	67	
DCCFAT	97		DCCFATh	85	DCCFAT	80	
DCCF	46		DCCF	32	DCNFE	15	
DCNFE	82		DCNFE	77	DCPpo	62	
DCOM	74		DCOM	59			
			DCNSPh	62			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	64	73	StaDCP	40	DCCP	DCCP	65
%DRUP	83	83	AppDCP	37	DCCFATh	DCOM	66
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	20	20			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	974 /kg	NE2015	6.97 MJ/kg	MEpo	-	MErab	9.54 MJ/kg
VEVI	1024 /kg	NE2015	1666 kcal/kg	MEpo	-	MErab	2280 kcal/kg
FOM-91	471 g/kg	EW2015	0.79 /kg	MEla	-		
FOMr-07	368 g/kg	StaDP	2.3 g/kg	MEla	-		
FOMr2-07	91 g/kg	AppDP	2.1 g/kg	DPpo	-		
FOMr2/FOMr	0.25 /kg						
DVE-91	114 g/kg			Broilers		Horses	
DVE-07	109 g/kg			MEbr	-	NEm	6.94 MJ/kg
OEB-91	-27 g/kg			MEbr	-	NEm	1658 kcal/kg
OEB-07	-18 g/kg			DPpo	-	EWpa	0.78 /kg
OEB2-07	0 g/kg					DCPho	98 g/kg
DVMET-91	2.6 g/kg						
DVLYS-91	5.0 g/kg						
DVMET-07	2.4 g/kg						
DVLYS-07	4.5 g/kg						
SW	0.47 /kg						
VW	0.32 /kg						

Palm kernel expeller-CF > 180 g/kg 3001.401/2/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			150	65	-	58	87	-	-
LYS	3.0	-	4.5	65	2.9	57	2.6	-	-
MET	1.9	-	2.9	73	2.1	69	2.0	-	-
CYS	1.5	-	2.3	66	1.5	57	1.3	-	-
THR	3.1	-	4.7	70	3.2	58	2.7	-	-
TRP	0.8	-	1.2	58	0.7	47	0.6	-	-
ILE	3.3	-	5.0	65	3.2	58	2.9	-	-
ARG	12.0	-	18.0	65	11.7	63	11.4	-	-
PHE	4.1	-	6.2	65	4.0	60	3.7	-	-
HIS	1.7	-	2.6	65	1.7	58	1.5	-	-
LEU	6.3	-	9.5	65	6.1	60	5.7	-	-
TYR	2.6	-	3.9	65	2.5	58	2.3	-	-
VAL	4.8	-	7.2	65	4.7	58	4.2	-	-
ALA	4.0	-	6.0	65	3.9	57	3.4	-	-
ASP	8.3	-	12.5	65	8.1	59	7.4	-	-
GLU	17.9	-	26.9	65	17.4	61	16.3	-	-
GLY	4.6	-	6.9	65	4.5	53	3.6	-	-
PRO	3.4	-	5.1	64	3.3	45	2.3	-	-
SER	4.2	-	6.3	65	4.1	55	3.5	-	-
Sum AA	87.5		132	-	86	-	77	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		78.7	FP	-	-
<=C10	7.0	4.1	LA	-	-
C12:0	47.0	27.7	AC	-	-
C14:0	15.0	8.9	ETH	-	-
C16:0	9.0	5.3	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	3.0	1.8	Glycerol	-	-
C18:1	16.0	9.4			
C:18:2	2.0	1.2			
C18:3	0.4	0.2			
>=C20	-	0.0			
Sum FA	99.4	58.7	NH3	-	
% FA in CFAT-fraction		75			

Palm kernel, solvent extracted-CF < 190 g/kg 3001.407/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	893	39	158	24	25	173	498	497	
sd	23	3	13	9	-	9	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	2	-	12	546	346	86	658	111
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.8	6.0	3.9	2.8	7.1	0.1	1.7	0.3	1.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	770	294	43	24	0.5	0.1	0.1
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	75	EB (meq/kg)	137
		CF_DI	0.96	CAD (meq/kg)	40

Digestibility coefficients (%)

Ruminants

DCCP	76
DCCFAT	91
DCCF	49
DCNFE	85
DCOM	76

DVE 1991 2007

%RUP	64	73
%DRUP	83	83
%RUSTA	-	-
%DASH	35	35
DASHmax	18	18

Pigs

DCCP	30
DCCFATh	73
DCCF	32
DCNFE	82
DCOM	62
DCNSPh	68
DCiSTA	100
StaDCP	40
AppDCP	37

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Broilers

DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	67
DCCFAT	70
DCCF	15
DCNFE	65

Horses

DCCP	-
DCOM	-

Nutritional value (in product)

Ruminants

VEM	871 /kg
VEVI	909 /kg
FOM-91	527 g/kg
FOMr-07	410 g/kg
FOMr2-07	130 g/kg
FOMr2/FOMr	0.32 /kg
DVE-91	127 g/kg
DVE-07	120 g/kg
OEB-91	-33 g/kg
OEB-07	-21 g/kg
OEB2-07	-4 g/kg
DVMET-91	2.8 g/kg
DVLYS-91	5.7 g/kg
DVMET-07	2.7 g/kg
DVLYS-07	5.1 g/kg
SW	0.44 /kg
VW	0.30 /kg

Pigs

NE2015	5.74 MJ/kg
NE2015	1373 kcal/kg
EW2015	0.65 /kg
StaDP	2.4 g/kg
AppDP	2.2 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-

Broilers

MEbr	-
MEbr	-
DPpo	-

Rabbits

MErab	8.61 MJ/kg
MErab	2058 kcal/kg

Horses

NEm	-
NEm	-
EWpa	-
DCPho	-

Palm kernel, solvent extracted-CF < 190 g/kg 3001.407/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			158	65	-	58	92	-	-
LYS	3.0	0.4	4.8	65	3.1	57	2.7	-	-
MET	1.9	0.1	3.0	73	2.2	70	2.1	-	-
CYS	1.5	0.2	2.4	66	1.6	58	1.4	-	-
THR	3.1	0.1	4.9	70	3.4	59	2.9	-	-
TRP	0.8	0.1	1.3	58	0.7	48	0.6	-	-
ILE	3.3	0.1	5.2	65	3.4	59	3.1	-	-
ARG	12.0	1.1	19.0	65	12.3	63	12.0	-	-
PHE	4.1	0.2	6.5	65	4.2	60	3.9	-	-
HIS	1.7	0.1	2.7	65	1.7	59	1.6	-	-
LEU	6.3	0.2	10.0	65	6.5	61	6.0	-	-
TYR	2.6	0.2	4.1	65	2.7	58	2.4	-	-
VAL	4.8	0.2	7.6	65	4.9	59	4.5	-	-
ALA	4.0	0.1	6.3	65	4.1	58	3.7	-	-
ASP	8.3	0.3	13.1	65	8.5	59	7.8	-	-
GLU	17.9	0.7	28.4	65	18.3	61	17.3	-	-
GLY	4.6	0.2	7.3	65	4.7	54	3.9	-	-
PRO	3.4	0.3	5.4	64	3.5	46	2.5	-	-
SER	4.2	0.2	6.7	65	4.3	56	3.7	-	-
Sum AA	87.5		139	-	90	-	82	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		24.0
<=C10	7.0	1.1
C12:0	47.0	7.3
C14:0	15.0	2.3
C16:0	9.0	1.4
C16:1	-	0.0
C18:0	3.0	0.5
C18:1	16.0	2.5
C:18:2	2.0	0.3
C18:3	0.4	0.1
>=C20	-	0.0
Sum FA	99.4	15.5
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Palm kernel, solvent extracted-CF > 190 g/kg 3001.407/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	876	40	150	16	17	204	466	465	
sd	18	4	11	6	-	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	2	-	12	592	370	101	656	65
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.7	5.9	3.8	2.7	6.9	0.1	1.7	0.3	1.2
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	756	288	42	24	0.5	0.1	0.1
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	75	EB (meq/kg)	134
		CF_DI	0.96	CAD (meq/kg)	42

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	75		DCCP	30	DCCP	67	
DCCFAT	86		DCCFATh	66	DCCFAT	70	
DCCF	41		DCCF	32	DCNFE	15	
DCNFE	82		DCNFE	76	DCPpo	65	
DCOM	71		DCOM	57			
			DCNSPh	62			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	64	73	StaDCP	40	DCCP	-	
%DRUP	83	83	AppDCP	37	DCCFATh	DCOM	-
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	19	19			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	761 /kg	NE2015	5.05 MJ/kg	MEpo	-	MErab	8.00 MJ/kg
VEVI	771 /kg	NE2015	1207 kcal/kg	MEpo	-	MErab	1913 kcal/kg
FOM-91	480 g/kg	EW2015	0.57 /kg	MEla	-		
FOMr-07	389 g/kg	StaDP	2.3 g/kg	MEla	-		
FOMr2-07	104 g/kg	AppDP	2.2 g/kg	DPpo	-		
FOMr2/FOMr	0.27 /kg						
DVE-91	114 g/kg			Broilers		Horses	
DVE-07	110 g/kg			MEbr	-	NEm	-
OEB-91	-28 g/kg			MEbr	-	NEm	-
OEB-07	-21 g/kg			DPpo	-	EWpa	-
OEB2-07	-2 g/kg					DCPho	-
DVMET-91	2.6 g/kg						
DVLYS-91	5.0 g/kg						
DVMET-07	2.5 g/kg						
DVLYS-07	4.6 g/kg						
SW	0.47 /kg						
VW	0.31 /kg						

Palm kernel, solvent extracted-CF > 190 g/kg 3001.407/2/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			150	65	-	58	87	-	-
LYS	3.0	0.4	4.5	65	2.9	57	2.6	-	-
MET	1.9	0.1	2.8	73	2.1	70	2.0	-	-
CYS	1.5	0.2	2.2	66	1.5	58	1.3	-	-
THR	3.1	0.1	4.6	70	3.2	58	2.7	-	-
TRP	0.8	0.1	1.2	58	0.7	48	0.6	-	-
ILE	3.3	0.1	4.9	65	3.2	58	2.9	-	-
ARG	12.0	1.1	17.9	65	11.7	63	11.3	-	-
PHE	4.1	0.2	6.1	65	4.0	60	3.7	-	-
HIS	1.7	0.1	2.5	65	1.6	58	1.5	-	-
LEU	6.3	0.2	9.4	65	6.1	60	5.7	-	-
TYR	2.6	0.2	3.9	65	2.5	58	2.3	-	-
VAL	4.8	0.2	7.2	65	4.7	58	4.2	-	-
ALA	4.0	0.1	6.0	65	3.9	58	3.5	-	-
ASP	8.3	0.3	12.4	65	8.0	59	7.4	-	-
GLU	17.9	0.7	26.8	65	17.3	61	16.3	-	-
GLY	4.6	0.2	6.9	65	4.5	53	3.7	-	-
PRO	3.4	0.3	5.1	64	3.3	45	2.3	-	-
SER	4.2	0.2	6.3	65	4.1	56	3.5	-	-
Sum AA	87.5		131	-	85	-	77	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		15.8
<=C10	7.0	0.7
C12:0	47.0	4.8
C14:0	15.0	1.5
C16:0	9.0	0.9
C16:1	-	0.0
C18:0	3.0	0.3
C18:1	16.0	1.6
C:18:2	2.0	0.2
C18:3	0.4	0.0
>=C20	-	0.0
Sum FA	99.4	10.2
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Palm kernels 3001.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	938	20	92	480	-	97	249	-	
sd	33	2	7	14	-	19	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	2	-	15	322	291	48	330	9
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.2	3.1	2.0	2.6	-	-	-	-	0.7
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	129	20	13	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	75	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	62		DCCP	53	DCCP	68	
DCCFAT	100		DCCFATh	74	DCCFAT	85	
DCCF	46		DCCF	32	DCNFE	35	
DCNFE	83		DCNFE	78	DCPpo	65	
DCOM	86		DCOM	69			
			DCNSPh	63			
			DCiSTA	100	Broilers	Horses	
DVE	1991	2007	StaDCP	40	DCCP	DCCP	60
%RUP	52	63	AppDCP	34	DCCFATh	DCOM	69
%DRUP	83	83			DC(S+S)		
%RUSTA	-	-			DCNFEh		
%DASH	50	50			DCPpo		
DASHmax	15	15					

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	2141 /kg	NE2015	15.50 MJ/kg	MEpo	-	MErab	19.94 MJ/kg
VEVI	2479 /kg	NE2015	3704 kcal/kg	MEpo	-	MErab	4764 kcal/kg
FOM-91	260 g/kg	EW2015	1.76 /kg	MEIa	-		
FOMr-07	203 g/kg	StaDP	1.2 g/kg	MEIa	-		
FOMr2-07	50 g/kg	AppDP	1.1 g/kg	DPpo	-		
FOMr2/FOMr	0.25 /kg						
DVE-91	58 g/kg			Broilers		Horses	
DVE-07	58 g/kg			MEbr	-	NEm	12.36 MJ/kg
OEB-91	0 g/kg			MEbr	-	NEm	2953 kcal/kg
OEB-07	2 g/kg			DPpo	-	EWpa	1.38 /kg
OEB2-07	5 g/kg					DCPho	55 g/kg
DVMET-91	1.3 g/kg						
DVLYS-91	2.6 g/kg						
DVMET-07	1.3 g/kg						
DVLYS-07	2.4 g/kg						
SW	0.38 /kg						
VW	0.28 /kg						

Palm kernels 3001.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		AA pigs				AA poultry		
	mean	sdc	standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg			
CP			92	65	-	53	48	-	-
LYS	3.0	0.4	2.7	65	1.8	51	1.4	-	-
MET	1.9	0.1	1.7	73	1.3	67	1.2	-	-
CYS	1.5	0.2	1.4	66	0.9	52	0.7	-	-
THR	3.1	0.1	2.8	69	2.0	50	1.4	-	-
TRP	0.8	0.1	0.7	58	0.4	40	0.3	-	-
ILE	3.3	0.1	3.0	65	2.0	53	1.6	-	-
ARG	12.0	1.1	11.0	65	7.1	62	6.8	-	-
PHE	4.1	0.2	3.8	65	2.4	57	2.1	-	-
HIS	1.7	0.1	1.6	64	1.0	54	0.8	-	-
LEU	6.3	0.2	5.8	65	3.7	57	3.3	-	-
TYR	2.6	0.2	2.4	65	1.5	53	1.3	-	-
VAL	4.8	0.2	4.4	65	2.8	53	2.3	-	-
ALA	4.0	0.1	3.7	65	2.4	52	1.9	-	-
ASP	8.3	0.3	7.6	65	4.9	55	4.2	-	-
GLU	17.9	0.7	16.4	64	10.6	58	9.5	-	-
GLY	4.6	0.2	4.2	65	2.7	45	1.9	-	-
PRO	3.4	0.3	3.1	64	2.0	31	1.0	-	-
SER	4.2	0.2	3.8	64	2.5	48	1.9	-	-
Sum AA	87.5		80	-	52	-	43	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		480.1	FP	-	-
<=C10	7.0	31.9	LA	-	-
C12:0	47.0	214.4	AC	-	-
C14:0	15.0	68.4	ETH	-	-
C16:0	9.0	41.1	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	3.0	13.7	Glycerol	-	-
C18:1	16.0	73.0			
C:18:2	2.0	9.1			
C18:3	0.5	2.3			
>=C20	-	0.0			
Sum FA	99.5	453.8	NH3	-	-
% FA in CFAT-fraction		95			

Peas 2006.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	866	28	203	10	17	54	571	564	
sd	7	2	11	2	-	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	416	-	44	124	71	1	166	42
sd	-	-	-	4	44	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	3.7	2.0	1.2	9.9	0.1	0.6	0.5	1.2
sd	0.2	0.3	-	0.1	0.7	0.0	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	72	12	30	7	3.0	0.1	0.1
sd	26	2	4	1	-	-	-

IP/P	55	SUGe/SUG	70	EB (meq/kg)	238
		CF_DI	0.97	CAD (meq/kg)	128

Digestibility coefficients (%)

Ruminants

DCCP	82
DCCFAT	69
DCCF	86
DCNFE	94
DCOM	90

DVE	1991	2007
%RUP	21	23
%DRUP	96	96
%RUSTA	21	22
%DASH	65	65
DASHmax	26	26

Pigs

DCCP	86
DCCFATh	57
DCCF	73
DCNFE	98
DCOM	92
DCNSPh	82
DCiSTA	100
StaDCP	48
AppDCP	43

Roosters/Laying hens

DCCP	87
DCCFAT	50
DCNFE	80
DCPpo	42
DCCP	86
DCCFATh	87
DC(S+S)	93
DCNFEh	76
DCPpo	42

Rabbits

DCCP	85
DCCFAT	60
DCCF	30
DCNFE	92
DCCP	77
DCOM	88

Horses

Nutritional value (in product)

Ruminants

VEM	1023 /kg
VEVI	1123 /kg
FOM-91	617 g/kg
FOMr-07	629 g/kg
FOMr2-07	367 g/kg
FOMr2/FOMr	0.58 /kg
DVE-91	98 g/kg
DVE-07	105 g/kg
OEB-91	62 g/kg
OEB-07	51 g/kg
OEB2-07	48 g/kg
DVMET-91	1.9 g/kg
DVLYS-91	7.4 g/kg
DVMET-07	2.0 g/kg
DVLYS-07	8.0 g/kg
SW	0.09 /kg
VW	0.25 /kg

Pigs

NE2015	10.05 MJ/kg
NE2015	2401 kcal/kg
EW2015	1.14 /kg
StaDP	1.8 g/kg
AppDP	1.6 g/kg

Roosters/Laying hens

MEpo	11.29 MJ/kg
MEpo	2698 kcal/kg
MEla	11.32 MJ/kg
MEla	2705 kcal/kg
DPpo	1.5 g/kg

Rabbits

MErab	12.75 MJ/kg
MErab	3047 kcal/kg
MEbr	11.11 MJ/kg
MEbr	2654 kcal/kg
DPpo	1.5 g/kg
EWpa	1.03 /kg
DCPho	156 g/kg

Horses

Peas 2006.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg	standardized		apparent		DC	g/kg
	mean	sd		DC	g/kg	DC	g/kg		
CP			203	79	-	74	150	-	-
LYS	7.1	0.3	14.4	81	11.7	79	11.3	88	12.7
MET	1.0	0.1	2.0	74	1.5	69	1.4	85	1.7
CYS	1.5	0.1	3.0	68	2.1	62	1.9	73	2.2
THR	3.7	0.2	7.5	76	5.7	69	5.2	81	6.1
TRP	0.9	0.1	1.8	70	1.3	63	1.2	79	1.4
ILE	4.1	0.2	8.3	79	6.6	76	6.3	82	6.8
ARG	8.8	0.7	17.8	89	15.8	87	15.5	90	16.0
PHE	4.7	0.2	9.5	77	7.3	74	7.1	83	7.9
HIS	2.5	0.1	5.1	81	4.1	78	4.0	85	4.3
LEU	7.1	0.2	14.4	78	11.3	75	10.9	83	11.9
TYR	3.3	0.2	6.7	79	5.3	75	5.0	84	5.6
VAL	4.6	0.3	9.3	77	7.2	72	6.7	82	7.6
ALA	4.4	0.2	8.9	76	6.8	71	6.3	86	7.7
ASP	11.7	0.5	23.7	81	19.3	79	18.6	86	20.4
GLU	16.7	0.7	33.8	84	28.6	81	27.6	91	30.8
GLY	4.4	0.2	8.9	77	6.9	69	6.1	84	7.5
PRO	4.0	0.3	8.1	86	7.0	74	6.0	85	6.9
SER	4.7	0.2	9.5	80	7.6	74	7.0	84	8.0
Sum AA	95.2		193	-	156	-	148	-	166

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sd
CFAT(h)		10.3	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.3	0.0	ETH	-	-
C16:0	11.4	0.9	PR	-	-
C16:1	-	0.0	BU	-	-
C18:0	3.0	0.2	Glycerol	-	-
C18:1	22.5	1.7			
C:18:2	48.9	3.8			
C18:3	11.2	0.9			
>=C20	2.2	0.2			
Sum FA	99.5	7.7			
% FA in CFAT-fraction		75	NH3	-	

Remarks

Peas:

1. The stated digestibility values for poultry apply to summer peas.

Poppy seed 3007.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	928	69	205	438	-	55	161	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	216	216
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	13.6	7.9	-	3.2	5.8	-	-	-	2.6
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	75	DCCP	-	DCCP
DCCFAT	94	DCCFATh	-	DCCFAT
DCCF	25	DCCF	-	DCCF
DCNFE	50	DCNFE	-	DCNFE
DCOM	77	DCOM	-	
		DCNSPh		
DVE	1991	2007	Broilers	Horses
%RUP	-	-	DCCP	DCCP
%DRUP	80	-	DCCFATh	DCOM
%RUSTA	-	-	DC(S+S)	
%DASH	50	50	DCNFEh	
DASHmax	-	-	DCPpo	

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	-	MEpo	MErab
VEVI	-	MEpo	MErab
FOM-91	-	MEla	
FOMr-07	-	MEla	
FOMr2-07	-	DPpo	
FOMr2/FOMr	-		
DVE-91	-	Broilers	Horses
DVE-07	-	MEbr	NEm
OEB-91	-	MEbr	NEm
OEB-07	-	DPpo	EWpa
OEB2-07	-		DCPho
DVMET-91	-		
DVLYS-91	-		
DVMET-07	-		
DVLYS-07	-		
SW	0.00 /kg		
VW	-		

Poppy seed 3007.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		
				standardized	apparent	DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg
CP			205	-	-	-	-	-
LYS	7.8	-	16.0	-	-	-	-	-
MET	2.2	-	4.5	-	-	-	-	-
CYS	2.9	-	5.9	-	-	-	-	-
THR	4.4	-	9.0	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	4.0	-	8.2	-	-	-	-	-
ARG	10.2	-	20.9	-	-	-	-	-
PHE	4.5	-	9.2	-	-	-	-	-
HIS	3.1	-	6.4	-	-	-	-	-
LEU	7.4	-	15.2	-	-	-	-	-
TYR	2.9	-	5.9	-	-	-	-	-
VAL	5.5	-	11.3	-	-	-	-	-
ALA	5.2	-	10.7	-	-	-	-	-
ASP	10.5	-	21.5	-	-	-	-	-
GLU	21.1	-	43.3	-	-	-	-	-
GLY	5.2	-	10.7	-	-	-	-	-
PRO	4.6	-	9.4	-	-	-	-	-
SER	5.4	-	11.1	-	-	-	-	-
Sum AA	106.9		-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		438.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	

Potato crisps 4001.664/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	962	35	59	-	300	11	-	557	
sd	19	4	5	-	34	3	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	464	444	-	28	-	-	-	98	98
sd	29	-	-	9	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	1.4	0.2	0.6	11.2	5.7	7.4	-	0.4
sd	0.1	0.2	-	0.1	1.9	3.2	4.8	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	325
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	20		DCCP	62	DCCP	-
DCCFAT	84		DCCFATh	88	DCCFAT	-
DCCF	74		DCCF	70	DCNFE	-
DCNFE	93		DCNFE	98	DCPpo	-
DCOM	86		DCOM	92		
			DCNSPh	87		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	41	41	StaDCP	60	DCCP	-
%DRUP	90	90	AppDCP	46	DCCFATh	-
%RUSTA	10	9			DC(S+S)	-
%DASH	65	65			DCNFEh	-
DASHmax	31	31			DCPpo	-

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1608 /kg	NE2015	17.28 MJ/kg	MEpo	-
VEVI	1817 /kg	NE2015	4130 kcal/kg	MEpo	-
FOM-91	426 g/kg	EW2015	1.96 /kg	MEla	-
FOMr-07	528 g/kg	StaDP	0.8 g/kg	MEla	-
FOMr2-07	366 g/kg	AppDP	0.6 g/kg	DPpo	-
FOMr2/FOMr	0.69 /kg				
DVE-91	54 g/kg			Broilers	Horses
DVE-07	77 g/kg			MEbr	-
OEB-91	-32 g/kg			MEbr	-
OEB-07	-70 g/kg			DPpo	-
OEB2-07	-58 g/kg				EWpa
DVMET-91	1.2 g/kg				DCPho
DVLYS-91	3.8 g/kg				
DVMET-07	1.8 g/kg				
DVLYS-07	5.7 g/kg				
SW	0.29 /kg				
VW	0.53 /kg				

Potato crisps 4001.664/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			59	49	-	31	18	-	-
LYS	5.4	-	3.2	50	1.6	38	1.2	-	-
MET	1.4	-	0.8	50	0.4	37	0.3	-	-
CYS	1.3	-	0.8	50	0.4	24	0.2	-	-
THR	3.9	-	2.3	49	1.1	24	0.6	-	-
TRP	0.9	-	0.5	50	0.3	25	0.1	-	-
ILE	3.7	-	2.2	50	1.1	33	0.7	-	-
ARG	3.1	-	1.8	49	0.9	29	0.5	-	-
PHE	3.9	-	2.3	49	1.1	36	0.8	-	-
HIS	1.7	-	1.0	49	0.5	32	0.3	-	-
LEU	6.1	-	3.6	49	1.8	37	1.3	-	-
TYR	3.3	-	1.9	50	1.0	35	0.7	-	-
VAL	5.2	-	3.1	50	1.5	33	1.0	-	-
ALA	6.0	-	3.5	50	1.8	36	1.3	-	-
ASP	19.1	-	11.2	50	5.6	43	4.8	-	-
GLU	11.6	-	6.8	49	3.3	32	2.2	-	-
GLY	3.6	-	2.1	49	1.0	8	0.2	-	-
PRO	3.4	-	2.0	48	1.0	-	-0.1	-	-
SER	3.7	-	2.2	49	1.1	20	0.4	-	-
Sum AA	87.3		51	-	25	-	17	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		300.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Potato protein-ASH < 10 g/kg 4001.203/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	908	6	795	-	11	7	-	90	
sd	6	2	8	-	-	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	5	-	9	-	-	-	83	83
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	1.6	0.8	0.3	0.2	0.2	2.5	0.0	7.1
sd	0.1	0.4	-	0.3	0.2	0.2	1.0	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	95	4	5	33	-	-	-
sd	19	1	5	6	-	-	-

IP/P	50	SUGe/SUG	5	EB (meq/kg)	-57
		CF_DI	0.97	CAD (meq/kg)	-671

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	89		DCCP	94	DCCP	90	DCCP	-
DCCFAT	69		DCCFATh	33	DCCFAT	60	DCCFAT	-
DCCF	-		DCCF	100	DCNFE	68	DCCF	-
DCNFE	93		DCNFE	100	DCPpo	65	DCNFE	-
DCOM	89		DCOM	94				
			DCNSPh	100	Broilers		Horses	
DVE	1991	2007	DCiSTA	100	DCCP	87	DCCP	-
%RUP	62	62	StaDCP	60	DCCFATh	88	DCOM	-
%DRUP	90	90	AppDCP	48	DC(S+S)	100		
%RUSTA	-	-			DCNFEh	16		
%DASH	50	50			DCPpo	65		
DASHmax	8	8						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1096 /kg	NE2015	9.87 MJ/kg	MEpo	14.22 MJ/kg	MErab	-
VEVI	1142 /kg	NE2015	2358 kcal/kg	MEpo	3398 kcal/kg	MErab	-
FOM-91	298 g/kg	EW2015	1.12 /kg	MEla	14.25 MJ/kg		
FOMr-07	367 g/kg	StaDP	0.9 g/kg	MEla	3407 kcal/kg		
FOMr2-07	80 g/kg	AppDP	0.8 g/kg	DPpo	1.0 g/kg		
FOMr2/FOMr	0.22 /kg			Broilers		Horses	
DVE-91	510 g/kg			MEbr	13.12 MJ/kg	NEm	-
DVE-07	469 g/kg			MEbr	3135 kcal/kg	NEm	-
OEB-91	206 g/kg			DPpo	1.0 g/kg	EWpa	-
OEB-07	251 g/kg					DCPho	-
OEB2-07	49 g/kg						
DVMET-91	12.3 g/kg						
DVLYS-91	39.9 g/kg						
DVMET-07	11.3 g/kg						
DVLYS-07	36.7 g/kg						
SW	0.28 /kg						
VW	0.26 /kg						

Potato protein-ASH < 10 g/kg 4001.203/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			795	90	-	89	707	-	-
LYS	7.8	0.2	62.0	89	55.5	89	55.1	89	55.2
MET	2.3	0.1	18.3	91	16.6	90	16.5	91	16.6
CYS	1.5	0.2	11.9	76	9.1	74	8.9	75	8.9
THR	5.7	0.2	45.3	86	39.0	85	38.5	88	39.9
TRP	1.4	0.1	11.1	80	8.9	79	8.8	85	9.5
ILE	5.6	0.2	44.5	89	39.7	89	39.4	90	40.1
ARG	5.2	0.1	41.3	93	38.3	92	37.9	93	38.4
PHE	6.4	0.2	50.9	90	45.9	90	45.6	91	46.3
HIS	2.2	0.1	17.5	87	15.2	86	15.1	90	15.7
LEU	10.2	0.3	81.1	91	74.0	91	73.6	92	74.6
TYR	5.6	0.3	44.5	91	40.5	90	40.2	92	40.9
VAL	6.6	0.2	52.5	88	46.2	87	45.7	90	47.2
ALA	4.9	0.2	38.9	87	33.9	86	33.4	88	34.3
ASP	12.7	0.4	100.9	83	84.0	83	83.3	86	86.8
GLU	10.9	0.4	86.6	88	76.2	87	75.2	90	78.0
GLY	4.9	0.2	38.9	82	31.8	79	30.9	83	32.3
PRO	4.9	0.3	38.9	95	36.8	92	35.8	89	34.7
SER	5.3	0.2	42.1	87	36.5	85	35.9	88	37.1
Sum AA	104.1		827	-	728	-	720	-	736

Fatty acids

	% FA	g/kg
CFAT(h)		11.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Potato protein-ASH > 10 g/kg 4001.203/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	904	20	785	-	31	8	-	60	
sd	5	4	12	-	-	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	7	1	-	9	17	5	2	59	42
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	2.0	1.0	0.4	6.6	0.3	0.7	0.0	7.0
sd	0.2	0.4	-	-	1.4	-	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	131	9	29	24	-	-	-
sd	55	4	13	9	-	-	-

IP/P	50	SUGe/SUG	5	EB (meq/kg)	161
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	89		DCCP	94	DCCP	90	DCCP	-
DCCFAT	83		DCCFATh	59	DCCFAT	60	DCCFAT	-
DCCF	-		DCCF	100	DCNFE	68	DCCF	-
DCNFE	93		DCNFE	100	DCPpo	65	DCNFE	-
DCOM	88		DCOM	93				
			DCNSPh	100				
			DCiSTA	100	Broilers		Horses	
DVE	1991	2007	StaDCP	60	DCCP	87	DCCP	-
%RUP	62	62	AppDCP	51	DCCFATh	88	DCOM	-
%DRUP	90	90			DC(S+S)	100		
%RUSTA	-	-			DCNFEh	15		
%DASH	50	50			DCPpo	65		
DASHmax	16	16						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1109 /kg	NE2015	9.98 MJ/kg	MEpo	14.17 MJ/kg	MErab	-
VEVI	1159 /kg	NE2015	2384 kcal/kg	MEpo	3386 kcal/kg	MErab	-
FOM-91	266 g/kg	EW2015	1.13 /kg	MEla	14.27 MJ/kg		
FOMr-07	343 g/kg	StaDP	1.2 g/kg	MEla	3412 kcal/kg		
FOMr2-07	73 g/kg	AppDP	1.0 g/kg	DPpo	1.3 g/kg		
FOMr2/FOMr	0.21 /kg						
DVE-91	501 g/kg			Broilers		Horses	
DVE-07	460 g/kg			MEbr	13.55 MJ/kg	NEm	-
OEB-91	208 g/kg			MEbr	3237 kcal/kg	NEm	-
OEB-07	251 g/kg			DPpo	1.3 g/kg	EWpa	-
OEB2-07	49 g/kg					DCPho	-
DVMET-91	12.1 g/kg						
DVLYS-91	39.2 g/kg						
DVMET-07	11.1 g/kg						
DVLYS-07	36.1 g/kg						
SW	0.29 /kg						
VW	0.26 /kg						

Potato protein-ASH > 10 g/kg 4001.203/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			785	90	-	89	698	-	-
LYS	7.8	0.2	61.3	89	54.8	89	54.5	89	54.5
MET	2.3	0.1	18.1	91	16.4	90	16.3	91	16.4
CYS	1.5	0.2	11.8	76	9.0	74	8.8	75	8.8
THR	5.7	0.2	44.8	86	38.6	85	38.0	88	39.4
TRP	1.4	0.1	11.0	80	8.8	79	8.7	85	9.3
ILE	5.6	0.2	44.0	89	39.3	89	38.9	90	39.6
ARG	5.2	0.1	40.8	93	37.8	92	37.5	93	38.0
PHE	6.4	0.2	50.3	90	45.4	90	45.1	91	45.7
HIS	2.2	0.1	17.3	87	15.1	86	14.9	90	15.5
LEU	10.2	0.3	80.1	91	73.1	91	72.7	92	73.7
TYR	5.6	0.3	44.0	91	40.0	90	39.7	92	40.5
VAL	6.6	0.2	51.8	88	45.6	87	45.1	90	46.6
ALA	4.9	0.2	38.5	87	33.5	86	33.0	88	33.9
ASP	12.7	0.4	99.7	83	83.0	83	82.3	86	85.8
GLU	10.9	0.4	85.6	88	75.3	87	74.3	90	77.0
GLY	4.9	0.2	38.5	82	31.4	79	30.6	83	31.9
PRO	4.9	0.3	38.5	95	36.4	92	35.4	89	34.2
SER	5.3	0.2	41.6	87	36.0	85	35.4	88	36.6
Sum AA	104.1		818	-	719	-	711	-	728

Fatty acids

	% FA	g/kg
CFAT(h)		30.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Potato pulp, dried-CP < 90 g/kg 4001.202/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	876	47	61	2	-	164	602	-	
sd	12	14	18	1	-	21	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	328	251	-	12	273	-	-	503	230
sd	74	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.7	1.0	0.2	0.6	12.7	0.9	1.8	0.7	0.5
sd	-	0.4	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	693	37	35	6	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	312
		CF_DI	0.97	CAD (meq/kg)	240

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	16		DCCP	-52	DCCP	-	
DCCFAT	-		DCCFATh	-95	DCCFAT	-	
DCCF	73		DCCF	88	DCNFE	-	
DCNFE	92		DCNFE	90	DCPpo	-	
DCOM	82		DCOM	79			
			DCNSPh	84			
DVE	1991	2007	DCiSTA	50	Broilers	Horses	
%RUP	44	49	StaDCP	60	DCCP	DCCP	31
%DRUP	75	75	AppDCP	43	DCCFATh	DCOM	82
%RUSTA	20	19			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	40	40			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	863 /kg	NE2015	6.79 MJ/kg	MEpo	-	
VEVI	922 /kg	NE2015	1624 kcal/kg	MEpo	-	
FOM-91	602 g/kg	EW2015	0.77 /kg	MEIa	-	
FOMr-07	571 g/kg	StaDP	0.6 g/kg	MEIa	-	
FOMr2-07	287 g/kg	AppDP	0.4 g/kg	DPpo	-	
FOMr2/FOMr	0.50 /kg					
DVE-91	67 g/kg			Broilers	Horses	
DVE-07	80 g/kg			MEbr	NEm	8.17 MJ/kg
OEB-91	-59 g/kg			MEbr	NEm	1952 kcal/kg
OEB-07	-79 g/kg			DPpo	EWpa	0.91 /kg
OEB2-07	-36 g/kg				DCPho	19 g/kg
DVMET-91	1.6 g/kg					
DVLYS-91	5.1 g/kg					
DVMET-07	1.9 g/kg					
DVLYS-07	6.1 g/kg					
SW	0.29 /kg					
VW	0.30 /kg					

Potato pulp, dried-CP < 90 g/kg 4001.202/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			61	39	-	23	14	-	-
LYS	6.2	-	3.8	40	1.5	31	1.2	-	-
MET	1.3	-	0.8	40	0.3	28	0.2	-	-
CYS	1.8	-	1.1	40	0.4	23	0.3	-	-
THR	3.7	-	2.2	39	0.9	16	0.4	-	-
TRP	1.5	-	0.9	40	0.4	26	0.2	-	-
ILE	3.5	-	2.1	40	0.8	24	0.5	-	-
ARG	4.2	-	2.5	40	1.0	26	0.7	-	-
PHE	3.7	-	2.2	39	0.9	27	0.6	-	-
HIS	2.1	-	1.3	39	0.5	27	0.3	-	-
LEU	6.1	-	3.7	40	1.5	28	1.0	-	-
TYR	3.8	-	2.3	40	0.9	29	0.7	-	-
VAL	5.3	-	3.2	40	1.3	25	0.8	-	-
ALA	3.2	-	1.9	40	0.8	17	0.3	-	-
ASP	9.6	-	5.8	39	2.3	28	1.6	-	-
GLU	8.7	-	5.3	38	2.0	19	1.0	-	-
GLY	3.7	-	2.2	39	0.9	4	0.1	-	-
PRO	4.0	-	2.4	39	0.9	-	0.0	-	-
SER	3.8	-	2.3	39	0.9	14	0.3	-	-
Sum AA	76.2		46	-	18	-	10	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		2.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Potato pulp, dried-CP < 90 g/kg:

1. Often of non-Dutch origin.

Potato pulp, dried-CP 90 - 130 g/kg 4001.202/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	880	69	96	4	-	151	561	-	
sd	12	6	6	2	-	17	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	319	244	-	12	230	-	-	456	227
sd	42	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.6	1.3	0.2	0.8	25.1	0.8	1.8	1.3	0.7
sd	-	-	-	-	3.2	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	696	37	35	6	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	627
		CF_DI	0.97	CAD (meq/kg)	500

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	42		DCCP	-3	DCCP	-	
DCCFAT	30		DCCFATh	-30	DCCFAT	-	
DCCF	73		DCCF	88	DCCF	-	
DCNFE	92		DCNFE	91	DCNFE	-	
DCOM	82		DCOM	79			
			DCNSPh	85			
DVE	1991	2007	DCiSTA	50	Broilers	Horses	
%RUP	44	49	StaDCP	60	DCCP	DCCP	55
%DRUP	75	75	AppDCP	46	DCCFATh	DCOM	83
%RUSTA	20	19			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	55	55			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	848 /kg	NE2015	6.72 MJ/kg	MEpo	-	
VEVI	903 /kg	NE2015	1606 kcal/kg	MEpo	-	
FOM-91	572 g/kg	EW2015	0.76 /kg	MEIa	-	
FOMr-07	561 g/kg	StaDP	0.8 g/kg	MEIa	-	
FOMr2-07	290 g/kg	AppDP	0.6 g/kg	DPpo	-	
FOMr2/FOMr	0.52 /kg					
DVE-91	77 g/kg			Broilers	Horses	
DVE-07	91 g/kg			MEbr	NEm	8.12 MJ/kg
OEB-91	-36 g/kg			MEbr	NEm	1942 kcal/kg
OEB-07	-58 g/kg			DPpo	EWpa	0.91 /kg
OEB2-07	-25 g/kg				DCPho	53 g/kg
DVMET-91	1.6 g/kg					
DVLYS-91	5.6 g/kg					
DVMET-07	2.0 g/kg					
DVLYS-07	6.7 g/kg					
SW	0.29 /kg					
VW	0.29 /kg					

Potato pulp, dried-CP 90 - 130 g/kg 4001.202/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			96	50	-	39	38	-	-
LYS	6.2	-	6.0	50	3.0	44	2.6	-	-
MET	1.3	-	1.2	50	0.6	42	0.5	-	-
CYS	1.8	-	1.7	50	0.9	39	0.7	-	-
THR	3.7	-	3.6	49	1.8	35	1.2	-	-
TRP	1.5	-	1.4	50	0.7	41	0.6	-	-
ILE	3.5	-	3.4	50	1.7	40	1.3	-	-
ARG	4.2	-	4.0	50	2.0	41	1.7	-	-
PHE	3.7	-	3.6	49	1.8	42	1.5	-	-
HIS	2.1	-	2.0	50	1.0	42	0.8	-	-
LEU	6.1	-	5.9	50	2.9	43	2.5	-	-
TYR	3.8	-	3.7	50	1.8	43	1.6	-	-
VAL	5.3	-	5.1	50	2.5	41	2.1	-	-
ALA	3.2	-	3.1	50	1.5	36	1.1	-	-
ASP	9.6	-	9.2	50	4.6	42	3.9	-	-
GLU	8.7	-	8.4	49	4.1	37	3.1	-	-
GLY	3.7	-	3.6	49	1.8	27	1.0	-	-
PRO	4.0	-	3.8	49	1.9	24	0.9	-	-
SER	3.8	-	3.7	49	1.8	34	1.2	-	-
Sum AA	76.2		73	-	36	-	28	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		3.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Potato pulp, dried-CP 90 - 130 g/kg:

1. Often of non-Dutch origin.

Potato pulp, dried-CP > 130 g/kg 4001.202/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	-	-	-	-	-	-	-	-		
sd	-	-	-	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	1000	1000	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	-	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	-	DCCFATh	-	DCCFAT	-
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	-	DCOM	-		
		DCNSPh			
DVE	1991	2007	Broilers	Horses	
%RUP	-	DCiSTA	DCCP	DCCP	-
%DRUP	-	StaDCP	DCCFATh	DCOM	-
%RUSTA	-	AppDCP	DC(S+S)		
%DASH	-		DCNFEh		
DASHmax	-		DCPpo		

Nutritional value (in product)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	NE2015	MEpo	MErab
VEVI	NE2015	MEpo	MErab
FOM-91	EW2015	MEla	
FOMr-07	StaDP	MEla	
FOMr2-07	AppDP	DPpo	
FOMr2/FOMr			
DVE-91		Broilers	Horses
DVE-07		MEbr	NEm
OEB-91		MEbr	NEm
OEB-07		DPpo	EWpa
OEB2-07			DCPho
DVMET-91			
DVLYS-91			
DVMET-07			
DVLYS-07			
SW			
VW			

Potato pulp, dried-CP > 130 g/kg 4001.202/3/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		0.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Remarks

Potato pulp, dried-CP > 130 g/kg:

1. Often of non-Dutch origin.

Potato starch, dried 4001.201/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	863	5	6	1	-	4	847	-		
sd	47	5	6	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	752	703	-	-	-	-	-	148	148	
sd	68	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	0.7	0.1	0.1	0.9	0.2	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	3	1	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	-		DCCP	-	DCCP
DCCFAT	-		DCCFATh	-	DCCFAT
DCCF	-		DCCF	-	DCCF
DCNFE	95		DCNFE	-	DCNFE
DCOM	94		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	5	5	StaDCP	60	DCCP
%DRUP	-	0	AppDCP	36	DCOM
%RUSTA	25	25			
%DASH	50	50			
DASHmax	7	7			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1092 /kg	NE2015	MEpo	MErab
VEVI	1241 /kg	NE2015	MEpo	MErab
FOM-91	628 g/kg	EW2015	MEla	
FOMr-07	628 g/kg	StaDP	MEla	
FOMr2-07	303 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.48 /kg			
DVE-91	56 g/kg		Broilers	Horses
DVE-07	74 g/kg		MEbr	NEm
OEB-91	-89 g/kg		MEbr	NEm
OEB-07	-118 g/kg		DPpo	EWpa
OEB2-07	-50 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-0.01 /kg			
VW	0.25 /kg			

Potato starch, dried 4001.201/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		
				standardized	apparent	DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg
CP			6	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		0.9
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, heat treated, dried 4001.232/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	875	45	39	0	-	3	788	788	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	778	728	-	35	-	-	-	29	29
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.2	1.6	0.2	0.1	0.4	17.4	11.6	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	22	-	2	1	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	25	EB (meq/kg)	440
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	-		DCCP	-	DCCP
DCCFAT	-		DCCFATh	-	DCCFAT
DCCF	-		DCCF	94	DCCF
DCNFE	-		DCNFE	55	DCNFE
DCOM	-		DCOM		
			DCNSPh		
DVE	1991	2007	DCiSTA		Horses
%RUP	100	100	StaDCP	-	DCCP
%DRUP	-	0	AppDCP	-	DCOM
%RUSTA	5	79		DC(S+S)	
%DASH	50	50		DCNFEh	
DASHmax	29	29		DCPpo	55

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	-	NE2015	MEpo	MErab
VEVI	-	NE2015	MEpo	MErab
FOM-91	712 g/kg	EW2015	MEla	
FOMr-07	183 g/kg	StaDP	MEla	
FOMr2-07	122 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.67 /kg			
DVE-91	-		Broilers	Horses
DVE-07	-		MEbr	NEm
OEB-91	-		MEbr	NEm
OEB-07	-31 g/kg		DPpo	EWpa
OEB2-07	-21 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-			
VW	-			

Potato starch, heat treated, dried 4001.232/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	AA pigs		AA poultry		DC	g/kg	
			standardized	apparent	DC	g/kg			
			DC	g/kg	DC	g/kg			
CP				39	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		0.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potatoes, dried 4001.611/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	897	42	93	4	-	25	733	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	625	599	-	31	80	-	-	129	49
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	2.4	0.4	-	12.1	1.3	-	-	0.7
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	39		DCCP	45	DCCP	-
DCCFAT	34		DCCFATh	-22	DCCFAT	-
DCCF	73		DCCF	88	DCNFE	-
DCNFE	92		DCNFE	93	DCPpo	-
DCOM	85		DCOM	87		
			DCNSPh	59	Horses	
DVE	1991	2007	DCiSTA	50	DCCP	-
%RUP	36	36	StaDCP	60	DCCFATh	-
%DRUP	85	85	AppDCP	53	DC(S+S)	-
%RUSTA	30	29			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	28	28				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	953 /kg	NE2015	8.65 MJ/kg	MEpo	-	
VEVI	1040 /kg	NE2015	2067 kcal/kg	MEpo	-	
FOM-91	510 g/kg	EW2015	0.98 /kg	MEla	-	
FOMr-07	592 g/kg	StaDP	1.4 g/kg	MEla	-	
FOMr2-07	277 g/kg	AppDP	1.3 g/kg	DPpo	-	
FOMr2/FOMr	0.47 /kg					
DVE-91	69 g/kg			Horses		
DVE-07	89 g/kg			MEbr	-	
OEB-91	-20 g/kg			MEbr	-	
OEB-07	-52 g/kg			DPpo	-	
OEB2-07	-23 g/kg				EWpa	-
DVMET-91	1.6 g/kg				DCPho	-
DVLYS-91	4.7 g/kg					
DVMET-07	2.1 g/kg					
DVLYS-07	6.3 g/kg					
SW	0.08 /kg					
VW	0.26 /kg					

Potatoes, dried 4001.611/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			93	60	-	49	45	-	-
LYS	5.2	-	4.8	65	3.1	58	2.8	-	-
MET	1.7	-	1.6	67	1.1	61	1.0	-	-
CYS	1.5	-	1.4	54	0.8	40	0.6	-	-
THR	4.0	-	3.7	64	2.4	49	1.8	-	-
TRP	1.5	-	1.4	52	0.7	43	0.6	-	-
ILE	4.7	-	4.4	60	2.6	52	2.3	-	-
ARG	5.2	-	4.8	60	2.9	53	2.5	-	-
PHE	4.3	-	4.0	60	2.4	52	2.1	-	-
HIS	1.7	-	1.6	59	0.9	49	0.8	-	-
LEU	6.9	-	6.4	60	3.8	53	3.4	-	-
TYR	3.9	-	3.6	60	2.2	53	1.9	-	-
VAL	5.0	-	4.7	60	2.8	50	2.3	-	-
ALA	3.9	-	3.6	60	2.2	48	1.7	-	-
ASP	19.1	-	17.8	60	10.6	56	9.9	-	-
GLU	13.2	-	12.3	59	7.3	51	6.2	-	-
GLY	3.5	-	3.3	59	1.9	35	1.1	-	-
PRO	4.2	-	3.9	59	2.3	34	1.3	-	-
SER	4.2	-	3.9	59	2.3	44	1.7	-	-
Sum AA	93.7		87	-	52	-	44	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		4.0	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction			NH3	-	

Rape seed 3009.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	924	39	198	416	428	100	171	159	
sd	9	2	9	13	-	19	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	15	-	56	203	155	61	203	-1
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.1	6.3	4.7	2.5	7.4	0.1	0.2	0.7	2.2
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	96	33	40	6	-	-	-
sd	-	3	6	2	-	-	-

IP/P	75	SUGe/SUG	75	EB (meq/kg)	188
		CF_DI	0.96	CAD (meq/kg)	7

Digestibility coefficients (%)

Ruminants

DCCP	78
DCCFAT	96
DCCF	41
DCNFE	83
DCOM	83

DVE	1991	2007
%RUP	23	25
%DRUP	50	50
%RUSTA	-	-
%DASH	50	50
DASHmax	26	26

Pigs

DCCP	71
DCCFATh	86
DCCF	35
DCNFE	86
DCOM	77
DCNSPh	55
DCiSTA	100
StaDCP	28
AppDCP	25

Roosters/Laying hens

DCCP	73
DCCFAT	71
DCNFE	39
DCPpo	33
DCCP	73
DCCFATh	84
DC(S+S)	48
DCNFEh	21
DCPpo	33

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-

Horses

DCCP	-
DCOM	-

Nutritional value (in product)

Ruminants

VEM	1872 /kg
VEVI	2128 /kg
FOM-91	277 g/kg
FOMr-07	279 g/kg
FOMr2-07	159 g/kg
FOMr2/FOMr	0.57 /kg
DVE-91	40 g/kg
DVE-07	38 g/kg
OEB-91	105 g/kg
OEB-07	108 g/kg
OEB2-07	61 g/kg
DVMET-91	1.0 g/kg
DVLYS-91	2.7 g/kg
DVMET-07	1.0 g/kg
DVLYS-07	2.6 g/kg
SW	0.32 /kg
VW	0.28 /kg

Pigs

NE2015	16.69 MJ/kg
NE2015	3988 kcal/kg
EW2015	1.90 /kg
StaDP	1.8 g/kg
AppDP	1.6 g/kg

Roosters/Laying hens

MEpo	15.22 MJ/kg
MEpo	3638 kcal/kg
MEla	16.94 MJ/kg
MEla	4048 kcal/kg
DPpo	2.1 g/kg

Rabbits

MErab	-
MErab	-

Broilers

MEbr	17.21 MJ/kg
MEbr	4112 kcal/kg
DPpo	2.1 g/kg

Horses

NEm	-
NEm	-
EWpa	-
DCPho	-

Rape seed 3009.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			198	72	-	66	132	-	-
LYS	5.5	0.3	10.9	73	7.9	70	7.6	78	8.5
MET	2.0	0.1	4.0	81	3.2	78	3.1	88	3.5
CYS	2.5	0.2	5.0	70	3.5	66	3.3	73	3.6
THR	4.4	0.2	8.7	70	6.1	64	5.5	75	6.5
TRP	1.3	0.1	2.6	71	1.8	66	1.7	81	2.1
ILE	3.9	0.1	7.7	74	5.7	69	5.4	82	6.3
ARG	6.1	0.3	12.1	84	10.1	81	9.8	84	10.2
PHE	4.1	0.2	8.1	77	6.2	73	5.9	84	6.8
HIS	2.8	0.2	5.5	80	4.4	77	4.3	83	4.6
LEU	7.0	0.2	13.9	76	10.5	73	10.1	82	11.4
TYR	3.1	0.3	6.1	75	4.6	70	4.3	80	4.9
VAL	5.1	0.2	10.1	71	7.2	66	6.7	81	8.2
ALA	4.5	0.2	8.9	75	6.7	70	6.2	81	7.2
ASP	7.5	0.4	14.9	71	10.5	66	9.8	73	10.8
GLU	16.9	0.9	33.5	84	28.0	80	27.0	84	28.1
GLY	5.2	0.2	10.3	73	7.5	65	6.7	79	8.1
PRO	6.0	0.4	11.9	79	9.4	70	8.3	72	8.6
SER	4.4	0.2	8.7	76	6.6	69	6.0	79	6.9
Sum AA	92.3		183	-	140	-	132	-	146

Fatty acids

	% FA	g/kg
CFAT(h)		415.5
<=C10	-	0.0
C12:0	0.2	0.8
C14:0	0.2	0.8
C16:0	5.0	19.7
C16:1	0.4	1.6
C18:0	2.0	7.9
C18:1	56.0	221.1
C:18:2	22.0	86.8
C18:3	9.0	35.5
>=C20	4.0	15.8
Sum FA	98.8	390.0
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Rape seed:

1. The content of S-o does not include the sulphur bound to thioglucosinolates.
2. The nutrient digestibility values mentioned for pigs and poultry apply to the so-called double-zero variety.
3. The DCCFATH for pigs only applies for a product in an unpelleted form.; in pelleted form the DCCFATH may be higher.
4. The DCCFATH of 84% for broilers is applicable only for rapeseed that is milled very well; if this is not the case a DCCFATH of 78% is advised.

Rape seed expeller 3009.401/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	904	62	316	99	111	121	306	294	
sd	14	3	13	16	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	7	-	75	245	187	74	348	103
sd	-	-	-	8	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	6.9	10.2	7.7	3.9	11.4	0.4	0.4	0.8	3.5
sd	-	0.7	-	-	0.5	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	278	54	56	5	1.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	75	EB (meq/kg)	298
		CF_DI	0.96	CAD (meq/kg)	31

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	84		DCCP	74	DCCP	77
DCCFAT	94		DCCFATh	83	DCCFAT	80
DCCF	41		DCCF	35	DCNFE	32
DCNFE	83		DCNFE	75	DCPpo	33
DCOM	79		DCOM	70		
			DCNSPh	55	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	35	36	StaDCP	28	DCCFATh	81
%DRUP	80	80	AppDCP	26	DC(S+S)	48
%RUSTA	-	-			DCNFEh	13
%DASH	50	50			DCPpo	33
DASHmax	39	39				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1053 /kg	NE2015	8.80 MJ/kg	MEpo	9.17 MJ/kg	MErab	11.48 MJ/kg
VEVI	1119 /kg	NE2015	2102 kcal/kg	MEpo	2193 kcal/kg	MErab	2743 kcal/kg
FOM-91	454 g/kg	EW2015	1.00 /kg	MEla	9.65 MJ/kg		
FOMr-07	450 g/kg	StaDP	2.9 g/kg	MEla	2306 kcal/kg		
FOMr2-07	203 g/kg	AppDP	2.7 g/kg	DPpo	3.4 g/kg		
FOMr2/FOMr	0.45 /kg						
DVE-91	125 g/kg			Broilers		Horses	
DVE-07	119 g/kg			MEbr	8.39 MJ/kg	NEm	-
OEB-91	126 g/kg			MEbr	2006 kcal/kg	NEm	-
OEB-07	134 g/kg			DPpo	3.4 g/kg	EWpa	-
OEB2-07	45 g/kg					DCPho	-
DVMET-91	2.9 g/kg						
DVLYS-91	7.8 g/kg						
DVMET-07	2.7 g/kg						
DVLYS-07	7.5 g/kg						
SW	0.32 /kg						
VW	0.28 /kg						

Rape seed expeller 3009.401/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			316	72	-	69	219	-	-
LYS	5.5	0.3	17.4	74	12.8	72	12.5	78	13.5
MET	2.0	0.1	6.3	81	5.1	80	5.0	88	5.6
CYS	2.5	0.2	7.9	70	5.5	68	5.3	73	5.8
THR	4.4	0.2	13.9	71	9.8	67	9.3	75	10.4
TRP	1.3	0.1	4.1	71	2.9	68	2.8	81	3.3
ILE	3.9	0.1	12.3	75	9.2	72	8.9	82	10.1
ARG	6.1	0.3	19.3	84	16.2	82	15.8	84	16.2
PHE	4.1	0.2	12.9	77	10.0	75	9.7	84	10.9
HIS	2.8	0.2	8.8	80	7.1	78	6.9	83	7.3
LEU	7.0	0.2	22.1	77	17.0	75	16.5	82	18.1
TYR	3.1	0.3	9.8	75	7.4	72	7.1	80	7.8
VAL	5.1	0.2	16.1	72	11.6	69	11.1	81	13.0
ALA	4.5	0.2	14.2	76	10.8	73	10.3	81	11.5
ASP	7.5	0.4	23.7	71	16.9	68	16.2	73	17.3
GLU	16.9	0.9	53.4	84	44.8	82	43.7	84	44.8
GLY	5.2	0.2	16.4	74	12.1	69	11.3	79	13.0
PRO	6.0	0.4	18.9	80	15.1	74	14.1	72	13.6
SER	4.4	0.2	13.9	76	10.5	72	10.0	79	11.0
Sum AA	92.3		291	-	225	-	217	-	233

Fatty acids

	% FA	g/kg
CFAT(h)		98.9
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	5.0	3.7
C16:1	0.4	0.3
C18:0	2.0	1.5
C18:1	56.0	41.5
C:18:2	22.0	16.3
C18:3	9.0	6.7
>=C20	4.0	3.0
Sum FA	98.8	73.3
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Rape seed expeller:

1. The content of S-o does not include the sulphur bound to thioglucosinolates.
2. The nutrient digestibility values mentioned for pigs and poultry apply to the so-called double-zero variety.

Rape seed meal, rumen bypass, Mervobest 3009.434/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	878	66	337	30	36	129	316	310	
sd	5	3	9	6	-	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	39	10	-	93	278	198	84	347	69
sd	4	-	-	4	29	5	7	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	7.2	11.0	8.2	4.3	13.0	0.3	0.3	0.7	3.7
sd	0.4	0.6	-	0.3	0.5	0.2	0.1	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	145	49	60	4	0.8	-	0.3
sd	24	9	3	1	0.3	-	0.2

IP/P	75	SUGe/SUG	-	EB (meq/kg)	337
		CF_DI	0.95	CAD (meq/kg)	63

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	84		DCCP	-	DCCP
DCCFAT	89		DCCFATh	-	DCCFAT
DCCF	38		DCCF	-	DCCF
DCNFE	80		DCNFE	-	DCNFE
DCOM	75		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	81	83	StaDCP	-	DCCP
%DRUP	88	88	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	50	50			
DASHmax	41	41			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	833 /kg	NE2015	MEpo	MErab
VEVI	853 /kg	NE2015	MEpo	MErab
FOM-91	309 g/kg	EW2015	MEla	
FOMr-07	318 g/kg	StaDP	MEla	
FOMr2-07	158 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.50 /kg			
DVE-91	278 g/kg		Broilers	Horses
DVE-07	262 g/kg		MEbr	NEm
OEB-91	-12 g/kg		MEbr	NEm
OEB-07	4 g/kg		DPpo	EWpa
OEB2-07	-8 g/kg			DCPho
DVMET-91	6.0 g/kg			
DVLYS-91	13.0 g/kg			
DVMET-07	5.7 g/kg			
DVLYS-07	12.4 g/kg			
SW	0.29 /kg			
VW	0.28 /kg			

Rape seed meal, rumen bypass, Mervobest 3009.434/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			337	-	-	-	-	-	-
LYS	4.4	-	14.8	-	-	-	-	-	-
MET	2.0	0.1	6.7	-	-	-	-	-	-
CYS	2.5	0.2	8.4	-	-	-	-	-	-
THR	4.4	0.2	14.8	-	-	-	-	-	-
TRP	1.3	0.1	4.4	-	-	-	-	-	-
ILE	3.9	0.1	13.1	-	-	-	-	-	-
ARG	6.1	0.3	20.6	-	-	-	-	-	-
PHE	4.1	0.2	13.8	-	-	-	-	-	-
HIS	2.8	0.2	9.4	-	-	-	-	-	-
LEU	7.0	0.2	23.6	-	-	-	-	-	-
TYR	3.1	0.3	10.5	-	-	-	-	-	-
VAL	5.1	0.2	17.2	-	-	-	-	-	-
ALA	4.5	0.2	15.2	-	-	-	-	-	-
ASP	7.5	0.4	25.3	-	-	-	-	-	-
GLU	16.9	0.9	57.0	-	-	-	-	-	-
GLY	5.2	0.2	17.5	-	-	-	-	-	-
PRO	6.0	0.4	20.2	-	-	-	-	-	-
SER	4.4	0.2	14.8	-	-	-	-	-	-
Sum AA	91.2		307	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		29.8
<=C10	-	0.0
C12:0	0.2	0.0
C14:0	0.2	0.0
C16:0	5.0	1.0
C16:1	0.4	0.1
C18:0	2.0	0.4
C18:1	56.0	10.8
C:18:2	22.0	4.3
C18:3	9.0	1.7
>=C20	4.0	0.8
Sum FA	98.8	19.1
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Rape seed meal, rumen bypass, Mervobest:

1. Product treated with formaldehyde, produced by Nuscience in utrecht, the Netherlands. the average nutrient values are solely based on analyses carried out on this product.

Rape seed meal, solvent extracted-CP < 370 g/kg 3009.407/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	889	67	344	32	42	121	325	315	
sd	7	3	12	6	10	10	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	8	-	83	254	187	74	359	105
sd	-	-	-	9	36	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	7.8	10.5	7.9	4.1	12.8	0.4	0.4	0.7	3.8
sd	0.6	0.6	-	0.3	0.8	0.7	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	447	70	61	5	0.8	0.1	0.0
sd	400	10	5	1	-	-	-

IP/P	75	SUGe/SUG	75	EB (meq/kg)	334
		CF_DI	0.95	CAD (meq/kg)	54

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	84		DCCP	74	DCCP	77	
DCCFAT	90		DCCFATh	60	DCCFAT	70	
DCCF	41		DCCF	35	DCNFE	10	
DCNFE	83		DCNFE	75	DCPpo	70	
DCOM	78		DCOM	68			
			DCNSPh	55			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	35	36	StaDCP	28	DCCP	DCCP	83
%DRUP	80	80	AppDCP	26	DCCFATh	DCOM	70
%RUSTA	-	-			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	41	41			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	879 /kg	NE2015	6.83 MJ/kg	MEpo	7.26 MJ/kg	MErab	9.96 MJ/kg
VEVI	910 /kg	NE2015	1633 kcal/kg	MEpo	1735 kcal/kg	MErab	2381 kcal/kg
FOM-91	488 g/kg	EW2015	0.78 /kg	MEla	7.38 MJ/kg		
FOMr-07	482 g/kg	StaDP	3.0 g/kg	MEla	1764 kcal/kg		
FOMr2-07	219 g/kg	AppDP	2.8 g/kg	DPpo	3.5 g/kg		
FOMr2/FOMr	0.46 /kg						
DVE-91	136 g/kg			Broilers		Horses	
DVE-07	129 g/kg			MEbr	6.37 MJ/kg	NEm	6.71 MJ/kg
OEB-91	138 g/kg			MEbr	1523 kcal/kg	NEm	1603 kcal/kg
OEB-07	147 g/kg			DPpo	3.5 g/kg	EWpa	0.75 /kg
OEB2-07	50 g/kg					DCPho	286 g/kg
DVMET-91	3.1 g/kg						
DVLYS-91	8.5 g/kg						
DVMET-07	3.0 g/kg						
DVLYS-07	8.1 g/kg						
SW	0.30 /kg						
VW	0.28 /kg						

Rape seed meal, solvent extracted-CP < 370 g/kg 3009.407/1/0

Amino acids	Ileal digestible				Standardized ileal digestible				
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			344	72	-	70	239	-	-
LYS	5.5	0.3	18.9	74	14.0	72	13.6	78	14.8
MET	2.0	0.1	6.9	81	5.6	80	5.5	88	6.1
CYS	2.5	0.2	8.6	70	6.0	68	5.8	75	6.5
THR	4.4	0.2	15.1	71	10.7	67	10.2	73	11.1
TRP	1.3	0.1	4.5	71	3.2	68	3.1	80	3.6
ILE	3.9	0.1	13.4	75	10.0	72	9.7	78	10.5
ARG	6.1	0.3	21.0	84	17.6	82	17.3	85	17.8
PHE	4.1	0.2	14.1	77	10.9	75	10.6	80	11.3
HIS	2.8	0.2	9.6	80	7.7	79	7.6	82	7.9
LEU	7.0	0.2	24.1	77	18.5	75	18.1	80	19.3
TYR	3.1	0.3	10.7	75	8.0	73	7.8	79	8.4
VAL	5.1	0.2	17.6	72	12.6	69	12.1	77	13.5
ALA	4.5	0.2	15.5	76	11.7	73	11.3	80	12.4
ASP	7.5	0.4	25.8	71	18.4	69	17.7	76	19.6
GLU	16.9	0.9	58.2	84	48.8	82	47.8	86	50.0
GLY	5.2	0.2	17.9	74	13.2	69	12.4	78	14.0
PRO	6.0	0.4	20.7	80	16.5	75	15.5	77	15.9
SER	4.4	0.2	15.1	76	11.5	72	10.9	76	11.5
Sum AA	92.3		318	-	245	-	237	-	254

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		31.6	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	5.0	1.0	PR	-	-
C16:1	0.4	0.1	BU	-	-
C18:0	2.0	0.4	Glycerol	-	-
C18:1	56.0	11.5			
C:18:2	22.0	4.5			
C18:3	9.0	1.8			
>=C20	4.0	0.8			
Sum FA	98.8	20.3	NH3	-	-
% FA in CFAT-fraction		65			

Remarks

Rape seed meal, solvent extracted-CP < 370 g/kg:

1. The content of S-o does not include the sulphur bound to thioglucosinolates.
2. The nutrient digestibility values mentioned for pigs and poultry apply to the so-called double-zero variety.

Rape seed meal, solvent extracted-CP > 370 g/kg 3009.407/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	906	84	388	16	28	115	303	291	
sd	-	6	5	7	-	14	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	11	-	89	234	178	70	323	89
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	7.2	10.7	8.1	4.1	12.6	0.1	0.5	0.7	4.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	377	73	76	7	0.8	0.1	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	75	EB (meq/kg)	314
		CF_DI	0.95	CAD (meq/kg)	3

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	85		DCCP	74	DCCP	77	
DCCFAT	83		DCCFATh	54	DCCFAT	70	
DCCF	41		DCCF	35	DCNFE	10	
DCNFE	83		DCNFE	77	DCPpo	70	
DCOM	78		DCOM	69			
			DCNSPh	55			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	35	36	StaDCP	28	DCCP	DCCP	83
%DRUP	80	80	AppDCP	26	DCCFATh	DCOM	71
%RUSTA	-	-			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	51	51			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	853 /kg	NE2015	6.78 MJ/kg	MEpo	7.36 MJ/kg	MErab	9.91 MJ/kg
VEVI	876 /kg	NE2015	1620 kcal/kg	MEpo	1760 kcal/kg	MErab	2368 kcal/kg
FOM-91	492 g/kg	EW2015	0.77 /kg	MEla	7.42 MJ/kg		
FOMr-07	499 g/kg	StaDP	3.0 g/kg	MEla	1773 kcal/kg		
FOMr2-07	231 g/kg	AppDP	2.8 g/kg	DPpo	3.5 g/kg		
FOMr2/FOMr	0.46 /kg						
DVE-91	150 g/kg			Broilers		Horses	
DVE-07	143 g/kg			MEbr	6.68 MJ/kg	NEm	6.67 MJ/kg
OEB-91	165 g/kg			MEbr	1598 kcal/kg	NEm	1593 kcal/kg
OEB-07	174 g/kg			DPpo	3.5 g/kg	EWpa	0.75 /kg
OEB2-07	59 g/kg					DCPho	322 g/kg
DVMET-91	3.4 g/kg						
DVLYS-91	9.2 g/kg						
DVMET-07	3.3 g/kg						
DVLYS-07	8.9 g/kg						
SW	0.29 /kg						
VW	0.28 /kg						

Rape seed meal, solvent extracted-CP > 370 g/kg 3009.407/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			388	73	-	70	271	-	-
LYS	5.5	0.3	21.3	74	15.8	72	15.4	78	16.6
MET	2.0	0.1	7.8	81	6.3	80	6.2	88	6.8
CYS	2.5	0.2	9.7	70	6.8	68	6.6	75	7.3
THR	4.4	0.2	17.1	71	12.0	67	11.5	73	12.5
TRP	1.3	0.1	5.0	71	3.6	69	3.5	80	4.0
ILE	3.9	0.1	15.1	75	11.3	72	11.0	78	11.8
ARG	6.1	0.3	23.7	84	19.9	83	19.5	85	20.1
PHE	4.1	0.2	15.9	77	12.2	75	11.9	80	12.7
HIS	2.8	0.2	10.9	80	8.7	79	8.6	82	8.9
LEU	7.0	0.2	27.1	77	20.8	75	20.4	80	21.7
TYR	3.1	0.3	12.0	75	9.0	73	8.8	79	9.5
VAL	5.1	0.2	19.8	72	14.2	69	13.7	77	15.2
ALA	4.5	0.2	17.4	76	13.2	73	12.8	80	14.0
ASP	7.5	0.4	29.1	71	20.8	69	20.1	76	22.1
GLU	16.9	0.9	65.5	84	55.0	82	54.0	86	56.4
GLY	5.2	0.2	20.2	74	14.9	70	14.0	78	15.7
PRO	6.0	0.4	23.3	80	18.6	75	17.6	77	17.9
SER	4.4	0.2	17.1	76	13.0	72	12.4	76	13.0
Sum AA	92.3		358	-	276	-	268	-	286

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		16.0	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	0.2	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	5.0	0.5	PR	-	-
C16:1	0.4	0.0	BU	-	-
C18:0	2.0	0.2	Glycerol	-	-
C18:1	56.0	5.8			
C:18:2	22.0	2.3			
C18:3	9.0	0.9			
>=C20	4.0	0.4			
Sum FA	98.8	10.3			
% FA in CFAT-fraction		65	NH3	-	

Remarks

Rape seed meal, solvent extracted-CP > 370 g/kg:

1. Sometimes mustardseed meal, solvent extracted is traded under this name.
2. The content of S-o does not include the sulphur bound to thioglucosinolates.
3. The nutrient digestibility values mentioned for pigs and poultry apply to the so-called double-zero variety.

Rice-dehulled 1003.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	885	7	78	8	12	7	784	780	
sd	16	2	3	3	-	3	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	725	715	-	9	35	13	-	68	32
sd	20	-	-	10	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	0.9	0.8	0.2	0.9	-	0.3	-	0.8
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	13	8	16	1	-	-	2.0
sd	-	-	-	-	-	-	-

IP/P	90	SUGe/SUG	100	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	49		DCCP	67	DCCP	-
DCCFAT	55		DCCFATh	52	DCCFAT	-
DCCF	12		DCCF	98	DCNFE	99
DCNFE	96		DCNFE	97	DCPpo	16
DCOM	91		DCOM	94		
			DCNSPh	60	Broilers	
			DCiSTA	100	DCCP	81
			StaDCP	13	DCCFATh	90
			AppDCP	-7	DC(S+S)	99
					DCNFEh	92
					DCPpo	16
DVE	1991	2007			Horses	
%RUP	29	31			DCCP	-
%DRUP	80	80			DCOM	-
%RUSTA	10	9				
%DASH	65	65				
DASHmax	11	11				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1078 /kg	NE2015	11.43 MJ/kg	MEpo	14.77 MJ/kg
VEVI	1204 /kg	NE2015	2732 kcal/kg	MEpo	3530 kcal/kg
FOM-91	692 g/kg	EW2015	1.30 /kg	MEla	14.80 MJ/kg
FOMr-07	740 g/kg	StaDP	0.1 g/kg	MEla	3537 kcal/kg
FOMr2-07	541 g/kg	AppDP	-0.1 g/kg	DPpo	0.1 g/kg
FOMr2/FOMr	0.73 /kg				
DVE-91	80 g/kg			Broilers	
DVE-07	105 g/kg			MEbr	14.00 MJ/kg
OEB-91	-51 g/kg			MEbr	3345 kcal/kg
OEB-07	-90 g/kg			DPpo	0.1 g/kg
OEB2-07	-80 g/kg				
DVMET-91	2.0 g/kg			Horses	
DVLYS-91	5.6 g/kg			NEm	-
DVMET-07	2.6 g/kg			NEm	-
DVLYS-07	7.5 g/kg			EWpa	-
SW	-0.27 /kg			DCPho	-
VW	0.25 /kg				

Rice-dehulled 1003.000/1/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			78	95	-	82	64	-	-
LYS	4.2	0.6	3.3	94	3.1	83	2.7	98	3.2
MET	2.1	0.3	1.6	95	1.6	89	1.5	90	1.5
CYS	2.2	0.2	1.7	90	1.5	79	1.4	84	1.4
THR	3.7	0.3	2.9	93	2.7	75	2.2	93	2.7
TRP	1.1	0.2	0.9	93	0.8	79	0.7	89	0.8
ILE	3.7	0.3	2.9	96	2.8	84	2.4	95	2.8
ARG	7.8	0.6	6.1	96	5.9	90	5.5	93	5.7
PHE	4.7	0.4	3.7	92	3.4	84	3.1	91	3.3
HIS	2.7	0.3	2.1	95	2.0	87	1.8	90	1.9
LEU	7.3	0.5	5.7	96	5.5	88	5.0	93	5.3
TYR	3.4	0.5	2.7	97	2.6	87	2.3	92	2.4
VAL	5.5	0.4	4.3	95	4.1	84	3.6	93	4.0
ALA	5.9	0.4	4.6	95	4.4	85	3.9	94	4.3
ASP	9.0	0.5	7.0	93	6.6	84	5.9	93	6.5
GLU	14.6	1.7	11.4	96	11.0	87	10.0	91	10.4
GLY	5.1	0.5	4.0	95	3.8	75	3.0	93	3.7
PRO	4.5	0.3	3.5	93	3.3	65	2.3	80	2.8
SER	4.7	0.4	3.7	96	3.5	81	3.0	92	3.4
Sum AA	92.2		72	-	68	-	60	-	66

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		8.4	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.4	0.0	ETH	-	-
C16:0	14.0	1.1	PR	-	-
C16:1	0.4	0.0	BU	-	-
C18:0	2.0	0.2	Glycerol	-	-
C18:1	40.0	3.0			
C:18:2	37.0	2.8			
C18:3	1.0	0.1			
>=C20	2.0	0.2			
Sum FA	96.8	7.3			
% FA in CFAT-fraction		90	NH3	-	

Rice-with hulls 1003.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	886	44	73	19	22	102	649	645	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	480	463	-	13	248	114	-	275	27
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	2.6	2.3	1.4	3.4	-	-	-	0.8
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	90	SUGe/SUG	100	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	47		DCCP	66	DCCP	-
DCCFAT	70		DCCFATh	70	DCCFAT	-
DCCF	12		DCCF	6	DCNFE	87
DCNFE	88		DCNFE	86	DCPpo	16
DCOM	75		DCOM	74		
			DCNSPh	31		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	13	DCCP	-
%RUP	29	31	AppDCP	6	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	10	9			DCNFEh	-
%DASH	50	50			DCPpo	16
DASHmax	29	29				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	825 /kg	NE2015	8.65 MJ/kg	MEpo	11.17 MJ/kg	MErab	-
VEVI	865 /kg	NE2015	2066 kcal/kg	MEpo	2670 kcal/kg	MErab	-
FOM-91	542 g/kg	EW2015	0.98 /kg	MEla	11.25 MJ/kg		
FOMr-07	554 g/kg	StaDP	0.3 g/kg	MEla	2689 kcal/kg		
FOMr2-07	369 g/kg	AppDP	0.2 g/kg	DPpo	0.4 g/kg		
FOMr2/FOMr	0.67 /kg						
DVE-91	52 g/kg			Broilers		Horses	
DVE-07	66 g/kg			MEbr	-	NEm	-
OEB-91	-32 g/kg			MEbr	-	NEm	-
OEB-07	-54 g/kg			DPpo	0.4 g/kg	EWpa	-
OEB2-07	-48 g/kg					DCPho	-
DVMET-91	1.4 g/kg						
DVLYS-91	3.7 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	4.8 g/kg						
SW	0.01 /kg						
VW	0.27 /kg						

Rice-with hulls 1003.000/2/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	AA pigs				AA poultry		
			standardized		apparent		DC	g/kg	
		g/kg	DC	g/kg	DC	g/kg	DC	g/kg	
CP		73	76	-	62	45	-	-	
LYS	4.2	0.6	3.1	80	2.4	68	2.1	73	2.2
MET	2.1	0.3	1.5	84	1.3	78	1.2	84	1.3
CYS	2.2	0.2	1.6	74	1.2	62	1.0	67	1.1
THR	3.7	0.3	2.7	74	2.0	55	1.5	69	1.9
TRP	1.1	0.2	0.8	77	0.6	61	0.5	75	0.6
ILE	3.7	0.3	2.7	82	2.2	69	1.9	79	2.1
ARG	7.8	0.6	5.7	90	5.1	84	4.7	84	4.8
PHE	4.7	0.4	3.4	85	2.9	77	2.6	84	2.9
HIS	2.7	0.3	2.0	88	1.7	79	1.6	81	1.6
LEU	7.3	0.5	5.3	84	4.4	76	4.0	83	4.4
TYR	3.4	0.5	2.5	84	2.1	73	1.8	79	2.0
VAL	5.5	0.4	4.0	81	3.2	69	2.8	77	3.1
ALA	5.9	0.4	4.3	76	3.2	66	2.8	74	3.2
ASP	9.0	0.5	6.5	75	4.9	65	4.2	76	5.0
GLU	14.6	1.7	10.6	83	8.8	73	7.8	82	8.7
GLY	5.1	0.5	3.7	77	2.8	55	2.0	72	2.7
PRO	4.5	0.3	3.3	85	2.8	55	1.8	70	2.3
SER	4.7	0.4	3.4	79	2.7	62	2.1	75	2.6
Sum AA	92.2		67	-	54	-	46	-	52

Fatty acids

	% FA	g/kg
CFAT(h)		18.6
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.1
C16:0	17.0	2.8
C16:1	0.4	0.1
C18:0	2.0	0.3
C18:1	40.0	6.7
C:18:2	37.0	6.2
C18:3	1.0	0.2
>=C20	2.0	0.3
Sum FA	99.8	16.7
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Rice bran meal, solvent extracted 1003.416/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	901	108	143	15	-	113	521	-	
sd	9	34	12	12	-	31	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	293	270	-	26	283	131	-	339	56
sd	28	-	-	14	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.1	16.5	14.9	8.1	12.3	0.2	0.9	0.2	1.5
sd	0.6	2.2	-	-	-	-	0.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	93	11	-	-	-
sd	-	-	-	-	-	-	-

IP/P	90	SUGe/SUG	100	EB (meq/kg)	295
		CF_DI	0.96	CAD (meq/kg)	191

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	64		DCCP	69	DCCP	-
DCCFAT	67		DCCFATh	55	DCCFAT	-
DCCF	12		DCCF	55	DCCF	-
DCNFE	85		DCNFE	16	DCNFE	-
DCOM	70		DCOM			
			DCNSPh			
DVE	1991	2007	DCiSTA		Horses	
%RUP	29	31	StaDCP	-	DCCP	65
%DRUP	75	75	AppDCP	-	DCCFATh	67
%RUSTA	10	9		-	DC(S+S)	
%DASH	35	35		-	DCNFEh	
DASHmax	45	45		16	DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	717 /kg	NE2015	MEpo	MErab
VEVI	729 /kg	NE2015	MEpo	MErab
FOM-91	472 g/kg	EW2015	MEla	
FOMr-07	462 g/kg	StaDP	MEla	
FOMr2-07	267 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.58 /kg			
DVE-91	57 g/kg		Broilers	Horses
DVE-07	62 g/kg		MEbr	NEm
OEB-91	25 g/kg		MEbr	NEm
OEB-07	18 g/kg		DPpo	EWpa
OEB2-07	-6 g/kg			DCPho
DVMET-91	1.6 g/kg			
DVLYS-91	3.6 g/kg			
DVMET-07	1.7 g/kg			
DVLYS-07	4.0 g/kg			
SW	0.16 /kg			
VW	0.28 /kg			

Rice bran meal, solvent extracted 1003.416/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			143	63	-	56	80	-	-
LYS	4.2	0.6	6.0	62	3.7	56	3.4	66	4.0
MET	2.1	0.3	3.0	71	2.1	68	2.0	75	2.2
CYS	2.2	0.2	3.1	53	1.7	47	1.5	55	1.7
THR	3.7	0.3	5.3	61	3.2	51	2.7	62	3.3
TRP	1.1	0.2	1.6	75	1.2	67	1.1	73	1.1
ILE	3.7	0.3	5.3	68	3.6	62	3.3	69	3.6
ARG	7.8	0.6	11.1	77	8.6	74	8.2	77	8.6
PHE	4.7	0.4	6.7	63	4.2	58	3.9	67	4.5
HIS	2.7	0.3	3.9	66	2.5	62	2.4	68	2.6
LEU	7.3	0.5	10.4	66	6.9	62	6.4	68	7.1
TYR	3.4	0.5	4.9	70	3.4	64	3.1	70	3.4
VAL	5.5	0.4	7.9	67	5.2	61	4.8	68	5.3
ALA	5.9	0.4	8.4	66	5.6	61	5.1	70	5.9
ASP	9.0	0.5	12.8	63	8.1	58	7.4	64	8.2
GLU	14.6	1.7	20.8	71	14.7	66	13.7	72	15.0
GLY	5.1	0.5	7.3	58	4.2	47	3.4	61	4.4
PRO	4.5	0.3	6.4	66	4.2	51	3.2	58	3.7
SER	4.7	0.4	6.7	68	4.6	59	4.0	67	4.5
Sum AA	92.2		132	-	88	-	80	-	89

Fatty acids

	% FA	g/kg
CFAT(h)		15.2
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.0
C16:0	17.0	1.7
C16:1	0.4	0.0
C18:0	2.0	0.2
C18:1	40.0	4.0
C:18:2	37.0	3.7
C18:3	1.0	0.1
>=C20	2.0	0.2
Sum FA	99.8	9.9
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Rice feed meal-ASH < 90 g/kg 1003.122/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	897	73	139	147	153	55	483	476	
sd	7	12	7	25	-	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	327	304	-	41	183	78	-	194	11
sd	68	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.1	14.2	12.7	5.5	9.9	0.1	0.4	0.3	1.4
sd	4.6	2.3	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	131	188	56	7	-	-	-
sd	-	-	-	-	-	-	-

IP/P	90	SUGe/SUG	100	EB (meq/kg)	246
		CF_DI	0.97	CAD (meq/kg)	140

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	64		DCCP	72	DCCP	60
DCCFAT	80		DCCFATh	86	DCCFAT	68
DCCF	12		DCCF	21	DCNFE	18
DCNFE	90		DCNFE	86	DCPpo	66
DCOM	79		DCOM	79		
			DCNSPh	40	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	82
%RUP	29	31	StaDCP	13	DCCFATh	85
%DRUP	80	80	AppDCP	12	DC(S+S)	92
%RUSTA	10	9			DCNFEh	67
%DASH	50	50			DCPpo	16
DASHmax	45	45				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1093 /kg	NE2015	11.43 MJ/kg	MEpo	12.80 MJ/kg	MErab	10.97 MJ/kg
VEVI	1185 /kg	NE2015	2731 kcal/kg	MEpo	3059 kcal/kg	MErab	2621 kcal/kg
FOM-91	431 g/kg	EW2015	1.30 /kg	MEla	13.55 MJ/kg		
FOMr-07	498 g/kg	StaDP	1.8 g/kg	MEla	3239 kcal/kg		
FOMr2-07	304 g/kg	AppDP	1.7 g/kg	DPpo	2.3 g/kg		
FOMr2/FOMr	0.61 /kg			Broilers		Horses	
DVE-91	62 g/kg			MEbr	12.13 MJ/kg	NEm	9.57 MJ/kg
DVE-07	75 g/kg			MEbr	2899 kcal/kg	NEm	2287 kcal/kg
OEB-91	29 g/kg			DPpo	2.3 g/kg	EWpa	1.07 /kg
OEB-07	8 g/kg					DCPho	114 g/kg
OEB2-07	-14 g/kg						
DVMET-91	1.6 g/kg						
DVLYS-91	3.8 g/kg						
DVMET-07	1.9 g/kg						
DVLYS-07	4.9 g/kg						
SW	0.06 /kg						
VW	0.26 /kg						

Rice feed meal-ASH < 90 g/kg 1003.122/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			139	63	-	55	77	-	-
LYS	4.2	0.6	5.8	62	3.6	56	3.3	74	4.3
MET	2.1	0.3	2.9	71	2.1	68	2.0	72	2.1
CYS	2.2	0.2	3.1	52	1.6	46	1.4	69	2.1
THR	3.7	0.3	5.1	61	3.1	50	2.6	67	3.4
TRP	1.1	0.2	1.5	75	1.1	67	1.0	70	1.1
ILE	3.7	0.3	5.1	68	3.5	61	3.1	68	3.5
ARG	7.8	0.6	10.8	77	8.3	74	8.0	78	8.4
PHE	4.7	0.4	6.5	62	4.0	57	3.7	67	4.4
HIS	2.7	0.3	3.7	66	2.5	61	2.3	74	2.8
LEU	7.3	0.5	10.1	66	6.7	62	6.2	69	7.0
TYR	3.4	0.5	4.7	69	3.2	63	3.0	65	3.1
VAL	5.5	0.4	7.6	66	5.0	60	4.6	66	5.0
ALA	5.9	0.4	8.2	66	5.4	61	5.0	74	6.1
ASP	9.0	0.5	12.5	63	7.8	57	7.1	71	8.9
GLU	14.6	1.7	20.3	71	14.3	65	13.2	75	15.2
GLY	5.1	0.5	7.1	58	4.1	46	3.3	72	5.1
PRO	4.5	0.3	6.2	65	4.1	50	3.1	71	4.4
SER	4.7	0.4	6.5	68	4.4	59	3.8	72	4.7
Sum AA	92.2		128	-	85	-	77	-	92

Fatty acids

	% FA	g/kg
CFAT(h)		146.8
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.5
C16:0	17.0	20.0
C16:1	0.4	0.5
C18:0	2.0	2.3
C18:1	40.0	47.0
C:18:2	37.0	43.4
C18:3	1.0	1.2
>=C20	2.0	2.3
Sum FA	99.8	117.2
% FA in CFAT-fraction		80

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Rice feed meal-ASH < 90 g/kg:

1. Often limestone is added to this product, the Ca content of this product without added limestone is approximately 1 g/kg.

Rice feed meal-ASH > 90 g/kg 1003.122/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	911	124	137	168	174	55	427	421	
sd	8	21	5	20	-	9	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	259	234	-	35	164	73	-	215	51
sd	55	-	-	19	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	26.7	17.4	15.7	6.7	10.0	0.1	0.4	0.3	1.4
sd	10.7	1.5	-	-	-	0.0	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	133	191	73	8	-	-	-
sd	-	-	26	2	-	-	-

IP/P	90	SUGe/SUG	100	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	145

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	63		DCCP	72	DCCP	60	
DCCFAT	81		DCCFATh	86	DCCFAT	68	
DCCF	12		DCCF	21	DCNFE	18	
DCNFE	90		DCNFE	82	DCPpo	66	
DCOM	78		DCOM	77			
			DCNSPh	43			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	29	31	StaDCP	13	DCCP	DCCP	82
%DRUP	80	80	AppDCP	12	DCCFATh	DCOM	78
%RUSTA	10	9			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	73	73			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1077 /kg	NE2015	11.13 MJ/kg	MEpo	12.52 MJ/kg	MErab	10.86 MJ/kg
VEVI	1167 /kg	NE2015	2659 kcal/kg	MEpo	2993 kcal/kg	MErab	2595 kcal/kg
FOM-91	379 g/kg	EW2015	1.26 /kg	MEla	13.38 MJ/kg		
FOMr-07	436 g/kg	StaDP	2.3 g/kg	MEla	3198 kcal/kg		
FOMr2-07	249 g/kg	AppDP	2.1 g/kg	DPpo	2.8 g/kg		
FOMr2/FOMr	0.57 /kg						
DVE-91	54 g/kg			Broilers		Horses	
DVE-07	64 g/kg			MEbr	9.08 MJ/kg	NEm	9.38 MJ/kg
OEB-91	35 g/kg			MEbr	2170 kcal/kg	NEm	2242 kcal/kg
OEB-07	19 g/kg			DPpo	2.8 g/kg	EWpa	1.05 /kg
OEB2-07	-4 g/kg					DCPho	112 g/kg
DVMET-91	1.4 g/kg						
DVLYS-91	3.3 g/kg						
DVMET-07	1.7 g/kg						
DVLYS-07	4.1 g/kg						
SW	0.13 /kg						
VW	0.26 /kg						

Rice feed meal-ASH > 90 g/kg 1003.122/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			137	66	-	58	79	-	-
LYS	4.2	0.6	5.7	62	3.5	56	3.2	74	4.2
MET	2.1	0.3	2.9	71	2.0	68	1.9	72	2.1
CYS	2.2	0.2	3.0	52	1.6	46	1.4	69	2.1
THR	3.7	0.3	5.1	61	3.1	50	2.5	67	3.4
TRP	1.1	0.2	1.5	75	1.1	67	1.0	70	1.1
ILE	3.7	0.3	5.1	68	3.4	61	3.1	68	3.4
ARG	7.8	0.6	10.7	77	8.2	74	7.8	78	8.3
PHE	4.7	0.4	6.4	62	4.0	57	3.7	67	4.3
HIS	2.7	0.3	3.7	66	2.4	61	2.3	74	2.7
LEU	7.3	0.5	10.0	66	6.6	62	6.1	69	6.9
TYR	3.4	0.5	4.6	69	3.2	63	2.9	65	3.0
VAL	5.5	0.4	7.5	66	5.0	59	4.5	66	5.0
ALA	5.9	0.4	8.1	66	5.3	60	4.9	74	6.0
ASP	9.0	0.5	12.3	63	7.7	57	7.0	71	8.7
GLU	14.6	1.7	19.9	71	14.1	65	13.0	75	15.0
GLY	5.1	0.5	7.0	58	4.0	46	3.2	72	5.0
PRO	4.5	0.3	6.1	65	4.0	49	3.0	71	4.4
SER	4.7	0.4	6.4	68	4.3	58	3.7	72	4.6
Sum AA	92.2		126	-	84	-	75	-	90

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		167.8	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.4	0.5	ETH	-	-
C16:0	17.0	22.8	PR	-	-
C16:1	0.4	0.5	BU	-	-
C18:0	2.0	2.7	Glycerol	-	-
C18:1	40.0	53.7			
C:18:2	37.0	49.7			
C18:3	1.0	1.3			
>=C20	2.0	2.7			
Sum FA	99.8	134.0	NH3	-	-
% FA in CFAT-fraction		80			

Remarks

Rice feed meal-ASH > 90 g/kg:

1. Often limestone is added to this product, the Ca content of this product without added limestone is approximately 1 g/kg.

Rice husk 1003.115/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	912	152	68	52	-	265	374	-	
sd	12	39	23	-	-	73	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	127	-	9	447	-	-	503	57
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.6	11.0	9.9	1.3	9.4	0.7	-	-	0.7
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	90	SUGe/SUG	100	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	43	
DCCFAT	78	
DCCF	12	
DCNFE	58	
DCOM	42	
DVE	1991	2007
%RUP	29	31
%DRUP	80	80
%RUSTA	10	9
%DASH	35	35
DASHmax	62	62

Pigs

DCCP	51
DCCFATh	81
DCCF	6
DCNFE	51
DCOM	38
DCNSPh	14
DCiSTA	100
StaDCP	13
AppDCP	11

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	60
DCCFAT	68
DCCF	18
DCNFE	60

Horses

DCCP	43
DCOM	31

Nutritional value (in product)

Ruminants

VEM	434 /kg
VEVI	372 /kg
FOM-91	232 g/kg
FOMr-07	268 g/kg
FOMr2-07	128 g/kg
FOMr2/FOMr	0.48 /kg
DVE-91	-1 g/kg
DVE-07	5 g/kg
OEB-91	11 g/kg
OEB-07	2 g/kg
OEB2-07	-3 g/kg
DVMET-91	0.3 g/kg
DVLYS-91	0.1 g/kg
DVMET-07	0.5 g/kg
DVLYS-07	0.6 g/kg
SW	0.45 /kg
VW	0.35 /kg

Pigs

NE2015	4.53 MJ/kg
NE2015	1083 kcal/kg
EW2015	0.52 /kg
StaDP	1.4 g/kg
AppDP	1.3 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-

Broilers

MEbr	-
MEbr	-
DPpo	-

Rabbits

MErab	6.72 MJ/kg
MErab	1607 kcal/kg

Horses

NEm	3.13 MJ/kg
NEm	749 kcal/kg
EWpa	0.35 /kg
DCPho	29 g/kg

Rice husk 1003.115/0/0

Amino acids

	g/16g N		ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			68	39	-	24	16	-	-
LYS	4.2	0.6	2.9	40	1.1	27	0.8	-	-
MET	2.1	0.3	1.4	40	0.6	33	0.5	-	-
CYS	2.2	0.2	1.5	40	0.6	27	0.4	-	-
THR	3.7	0.3	2.5	39	1.0	18	0.5	-	-
TRP	1.1	0.2	0.7	40	0.3	23	0.2	-	-
ILE	3.7	0.3	2.5	40	1.0	26	0.7	-	-
ARG	7.8	0.6	5.3	40	2.1	33	1.8	-	-
PHE	4.7	0.4	3.2	39	1.3	30	1.0	-	-
HIS	2.7	0.3	1.8	40	0.7	31	0.6	-	-
LEU	7.3	0.5	5.0	40	2.0	31	1.5	-	-
TYR	3.4	0.5	2.3	40	0.9	28	0.7	-	-
VAL	5.5	0.4	3.7	40	1.5	27	1.0	-	-
ALA	5.9	0.4	4.0	40	1.6	29	1.2	-	-
ASP	9.0	0.5	6.1	39	2.4	28	1.7	-	-
GLU	14.6	1.7	10.0	39	3.9	28	2.8	-	-
GLY	5.1	0.5	3.5	39	1.4	16	0.6	-	-
PRO	4.5	0.3	3.1	39	1.2	6	0.2	-	-
SER	4.7	0.4	3.2	39	1.3	21	0.7	-	-
Sum AA	92.2		63	-	25	-	17	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		52.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Rye 1007.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	870	16	97	13	18	21	723	717	
sd	14	1	7	2	3	2	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	540	514	-	59	101	28	10	174	73
sd	15	-	-	7	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	3.1	2.0	1.0	4.6	0.1	0.8	0.1	1.0
sd	0.1	0.3	-	0.1	0.4	0.0	0.4	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	70	33	33	4	0.8	0.0	0.1
sd	50	4	7	1	0.4	0.0	0.0

IP/P	65	SUGe/SUG	50	EB (meq/kg)	96
		CF_DI	0.96	CAD (meq/kg)	29

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	73		DCCP	60	DCCP	70
DCCFAT	70		DCCFATh	32	DCCFAT	60
DCCF	36		DCCF	82	DCCF	30
DCNFE	91		DCNFE	38	DCNFE	87
DCOM	87		DCOM			
			DCNSPh			
DVE	1991	2007	DCiSTA	Broilers	Horses	
%RUP	21	24	StaDCP	DCCP	DCCP	75
%DRUP	85	85	AppDCP	DCCFATh	DCOM	86
%RUSTA	10	9		DC(S+S)		
%DASH	65	65		DCNFEh		
DASHmax	17	17		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1007 /kg	NE2015	MEpo	MErab
VEVI	1110 /kg	NE2015	MEpo	MErab
FOM-91	659 g/kg	EW2015	MEla	
FOMr-07	698 g/kg	StaDP	MEla	
FOMr2-07	499 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.71 /kg			
DVE-91	74 g/kg		Broilers	Horses
DVE-07	97 g/kg		MEbr	NEm
OEB-91	-25 g/kg		MEbr	NEm
OEB-07	-61 g/kg		DPpo	EWpa
OEB2-07	-51 g/kg			DCPho
DVMET-91	1.8 g/kg			
DVLYS-91	5.1 g/kg			
DVMET-07	2.4 g/kg			
DVLYS-07	6.9 g/kg			
SW	-0.16 /kg			
VW	0.25 /kg			

Rye 1007.000/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			97	77	-	67	65	-	-
LYS	3.8	0.2	3.7	75	2.8	66	2.4	71	2.6
MET	1.7	0.1	1.6	81	1.3	75	1.2	82	1.3
CYS	2.4	0.2	2.3	82	1.9	74	1.7	56	1.3
THR	3.3	0.1	3.2	74	2.4	58	1.9	54	1.7
TRP	1.0	0.1	1.0	76	0.7	63	0.6	51	0.5
ILE	3.4	0.2	3.3	78	2.6	68	2.2	67	2.2
ARG	5.1	0.3	4.9	79	3.9	72	3.5	66	3.3
PHE	4.6	0.3	4.5	82	3.7	76	3.4	73	3.3
HIS	2.4	0.2	2.3	79	1.8	72	1.7	65	1.5
LEU	6.2	0.2	6.0	79	4.7	72	4.3	71	4.3
TYR	2.6	0.2	2.5	76	1.9	66	1.7	65	1.6
VAL	4.7	0.3	4.5	78	3.5	67	3.1	64	2.9
ALA	4.3	0.2	4.2	70	2.9	60	2.5	59	2.5
ASP	7.2	0.5	7.0	78	5.4	68	4.8	45	3.1
GLU	22.7	1.5	22.0	91	19.9	86	18.9	82	18.0
GLY	4.4	0.2	4.3	79	3.3	60	2.6	40	1.7
PRO	9.4	0.8	9.1	97	8.9	87	7.9	69	6.3
SER	4.3	0.2	4.2	84	3.5	70	2.9	54	2.2
Sum AA	93.5		90	-	75	-	67	-	60

Fatty acids

	% FA	g/kg
CFAT(h)		12.5
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.0
C16:0	18.0	1.6
C16:1	0.4	0.0
C18:0	1.0	0.1
C18:1	15.0	1.3
C:18:2	55.0	4.8
C18:3	7.0	0.6
>=C20	-	0.0
Sum FA	96.8	8.5
% FA in CFAT-fraction		70

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Rye:

1. The STaDCP of rye including endogenous phytase activity is 52%.

Rye feed 1007.107/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	872	50	141	32	-	60	589	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	140	129	-	10	278	86	-	511	233
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	4.4	3.3	-	6.3	-	-	-	1.4
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	50	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	77		DCCP	61	DCCP	-
DCCFAT	80		DCCFATh	47	DCCFAT	-
DCCF	36		DCCF	29	DCNFE	-
DCNFE	83		DCNFE	53	DCPpo	-
DCOM	78		DCOM	52		
			DCNSPh	37		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	25	DCCP	-
%RUP	21	24	AppDCP	21	DCCFATh	-
%DRUP	80	80			DC(S+S)	-
%RUSTA	11	10			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	41	41				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	885 /kg	NE2015	5.33 MJ/kg	MEpo	-
VEVI	941 /kg	NE2015	1273 kcal/kg	MEpo	-
FOM-91	568 g/kg	EW2015	0.61 /kg	MEla	-
FOMr-07	540 g/kg	StaDP	1.1 g/kg	MEla	-
FOMr2-07	278 g/kg	AppDP	0.9 g/kg	DPpo	-
FOMr2/FOMr	0.52 /kg				
DVE-91	67 g/kg			Broilers	Horses
DVE-07	77 g/kg			MEbr	-
OEB-91	22 g/kg			MEbr	-
OEB-07	6 g/kg			DPpo	-
OEB2-07	10 g/kg				EWpa
DVMET-91	1.6 g/kg				DCPho
DVLYS-91	4.4 g/kg				
DVMET-07	1.9 g/kg				
DVLYS-07	5.2 g/kg				
SW	0.23 /kg				
VW	0.25 /kg				

Rye feed 1007.107/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			141	66	-	59	83	-	-
LYS	3.8	-	5.4	70	3.7	64	3.4	-	-
MET	1.7	-	2.4	73	1.8	69	1.7	-	-
CYS	2.4	-	3.4	68	2.3	63	2.1	-	-
THR	3.3	-	4.7	61	2.8	50	2.3	-	-
TRP	1.0	-	1.4	69	1.0	60	0.9	-	-
ILE	3.4	-	4.8	66	3.2	59	2.8	-	-
ARG	5.1	-	7.2	79	5.7	74	5.3	-	-
PHE	4.6	-	6.5	75	4.9	70	4.6	-	-
HIS	2.4	-	3.4	72	2.4	67	2.3	-	-
LEU	6.2	-	8.8	68	5.9	63	5.5	-	-
TYR	2.6	-	3.7	68	2.5	61	2.2	-	-
VAL	4.7	-	6.6	70	4.6	63	4.2	-	-
ALA	4.3	-	6.1	63	3.8	56	3.4	-	-
ASP	7.2	-	10.2	74	7.5	67	6.8	-	-
GLU	22.7	-	32.1	85	27.2	82	26.1	-	-
GLY	4.4	-	6.2	66	4.1	53	3.3	-	-
PRO	9.4	-	13.3	90	11.9	83	11.0	-	-
SER	4.3	-	6.1	75	4.5	65	4.0	-	-
Sum AA	93.5		132	-	100	-	92	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		32.3	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.0	0.0	ETH	-	-
C16:0	18.0	4.1	PR	-	-
C16:1	0.0	0.0	BU	-	-
C18:0	1.0	0.2	Glycerol	-	-
C18:1	15.0	3.4			
C:18:2	55.0	12.4			
C18:3	7.0	1.6			
>=C20	-	0.0			
Sum FA	96.0	21.7	NH3	-	
% FA in CFAT-fraction		70			

Remarks

Rye feed:

1. The STaDCP of rye feed including endogenous phytase activity is 30%.

Safflower seed 3013.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	907	28	122	273	-	340	143	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	9	-	-	17	427	-	-	467	40
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	1.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	68		DCCP	-	DCCP
DCCFAT	96		DCCFATh	-	DCCFAT
DCCF	-		DCCF	-	DCCF
DCNFE	35		DCNFE	-	DCNFE
DCOM	45		DCOM	-	DCNFE
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	19	21	StaDCP	-	DCCP
%DRUP	80	80	AppDCP	-	DCOM
%RUSTA	-	-		-	
%DASH	50	50		-	
DASHmax	20	20		-	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	997 /kg	NE2015	MEpo	MErab
VEVI	996 /kg	NE2015	MEpo	MErab
FOM-91	99 g/kg	EW2015	MEIa	
FOMr-07	256 g/kg	StaDP	MEIa	
FOMr2-07	102 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.40 /kg			
DVE-91	-7 g/kg		Broilers	Horses
DVE-07	9 g/kg		MEbr	NEm
OEB-91	82 g/kg		MEbr	NEm
OEB-07	57 g/kg		DPpo	EWpa
OEB2-07	42 g/kg			DCPho
DVMET-91	0.0 g/kg			
DVLYS-91	-0.7 g/kg			
DVMET-07	0.4 g/kg			
DVLYS-07	0.5 g/kg			
SW	0.61 /kg			
VW	0.36 /kg			

Safflower seed 3013.000/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			122	-	-	-	-	-	-
LYS	3.4	0.3	4.2	-	-	-	-	-	-
MET	1.6	0.1	2.0	-	-	-	-	-	-
CYS	1.7	0.1	2.1	-	-	-	-	-	-
THR	3.2	0.3	3.9	-	-	-	-	-	-
TRP	2.0	0.2	2.4	-	-	-	-	-	-
ILE	3.8	0.1	4.7	-	-	-	-	-	-
ARG	9.6	0.5	11.8	-	-	-	-	-	-
PHE	4.9	0.3	6.0	-	-	-	-	-	-
HIS	2.8	0.2	3.4	-	-	-	-	-	-
LEU	6.5	0.4	8.0	-	-	-	-	-	-
TYR	3.2	0.3	3.9	-	-	-	-	-	-
VAL	5.4	0.1	6.6	-	-	-	-	-	-
ALA	4.4	0.3	5.4	-	-	-	-	-	-
ASP	9.7	0.5	11.9	-	-	-	-	-	-
GLU	20.2	1.3	24.7	-	-	-	-	-	-
GLY	5.7	0.3	7.0	-	-	-	-	-	-
PRO	4.3	0.3	5.3	-	-	-	-	-	-
SER	4.5	0.4	5.5	-	-	-	-	-	-
Sum AA	96.9		119	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		273.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Sesame seed 3005.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	942	75	220	429	-	43	174	-	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	9	-	-	14	-	-	-	204	204
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	11.0	5.6	3.6	4.1	5.2	-	0.1	-	2.4
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	83		DCCP	-	DCCP
DCCFAT	96		DCCFATh	-	DCCFAT
DCCF	60		DCCF	-	DCCF
DCNFE	65		DCNFE	-	DCNFE
DCOM	85		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	23	25	StaDCP	-	DCCP
%DRUP	80	80	AppDCP	-	DCOM
%RUSTA	-	-		-	
%DASH	50	50		-	
DASHmax	46	46		-	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1906 /kg	NE2015	MEpo	MErab
VEVI	2177 /kg	NE2015	MEpo	MErab
FOM-91	254 g/kg	EW2015	MEla	
FOMr-07	257 g/kg	StaDP	MEla	
FOMr2-07	120 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.47 /kg			
DVE-91	57 g/kg		Broilers	Horses
DVE-07	54 g/kg		MEbr	NEm
OEB-91	125 g/kg		MEbr	NEm
OEB-07	130 g/kg		DPpo	EWpa
OEB2-07	78 g/kg			DCPho
DVMET-91	1.7 g/kg			
DVLYS-91	2.3 g/kg			
DVMET-07	1.6 g/kg			
DVLYS-07	2.1 g/kg			
SW	0.33 /kg			
VW	0.27 /kg			

Sesame seed 3005.000/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			220	-	-	-	-	-	-
LYS	2.5	0.2	5.5	-	-	-	-	-	-
MET	2.7	0.2	6.0	-	-	-	-	-	-
CYS	1.9	0.2	4.2	-	-	-	-	-	-
THR	3.4	0.2	7.5	-	-	-	-	-	-
TRP	1.3	0.1	2.9	-	-	-	-	-	-
ILE	3.6	0.1	7.9	-	-	-	-	-	-
ARG	11.6	0.8	25.6	-	-	-	-	-	-
PHE	4.4	0.2	9.7	-	-	-	-	-	-
HIS	2.4	0.1	5.3	-	-	-	-	-	-
LEU	6.5	0.2	14.3	-	-	-	-	-	-
TYR	3.5	0.3	7.7	-	-	-	-	-	-
VAL	4.6	0.3	10.1	-	-	-	-	-	-
ALA	4.7	0.3	10.4	-	-	-	-	-	-
ASP	8.1	0.6	17.9	-	-	-	-	-	-
GLU	17.9	1.2	39.5	-	-	-	-	-	-
GLY	4.8	0.3	10.6	-	-	-	-	-	-
PRO	3.5	0.2	7.7	-	-	-	-	-	-
SER	4.5	0.3	9.9	-	-	-	-	-	-
Sum AA	91.9		203	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		428.6
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	9.0	36.6
C16:1	0.1	0.4
C18:0	5.0	20.4
C18:1	42.0	171.0
C:18:2	43.0	175.1
C18:3	0.1	0.4
>=C20	0.1	0.4
Sum FA	99.3	404.3
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Sesame seed expeller 3005.401/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	943	132	451	115	116	62	184	182	
sd	9	16	25	16	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	15	-	-	25	-	-	-	222	222
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	19.1	9.8	6.9	7.1	9.4	0.1	0.1	-	4.9
sd	2.7	1.1	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	46	97	-	-	-	-
sd	-	11	23	-	-	-	-

IP/P	70	SUGe/SUG	50	EB (meq/kg)	243
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	90	
DCCFAT	94	
DCCF	68	
DCNFE	72	
DCOM	85	
DVE	1991	2007
%RUP	34	38
%DRUP	90	90
%RUSTA	-	-
%DASH	35	35
DASHmax	54	54

Pigs

DCCP	82
DCCFATh	88
DCCF	43
DCNFE	79
DCOM	79
DCNSPh	67
DCiSTA	100
StaDCP	10
AppDCP	8

Roosters/Laying hens

DCCP	88
DCCFAT	70
DCNFE	17
DCPpo	30
Broilers	
DCCP	91
DCCFATh	81
DC(S+S)	-
DCNFEh	-
DCPpo	30

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
Horses	
DCCP	90
DCOM	81

Nutritional value (in product)

Ruminants

VEM	1148 /kg
VEVI	1237 /kg
FOM-91	418 g/kg
FOMr-07	420 g/kg
FOMr2-07	170 g/kg
FOMr2/FOMr	0.41 /kg
DVE-91	179 g/kg
DVE-07	174 g/kg
OEB-91	217 g/kg
OEB-07	224 g/kg
OEB2-07	105 g/kg
DVMET-91	5.1 g/kg
DVLYS-91	6.0 g/kg
DVMET-07	5.0 g/kg
DVLYS-07	5.8 g/kg
SW	0.34 /kg
VW	0.27 /kg

Pigs

NE2015	9.72 MJ/kg
NE2015	2323 kcal/kg
EW2015	1.10 /kg
StaDP	1.0 g/kg
AppDP	0.8 g/kg

Roosters/Laying hens

MEpo	10.81 MJ/kg
MEpo	2584 kcal/kg
MEla	11.28 MJ/kg
MEla	2696 kcal/kg
DPpo	2.9 g/kg

Rabbits

MErab	-
MErab	-
Broilers	
MEbr	10.99 MJ/kg
MEbr	2628 kcal/kg
DPpo	2.9 g/kg
Horses	
NEm	8.67 MJ/kg
NEm	2073 kcal/kg
EWpa	0.97 /kg
DCPho	406 g/kg

Sesame seed expeller 3005.401/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			451	84	-	81	367	-	-
LYS	2.5	0.2	11.3	82	9.2	79	8.9	80	9.0
MET	2.7	0.2	12.2	84	10.2	83	10.1	88	10.7
CYS	1.9	0.2	8.6	84	7.2	82	7.0	69	5.9
THR	3.4	0.2	15.3	79	12.1	75	11.5	77	11.8
TRP	1.3	0.1	5.9	84	4.9	82	4.8	85	5.0
ILE	3.6	0.1	16.2	87	14.1	85	13.8	88	14.3
ARG	11.6	0.8	52.3	84	44.0	83	43.6	85	44.5
PHE	4.4	0.2	19.9	90	17.9	89	17.6	91	18.1
HIS	2.4	0.1	10.8	84	9.1	82	8.9	76	8.2
LEU	6.5	0.2	29.3	87	25.6	86	25.1	88	25.8
TYR	3.5	0.3	15.8	84	13.3	82	13.0	88	13.9
VAL	4.6	0.3	20.8	88	18.3	86	17.8	87	18.1
ALA	4.7	0.3	21.2	84	17.8	82	17.3	84	17.8
ASP	8.1	0.6	36.5	84	30.7	82	29.9	80	29.2
GLU	17.9	1.2	80.8	84	67.7	83	66.6	83	67.0
GLY	4.8	0.3	21.7	84	18.2	80	17.3	72	15.6
PRO	3.5	0.2	15.8	84	13.2	77	12.2	82	12.9
SER	4.5	0.3	20.3	84	17.0	81	16.4	79	16.0
Sum AA	91.9		415	-	350	-	342	-	344

Fatty acids

	% FA	g/kg
CFAT(h)		114.5
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	9.0	7.7
C16:1	0.1	0.1
C18:0	5.0	4.3
C18:1	42.0	36.1
C:18:2	43.0	36.9
C18:3	0.1	0.1
>=C20	0.1	0.1
Sum FA	99.3	85.3
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Sesame seed expeller:

1. Calcium is largely bound to calcium oxalate.

Sesame seed meal, solvent extracted 3005.407/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			430	84	-	81	350	-	-
LYS	2.5	0.2	10.8	82	8.8	79	8.5	80	8.6
MET	2.7	0.2	11.6	84	9.8	83	9.7	88	10.2
CYS	1.9	0.2	8.2	84	6.9	82	6.7	69	5.6
THR	3.4	0.2	14.6	79	11.5	75	11.0	77	11.3
TRP	1.3	0.1	5.6	84	4.7	82	4.6	85	4.8
ILE	3.6	0.1	15.5	87	13.4	85	13.1	88	13.6
ARG	11.6	0.8	49.9	84	41.9	83	41.5	85	42.4
PHE	4.4	0.2	18.9	90	17.1	89	16.8	91	17.2
HIS	2.4	0.1	10.3	84	8.7	82	8.5	76	7.8
LEU	6.5	0.2	28.0	87	24.4	86	23.9	88	24.6
TYR	3.5	0.3	15.1	84	12.6	82	12.4	88	13.2
VAL	4.6	0.3	19.8	88	17.4	86	16.9	87	17.2
ALA	4.7	0.3	20.2	84	17.0	82	16.5	84	17.0
ASP	8.1	0.6	34.8	84	29.2	82	28.5	80	27.9
GLU	17.9	1.2	77.0	84	64.6	83	63.5	83	63.9
GLY	4.8	0.3	20.6	84	17.3	80	16.5	72	14.9
PRO	3.5	0.2	15.1	84	12.6	77	11.6	82	12.3
SER	4.5	0.3	19.4	84	16.2	81	15.6	79	15.3
Sum AA	91.9		395	-	334	-	326	-	328

Fatty acids

	% FA	g/kg
CFAT(h)		16.1
<=C10	-	0.0
C12:0	-	0.0
C14:0	-	0.0
C16:0	9.0	0.9
C16:1	0.1	0.0
C18:0	5.0	0.5
C18:1	42.0	4.4
C:18:2	43.0	4.5
C18:3	0.1	0.0
>=C20	0.1	0.0
Sum FA	99.3	10.4
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Sesame seed meal, solvent extracted:

1. Calcium is largely bound to calcium oxalate.

Sorghum 1008.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	872	15	87	28	35	23	720	713	
sd	13	1	7	2	2	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	625	606	-	8	74	51	-	129	55
sd	21	-	-	2	9	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	2.7	1.9	1.2	3.5	0.1	0.7	-	0.8
sd	0.1	0.3	-	0.2	0.2	0.0	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	65	15	19	3	-	-	-
sd	-	-	2	1	-	-	-

IP/P	70	SUGe/SUG	95	EB (meq/kg)	72
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	49
DCCFAT	87
DCCF	24
DCNFE	91
DCOM	85

DVE 1991 2007

%RUP	58	62
%DRUP	80	80
%RUSTA	40	38
%DASH	65	65
DASHmax	16	16

Pigs

DCCP	71
DCCFATh	75
DCCF	59
DCNFE	98
DCOM	93
DCNSPh	80
DCiSTA	100
StaDCP	25
AppDCP	18

Roosters/Laying hens

DCCP	76
DCCFAT	80
DCNFE	90
DCPpo	30
DCCP	71
DCCFATh	84
DC(S+S)	99
DCNFEh	85
DCPpo	30

Rabbits

DCCP	55
DCCFAT	80
DCCF	40
DCNFE	88

Horses

DCCP	70
DCOM	84

Nutritional value (in product)

Ruminants

VEM	1008 /kg
VEVI	1107 /kg
FOM-91	407 g/kg
FOMr-07	467 g/kg
FOMr2-07	193 g/kg
FOMr2/FOMr	0.41 /kg
DVE-91	73 g/kg
DVE-07	90 g/kg
OEB-91	-30 g/kg
OEB-07	-56 g/kg
OEB2-07	-25 g/kg
DVMET-91	1.7 g/kg
DVLYS-91	3.5 g/kg
DVMET-07	2.1 g/kg
DVLYS-07	4.8 g/kg
SW	0.17 /kg
VW	0.25 /kg

Pigs

NE2015	11.27 MJ/kg
NE2015	2694 kcal/kg
EW2015	1.28 /kg
StaDP	0.7 g/kg
AppDP	0.5 g/kg

Roosters/Laying hens

MEpo	13.27 MJ/kg
MEpo	3173 kcal/kg
MEla	13.41 MJ/kg
MEla	3204 kcal/kg
DPpo	0.8 g/kg

Broilers

MEbr	12.77 MJ/kg
MEbr	3052 kcal/kg
DPpo	0.8 g/kg

Rabbits

MErab	12.73 MJ/kg
MErab	3042 kcal/kg

Horses

NEm	9.29 MJ/kg
NEm	2220 kcal/kg
EWpa	1.04 /kg
DCPho	61 g/kg

Sorghum 1008.000/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
CP			87	84	-	73	63	-	-
LYS	2.4	0.3	2.1	80	1.7	64	1.3	88	1.8
MET	1.8	0.1	1.6	89	1.4	83	1.3	88	1.4
CYS	1.9	0.1	1.6	86	1.4	75	1.2	84	1.4
THR	3.3	0.1	2.9	86	2.5	68	2.0	83	2.4
TRP	1.1	0.1	1.0	86	0.8	74	0.7	82	0.8
ILE	4.0	0.2	3.5	88	3.1	79	2.7	90	3.1
ARG	4.0	0.3	3.5	86	3.0	77	2.7	87	3.0
PHE	5.3	0.3	4.6	89	4.1	83	3.8	89	4.1
HIS	2.4	0.2	2.1	83	1.7	75	1.6	79	1.6
LEU	13.0	0.6	11.3	89	10.0	85	9.6	89	10.0
TYR	3.9	0.3	3.4	90	3.0	82	2.8	84	2.8
VAL	5.0	0.3	4.3	87	3.8	77	3.3	87	3.8
ALA	8.9	0.4	7.7	85	6.5	79	6.1	89	6.9
ASP	7.1	0.3	6.1	84	5.2	73	4.5	88	5.4
GLU	20.0	1.1	17.3	93	16.0	87	15.0	89	15.4
GLY	3.4	0.3	2.9	82	2.4	56	1.6	83	2.4
PRO	8.1	0.5	7.0	93	6.5	79	5.5	92	6.5
SER	4.6	0.2	4.0	91	3.6	77	3.1	88	3.5
Sum AA	100.2		87	-	77	-	69	-	76

Fatty acids

	% FA	g/kg
CFAT(h)		27.9
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.4	0.1
C16:0	17.0	4.3
C16:1	1.0	0.3
C18:0	1.0	0.3
C18:1	31.0	7.8
C:18:2	45.0	11.3
C18:3	3.0	0.8
>=C20	1.0	0.3
Sum FA	99.4	25.0
% FA in CFAT-fraction		90

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Sorghum:

1. The digestibility coefficients mentioned for broilers, roosters and laying hens only apply for sorghum containing less than 4 g tannin per kg.

Sorghum gluten meal 1008.204/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	900	32	430	54	-	36	347	-	
sd	2	5	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	246	246	-	-	85	-	-	138	53
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	3.0	1.8	-	-	-	-	-	3.6
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	60	SUGe/SUG	95	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	89		DCCP	89	DCCP	-
DCCFAT	87		DCCFATh	87	DCCFAT	-
DCCF	71		DCCF	71	DCNFE	66
DCNFE	92		DCNFE	99	DCPpo	30
DCOM	89		DCOM	92		
			DCNSPh	90	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	56	60	StaDCP	20	DCCFATh	-
%DRUP	80	80	AppDCP	14	DC(S+S)	-
%RUSTA	15	15			DCNFEh	-
%DASH	50	50			DCPpo	30
DASHmax	22	22				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1138 /kg	NE2015	10.83 MJ/kg	MEpo	12.01 MJ/kg	MErab	-
VEVI	1231 /kg	NE2015	2589 kcal/kg	MEpo	2871 kcal/kg	MErab	-
FOM-91	444 g/kg	EW2015	1.23 /kg	MEla	12.26 MJ/kg		
FOMr-07	444 g/kg	StaDP	0.6 g/kg	MEla	2931 kcal/kg		
FOMr2-07	187 g/kg	AppDP	0.4 g/kg	DPpo	0.9 g/kg		
FOMr2/FOMr	0.42 /kg						
DVE-91	247 g/kg			Broilers		Horses	
DVE-07	245 g/kg			MEbr	-	NEm	-
OEB-91	98 g/kg			MEbr	-	NEm	-
OEB-07	99 g/kg			DPpo	0.9 g/kg	EWpa	-
OEB2-07	17 g/kg					DCPho	-
DVMET-91	4.7 g/kg						
DVLYS-91	7.7 g/kg						
DVMET-07	4.7 g/kg						
DVLYS-07	8.0 g/kg						
SW	0.17 /kg						
VW	0.26 /kg						

Sorghum gluten meal 1008.204/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			430	86	-	84	359	-	-
LYS	2.3	-	9.9	82	8.1	78	7.8	82	8.1
MET	1.7	-	7.3	91	6.7	90	6.6	92	6.7
CYS	1.8	-	7.7	88	6.8	86	6.6	80	6.2
THR	3.2	-	13.8	88	12.1	84	11.6	86	11.8
TRP	1.1	-	4.7	88	4.2	85	4.0	85	4.0
ILE	3.9	-	16.8	90	15.1	88	14.8	90	15.1
ARG	4.1	-	17.6	88	15.5	86	15.2	83	14.6
PHE	4.9	-	21.1	91	19.2	90	18.9	90	19.0
HIS	2.1	-	9.0	85	7.7	83	7.5	81	7.3
LEU	13.2	-	56.8	91	51.7	90	51.2	90	51.1
TYR	4.2	-	18.1	92	16.6	91	16.4	88	15.9
VAL	4.9	-	21.1	89	18.8	87	18.3	87	18.3
ALA	8.8	-	37.9	87	32.9	86	32.5	89	33.7
ASP	6.9	-	29.7	87	25.8	85	25.1	85	25.2
GLU	21.1	-	90.8	95	86.2	94	85.1	93	84.4
GLY	3.3	-	14.2	84	11.9	78	11.1	82	11.6
PRO	8.6	-	37.0	95	35.1	92	34.1	88	32.6
SER	4.5	-	19.4	93	18.0	90	17.4	89	17.2
Sum AA	100.6		433	-	392	-	384	-	383

Fatty acids

	% FA	g/kg
CFAT(h)		54.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Soya bean expeller 3012.401/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	888	61	438	81	90	60	247	239	
sd	-	9	27	-	-	10	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	56	8	-	82	126	81	4	222	96
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.7	6.1	4.0	2.8	21.0	0.2	0.4	0.4	3.1
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	225	38	46	15	4.0	0.1	-
sd	-	-	-	-	-	-	-

IP/P	65	SUGe/SUG	70	EB (meq/kg)	534
		CF_DI	0.95	CAD (meq/kg)	315

Digestibility coefficients (%)

Ruminants

DCCP	91	
DCCFAT	94	
DCCF	84	
DCNFE	93	
DCOM	91	
DVE	1991	2007
%RUP	41	42
%DRUP	99	99
%RUSTA	-	-
%DASH	65	65
DASHmax	50	50

Pigs

DCCP	87
DCCFATh	77
DCCF	72
DCNFE	94
DCOM	87
DCNSPh	86
DCiSTA	100
StaDCP	42
AppDCP	39

Roosters/Laying hens

DCCP	85
DCCFAT	80
DCNFE	34
DCPpo	41
Broilers	
DCCP	85
DCCFATh	78
DC(S+S)	60
DCNFEh	21
DCPpo	41

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
Horses	
DCCP	90
DCOM	86

Nutritional value (in product)

Ruminants

VEM	1179 /kg
VEVI	1286 /kg
FOM-91	496 g/kg
FOMr-07	497 g/kg
FOMr2-07	211 g/kg
FOMr2/FOMr	0.43 /kg
DVE-91	237 g/kg
DVE-07	223 g/kg
OEB-91	166 g/kg
OEB-07	179 g/kg
OEB2-07	49 g/kg
DVMET-91	3.9 g/kg
DVLYS-91	15.4 g/kg
DVMET-07	3.7 g/kg
DVLYS-07	14.6 g/kg
SW	0.17 /kg
VW	0.26 /kg

Pigs

NE2015	9.79 MJ/kg
NE2015	2341 kcal/kg
EW2015	1.11 /kg
StaDP	2.6 g/kg
AppDP	2.4 g/kg

Roosters/Laying hens

MEpo	10.60 MJ/kg
MEpo	2534 kcal/kg
MEla	10.98 MJ/kg
MEla	2624 kcal/kg
DPpo	2.5 g/kg

Rabbits

MErab	-
MErab	-

Broilers

MEbr	10.35 MJ/kg
MEbr	2474 kcal/kg
DPpo	2.5 g/kg

Horses

NEm	8.93 MJ/kg
NEm	2135 kcal/kg
EWpa	1.00 /kg
DCPho	395 g/kg

Soya bean expeller 3012.401/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	AA pigs		AA poultry		DC	g/kg	
			standardized	apparent	DC	g/kg			
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			438	87	-	84	369	-	-
LYS	6.2	0.2	27.2	89	24.1	87	23.8	88	23.9
MET	1.4	0.1	6.1	90	5.5	88	5.4	90	5.5
CYS	1.5	0.1	6.6	83	5.5	81	5.3	75	4.9
THR	3.9	0.1	17.1	85	14.6	82	14.1	83	14.2
TRP	1.3	0.1	5.7	88	5.0	85	4.9	89	5.1
ILE	4.6	0.2	20.2	88	17.7	86	17.4	87	17.5
ARG	7.5	0.3	32.9	93	30.7	92	30.4	90	29.6
PHE	5.2	0.2	22.8	89	20.2	87	19.9	87	19.8
HIS	2.7	0.1	11.8	90	10.6	88	10.5	87	10.3
LEU	7.7	0.2	33.8	87	29.2	85	28.8	87	29.4
TYR	3.7	0.3	16.2	88	14.3	87	14.1	88	14.3
VAL	4.8	0.2	21.0	87	18.3	85	17.8	86	18.1
ALA	4.4	0.2	19.3	86	16.5	83	16.1	86	16.6
ASP	11.6	0.4	50.9	87	44.4	86	43.7	84	42.7
GLU	17.8	0.8	78.0	90	70.4	89	69.3	89	69.4
GLY	4.3	0.2	18.9	86	16.2	82	15.4	84	15.8
PRO	5.1	0.3	22.4	92	20.5	87	19.6	86	19.2
SER	5.1	0.2	22.4	89	19.8	86	19.2	86	19.2
Sum AA	98.8		433	-	384	-	376	-	376

Fatty acids

	% FA	g/kg
CFAT(h)		80.8
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.2	0.1
C16:0	11.0	6.7
C16:1	0.2	0.1
C18:0	4.0	2.4
C18:1	22.0	13.3
C:18:2	54.0	32.7
C18:3	8.0	4.8
>=C20	0.4	0.2
Sum FA	99.8	60.5
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Soya bean hulls-CF < 320 g/kg 3012.505/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	883	48	129	28	31	306	371	368	
sd	8	4	10	7	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	64	9	-	17	513	382	11	652	140
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.8	1.7	0.8	2.2	15.2	0.1	0.4	0.1	0.9
sd	-	-	-	0.2	-	0.1	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	560	19	50	8	0.4	0.1	-
sd	-	-	6	1	-	-	-

IP/P	45	SUGe/SUG	50	EB (meq/kg)	383
		CF_DI	0.96	CAD (meq/kg)	320

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	68		DCCP	44	DCCP	54	
DCCFAT	81		DCCFATh	42	DCCFAT	72	
DCCF	87		DCCF	64	DCNFE	10	
DCNFE	89		DCNFE	72	DCPpo	65	
DCOM	84		DCOM	64			
			DCNSPh	67			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	47	50	StaDCP	50	DCCP	DCCP	75
%DRUP	75	75	AppDCP	39	DCCFATh	DCOM	74
%RUSTA	-	-			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	31	31			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	933 /kg	NE2015	5.71 MJ/kg	MEpo	-	MErab	6.71 MJ/kg
VEVI	990 /kg	NE2015	1364 kcal/kg	MEpo	-	MErab	1604 kcal/kg
FOM-91	616 g/kg	EW2015	0.65 /kg	MEla	-		
FOMr-07	445 g/kg	StaDP	0.8 g/kg	MEla	-		
FOMr2-07	94 g/kg	AppDP	0.7 g/kg	DPpo	-		
FOMr2/FOMr	0.21 /kg						
DVE-91	97 g/kg			Broilers		Horses	
DVE-07	79 g/kg			MEbr	-	NEm	6.82 MJ/kg
OEB-91	-30 g/kg			MEbr	-	NEm	1631 kcal/kg
OEB-07	-2 g/kg			DPpo	-	EWpa	0.76 /kg
OEB2-07	16 g/kg					DCPho	97 g/kg
DVMET-91	1.9 g/kg						
DVLYS-91	7.2 g/kg						
DVMET-07	1.5 g/kg						
DVLYS-07	5.8 g/kg						
SW	0.55 /kg						
VW	0.35 /kg						

Soya bean hulls-CF < 320 g/kg 3012.505/1/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP			129	54	-	46	59	-	-
LYS	6.6	0.3	8.5	56	4.8	52	4.4	-	-
MET	1.2	0.2	1.5	68	1.1	62	1.0	-	-
CYS	1.7	0.1	2.2	62	1.4	54	1.2	-	-
THR	3.6	0.2	4.6	62	2.9	50	2.3	-	-
TRP	1.1	0.1	1.4	60	0.8	51	0.7	-	-
ILE	3.8	0.4	4.9	65	3.2	58	2.8	-	-
ARG	5.3	0.6	6.8	80	5.5	75	5.1	-	-
PHE	4.2	0.4	5.4	69	3.7	63	3.4	-	-
HIS	2.7	0.2	3.5	53	1.8	48	1.7	-	-
LEU	6.3	0.3	8.1	66	5.3	61	4.9	-	-
TYR	4.3	0.3	5.5	62	3.4	57	3.2	-	-
VAL	4.6	0.1	5.9	60	3.5	52	3.1	-	-
ALA	4.2	0.1	5.4	54	2.9	46	2.5	-	-
ASP	9.6	0.6	12.4	54	6.6	48	6.0	-	-
GLU	12.1	1.6	15.6	53	8.3	47	7.3	-	-
GLY	7.5	1.1	9.7	54	5.2	46	4.4	-	-
PRO	4.9	0.2	6.3	53	3.4	38	2.4	-	-
SER	5.6	0.2	7.2	54	3.9	46	3.3	-	-
Sum AA	89.3		115	-	68	-	60	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		28.1	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.1	ETH	-	-
C16:0	11.0	2.9	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	4.0	1.1	Glycerol	-	-
C18:1	22.0	5.9			
C:18:2	54.0	14.4			
C18:3	8.0	2.1			
>=C20	0.4	0.1			
Sum FA	99.8	26.6			
% FA in CFAT-fraction		95	NH3	-	

Remarks

Soya bean hulls-CF < 320 g/kg:

1. This class contains to some extent pieces of soya beans that may not have been heat treated.

Soya bean hulls-CF 320 - 360 g/kg 3012.505/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	882	46	108	20	22	337	371	369	
sd	10	2	7	5	5	9	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	62	7	-	16	542	401	12	685	143
sd	8	-	-	-	13	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.4	1.2	0.6	2.2	12.8	0.1	0.4	0.1	0.8
sd	0.5	0.1	-	0.2	0.8	0.1	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	560	19	50	8	0.4	0.1	-
sd	-	-	6	1	-	-	-

IP/P	45	SUGe/SUG	50	EB (meq/kg)	322
		CF_DI	0.96	CAD (meq/kg)	268

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	57		DCCP	29	DCCP	54	
DCCFAT	78		DCCFATh	22	DCCFAT	62	
DCCF	87		DCCF	64	DCNFE	6	
DCNFE	89		DCNFE	72	DCPpo	65	
DCOM	83		DCOM	62			
			DCNSPh	67			
			DCiSTA	100	Broilers	Horses	
DVE	1991	2007	StaDCP	50	DCCP	DCCP	61
%RUP	49	52	AppDCP	36	DCCFATh	DCOM	73
%DRUP	75	75			DC(S+S)		
%RUSTA	-	-			DCNFEh		
%DASH	50	50			DCPpo		
DASHmax	30	30					

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	901 /kg	NE2015	5.30 MJ/kg	MEpo	-	MErab	6.03 MJ/kg
VEVI	950 /kg	NE2015	1267 kcal/kg	MEpo	-	MErab	1440 kcal/kg
FOM-91	625 g/kg	EW2015	0.60 /kg	MEIa	-		
FOMr-07	449 g/kg	StaDP	0.6 g/kg	MEIa	-		
FOMr2-07	87 g/kg	AppDP	0.4 g/kg	DPpo	-		
FOMr2/FOMr	0.19 /kg						
DVE-91	91 g/kg			Broilers		Horses	
DVE-07	73 g/kg			MEbr	-	NEm	6.62 MJ/kg
OEB-91	-44 g/kg			MEbr	-	NEm	1582 kcal/kg
OEB-07	-16 g/kg			DPpo	-	EWpa	0.74 /kg
OEB2-07	10 g/kg					DCPho	66 g/kg
DVMET-91	1.9 g/kg						
DVLYS-91	6.8 g/kg						
DVMET-07	1.4 g/kg						
DVLYS-07	5.4 g/kg						
SW	0.58 /kg						
VW	0.35 /kg						

Soya bean hulls-CF 320 - 360 g/kg 3012.505/2/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg	AA pigs				DC	g/kg
	mean	sdc		standardized		apparent			
				DC	g/kg	DC	g/kg		
CP			108	54	-	44	48	-	-
LYS	6.6	0.3	7.1	56	4.0	51	3.7	-	-
MET	1.2	0.2	1.3	68	0.9	61	0.8	-	-
CYS	1.7	0.1	1.8	62	1.1	52	1.0	-	-
THR	3.6	0.2	3.9	62	2.4	48	1.9	-	-
TRP	1.1	0.1	1.2	60	0.7	50	0.6	-	-
ILE	3.8	0.4	4.1	65	2.7	57	2.3	-	-
ARG	5.3	0.6	5.7	80	4.6	74	4.2	-	-
PHE	4.2	0.4	4.5	69	3.1	62	2.8	-	-
HIS	2.7	0.2	2.9	53	1.5	47	1.4	-	-
LEU	6.3	0.3	6.8	66	4.5	60	4.1	-	-
TYR	4.3	0.3	4.7	62	2.9	56	2.6	-	-
VAL	4.6	0.1	5.0	60	3.0	50	2.5	-	-
ALA	4.2	0.1	4.5	54	2.4	44	2.0	-	-
ASP	9.6	0.6	10.4	54	5.6	47	4.9	-	-
GLU	12.1	1.6	13.1	53	7.0	45	6.0	-	-
GLY	7.5	1.1	8.1	54	4.4	44	3.6	-	-
PRO	4.9	0.2	5.3	53	2.8	35	1.9	-	-
SER	5.6	0.2	6.1	54	3.2	44	2.7	-	-
Sum AA	89.3		97	-	57	-	49	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		19.7	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	11.0	2.1	PR	-	-
C16:1	0.2	0.0	BU	-	-
C18:0	4.0	0.7	Glycerol	-	-
C18:1	22.0	4.1			
C:18:2	54.0	10.1			
C18:3	8.0	1.5			
>=C20	0.4	0.1			
Sum FA	99.8	18.7	NH3	-	
% FA in CFAT-fraction		95			

Soya bean hulls-CF > 360 g/kg 3012.505/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	887	44	100	15	19	365	362	358	
sd	9	2	5	3	-	8	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	57	6	-	11	590	444	16	710	120
sd	6	-	-	2	12	13	3	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.9	1.1	0.5	2.2	12.4	0.1	0.4	0.1	0.7
sd	0.3	0.1	-	0.2	-	0.1	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	563	19	50	8	0.4	0.1	-
sd	-	-	6	1	-	-	-

IP/P	45	SUGe/SUG	50	EB (meq/kg)	312
		CF_DI	0.96	CAD (meq/kg)	262

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	51		DCCP	19	DCCP	54	
DCCFAT	75		DCCFATh	10	DCCFAT	62	
DCCF	87		DCCF	64	DCNFE	6	
DCNFE	89		DCNFE	72	DCPpo	65	
DCOM	83		DCOM	61			
			DCNSPh	67			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	50	53	StaDCP	50	DCCP	DCCP	61
%DRUP	75	75	AppDCP	34	DCCFATh	DCOM	74
%RUSTA	-	-			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	29	29			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	888 /kg	NE2015	5.13 MJ/kg	MEpo	-	MErab	5.77 MJ/kg
VEVI	931 /kg	NE2015	1227 kcal/kg	MEpo	-	MErab	1378 kcal/kg
FOM-91	632 g/kg	EW2015	0.58 /kg	MEIa	-		
FOMr-07	452 g/kg	StaDP	0.5 g/kg	MEIa	-		
FOMr2-07	79 g/kg	AppDP	0.4 g/kg	DPpo	-		
FOMr2/FOMr	0.17 /kg						
DVE-91	90 g/kg			Broilers		Horses	
DVE-07	71 g/kg			MEbr	-	NEm	6.68 MJ/kg
OEB-91	-51 g/kg			MEbr	-	NEm	1596 kcal/kg
OEB-07	-21 g/kg			DPpo	-	EWpa	0.75 /kg
OEB2-07	8 g/kg					DCPho	61 g/kg
DVMET-91	1.9 g/kg						
DVLYS-91	6.7 g/kg						
DVMET-07	1.4 g/kg						
DVLYS-07	5.3 g/kg						
SW	0.62 /kg						
VW	0.35 /kg						

Soya bean hulls-CF > 360 g/kg 3012.505/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			100	54	-	44	44	-	-
LYS	6.6	0.3	6.6	56	3.7	51	3.4	-	-
MET	1.2	0.2	1.2	68	0.8	60	0.7	-	-
CYS	1.7	0.1	1.7	62	1.1	51	0.9	-	-
THR	3.6	0.2	3.6	62	2.2	47	1.7	-	-
TRP	1.1	0.1	1.1	60	0.7	49	0.5	-	-
ILE	3.8	0.4	3.8	65	2.5	56	2.1	-	-
ARG	5.3	0.6	5.3	80	4.2	73	3.9	-	-
PHE	4.2	0.4	4.2	69	2.9	62	2.6	-	-
HIS	2.7	0.2	2.7	53	1.4	47	1.3	-	-
LEU	6.3	0.3	6.3	66	4.2	59	3.7	-	-
TYR	4.3	0.3	4.3	62	2.7	56	2.4	-	-
VAL	4.6	0.1	4.6	60	2.8	50	2.3	-	-
ALA	4.2	0.1	4.2	54	2.3	43	1.8	-	-
ASP	9.6	0.6	9.6	54	5.2	46	4.5	-	-
GLU	12.1	1.6	12.2	53	6.5	45	5.4	-	-
GLY	7.5	1.1	7.5	54	4.1	43	3.3	-	-
PRO	4.9	0.2	4.9	53	2.6	33	1.6	-	-
SER	5.6	0.2	5.6	54	3.0	43	2.4	-	-
Sum AA	89.3		90	-	53	-	45	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		15.3
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.2	0.0
C16:0	11.0	1.6
C16:1	0.2	0.0
C18:0	4.0	0.6
C18:1	22.0	3.2
C:18:2	54.0	7.9
C18:3	8.0	1.2
>=C20	0.4	0.1
Sum FA	99.8	14.5
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Soya bean meal, rumen bypass, Mervobest 3012.434/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	874	60	454	17	26	60	283	274		
sd	4	3	7	3	-	6	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	8	-	95	117	77	5	244	127	
sd	-	-	-	4	27	11	2	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	5.7	4.0	2.9	21.3	0.1	0.1	0.3	3.2
sd	0.3	0.2	-	0.1	0.6	0.1	0.0	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	178	27	52	12	5.7	-	0.1
sd	46	5	3	2	0.8	-	0.1

IP/P	70	SUGe/SUG	-	EB (meq/kg)	545
		CF_DI	0.95	CAD (meq/kg)	325

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	89		DCCP	-	DCCP
DCCFAT	68		DCCFATh	-	DCCFAT
DCCF	84		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	90		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	76	80	StaDCP	-	DCCP
%DRUP	94	94	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	65	65			
DASHmax	48	48			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	995 /kg	NE2015	MEpo	MErab
VEVI	1062 /kg	NE2015	MEpo	MErab
FOM-91	369 g/kg	EW2015	MEla	
FOMr-07	362 g/kg	StaDP	MEla	
FOMr2-07	171 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.47 /kg			
DVE-91	387 g/kg		Broilers	Horses
DVE-07	371 g/kg		MEbr	NEm
OEB-91	16 g/kg		MEbr	NEm
OEB-07	32 g/kg		DPpo	EWpa
OEB2-07	-5 g/kg			DCPho
DVMET-91	6.0 g/kg			
DVLYS-91	23.1 g/kg			
DVMET-07	5.8 g/kg			
DVLYS-07	22.2 g/kg			
SW	0.15 /kg			
VW	0.25 /kg			

Soya bean meal, rumen bypass, Mervobest 3012.434/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			454	-	-	-	-	-	-
LYS	5.8	0.2	26.3	-	-	-	-	-	-
MET	1.4	0.1	6.4	-	-	-	-	-	-
CYS	1.5	0.1	6.8	-	-	-	-	-	-
THR	3.9	0.1	17.7	-	-	-	-	-	-
TRP	1.3	0.1	5.9	-	-	-	-	-	-
ILE	4.6	0.2	20.9	-	-	-	-	-	-
ARG	7.4	0.3	33.6	-	-	-	-	-	-
PHE	5.1	0.2	23.1	-	-	-	-	-	-
HIS	2.7	0.1	12.3	-	-	-	-	-	-
LEU	7.7	0.2	34.9	-	-	-	-	-	-
TYR	3.7	0.3	16.8	-	-	-	-	-	-
VAL	4.8	0.2	21.8	-	-	-	-	-	-
ALA	4.4	0.2	20.0	-	-	-	-	-	-
ASP	11.6	0.4	52.6	-	-	-	-	-	-
GLU	18.1	0.8	82.1	-	-	-	-	-	-
GLY	4.3	0.2	19.5	-	-	-	-	-	-
PRO	5.1	0.3	23.1	-	-	-	-	-	-
SER	5.2	0.2	23.6	-	-	-	-	-	-
Sum AA	98.6		447	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		17.5
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.2	0.0
C16:0	11.0	1.2
C16:1	0.2	0.0
C18:0	4.0	0.5
C18:1	22.0	2.5
C:18:2	54.0	6.1
C18:3	8.0	0.9
>=C20	0.4	0.0
Sum FA	99.8	11.3
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Soya bean meal, rumen bypass, Mervobest:

1. Product treated with formaldehyde, produced by Nuscience in Utrecht, the Netherlands. the average nutrient values are solely based on analyses carried out on this product.
2. The feeding values for protein apply to a product produced in a meal form.

Soya bean meal, rumen bypass, Rumi S 3012.436/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	873	64	468	17	27	36	288	278	
sd	10	2	10	3	-	4	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	6	-	103	114	48	8	221	107
sd	-	-	-	8	34	6	5	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.6	6.5	4.5	2.9	21.7	0.2	0.2	0.3	3.3
sd	0.5	0.5	-	0.3	1.9	0.2	0.1	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	243	34	47	14	3.5	0.5	1.0
sd	129	6	8	2	1.4	-	0.9

IP/P	70	SUGe/SUG	-	EB (meq/kg)	558
		CF_DI	0.95	CAD (meq/kg)	332

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	89		DCCP	-	DCCP
DCCFAT	68		DCCFATh	-	DCCFAT
DCCF	84		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	90		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	77	81	StaDCP	-	DCCP
%DRUP	93	93	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	65	65			
DASHmax	51	51			

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	996 /kg	NE2015	MEpo	MErab
VEVI	1064 /kg	NE2015	MEpo	MErab
FOM-91	353 g/kg	EW2015	MEla	
FOMr-07	351 g/kg	StaDP	MEla	
FOMr2-07	172 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.49 /kg			
DVE-91	397 g/kg		Broilers	Horses
DVE-07	380 g/kg		MEbr	NEm
OEB-91	16 g/kg		MEbr	NEm
OEB-07	33 g/kg		DPpo	EWpa
OEB2-07	-7 g/kg			DCPho
DVMET-91	6.1 g/kg			
DVLYS-91	23.7 g/kg			
DVMET-07	5.9 g/kg			
DVLYS-07	22.8 g/kg			
SW	0.14 /kg			
VW	0.25 /kg			

Soya bean meal, rumen bypass, Rumi S 3012.436/0/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sd	g/kg	standardized		apparent		DC	g/kg	
			DC	g/kg	DC	g/kg	DC	g/kg		
CP			468	-	-	-	-	-	-	
LYS	5.8	0.2	27.2	-	-	-	-	-	-	
MET	1.4	0.1	6.6	-	-	-	-	-	-	
CYS	1.5	0.1	7.0	-	-	-	-	-	-	
THR	3.9	0.1	18.3	-	-	-	-	-	-	
TRP	1.3	0.1	6.1	-	-	-	-	-	-	
ILE	4.6	0.2	21.5	-	-	-	-	-	-	
ARG	7.4	0.3	34.6	-	-	-	-	-	-	
PHE	5.1	0.2	23.9	-	-	-	-	-	-	
HIS	2.7	0.1	12.6	-	-	-	-	-	-	
LEU	7.7	0.2	36.0	-	-	-	-	-	-	
TYR	3.7	0.3	17.3	-	-	-	-	-	-	
VAL	4.8	0.2	22.5	-	-	-	-	-	-	
ALA	4.4	0.2	20.6	-	-	-	-	-	-	
ASP	11.6	0.4	54.3	-	-	-	-	-	-	
GLU	18.1	0.8	84.7	-	-	-	-	-	-	
GLY	4.3	0.2	20.1	-	-	-	-	-	-	
PRO	5.1	0.3	23.9	-	-	-	-	-	-	
SER	5.2	0.2	24.3	-	-	-	-	-	-	
Sum AA	98.6		462	-	-	-	-	-	-	

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		16.7	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	11.0	1.2	PR	-	-
C16:1	0.2	0.0	BU	-	-
C18:0	4.0	0.4	Glycerol	-	-
C18:1	22.0	2.4			
C:18:2	54.0	5.9			
C18:3	8.0	0.9			
>=C20	0.4	0.0			
Sum FA	99.8	10.8	NH3	-	-
% FA in CFAT-fraction		65			

Remarks

Soya bean meal, rumen bypass, Rumi S:

- Product treated with formaldehyde, produced by Schouten Group N.V. in Giessen, the Netherlands. the average nutrient values are solely based on analyses carried out on this product.
- The feeding values for protein apply to a product produced in a meal form.

Soya bean meal, solvent extracted-HiPro CF < 45 g/kg-CP < 480 g/kg

3012.407/1/1

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	887	64	468	16	27	38	302	291		
sd	8	2	10	3	5	4	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	11	-	99	86	52	4	235	148	
sd	-	-	-	14	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.1	6.8	4.7	3.0	22.2	0.2	0.4	0.4	3.3
sd	0.5	0.3	-	0.4	1.2	0.1	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	305	37	49	15	4.3	0.1	0.3
sd	155	3	4	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	565
		CF_DI	0.95	CAD (meq/kg)	338

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	91		DCCP	88	DCCP	87	DCCP	83
DCCFAT	67		DCCFATh	52	DCCFAT	28	DCCFAT	62
DCCF	84		DCCF	72	DCNFE	35	DCCF	25
DCNFE	93		DCNFE	93	DCPpo	42	DCNFE	87
DCOM	91		DCOM	88				
			DCNSPh	86	Broilers		Horses	
DVE	1991	2007	DCiSTA	100	DCCP	85	DCCP	91
%RUP	41	42	StaDCP	42	DCCFATh	71	DCOM	87
%DRUP	98	98	AppDCP	39	DC(S+S)	60		
%RUSTA	-	-			DCNFEh	22		
%DASH	65	65			DCPpo	42		
DASHmax	51	51						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1027 /kg	NE2015	8.48 MJ/kg	MEpo	9.21 MJ/kg	MErab	12.40 MJ/kg
VEVI	1103 /kg	NE2015	2028 kcal/kg	MEpo	2201 kcal/kg	MErab	2963 kcal/kg
FOM-91	546 g/kg	EW2015	0.96 /kg	MEla	9.23 MJ/kg		
FOMr-07	546 g/kg	StaDP	2.8 g/kg	MEla	2207 kcal/kg		
FOMr2-07	245 g/kg	AppDP	2.7 g/kg	DPpo	2.8 g/kg		
FOMr2/FOMr	0.45 /kg						
DVE-91	253 g/kg			Broilers		Horses	
DVE-07	238 g/kg			MEbr	9.04 MJ/kg	NEm	8.22 MJ/kg
OEB-91	175 g/kg			MEbr	2162 kcal/kg	NEm	1965 kcal/kg
OEB-07	189 g/kg			DPpo	2.8 g/kg	EWpa	0.92 /kg
OEB2-07	49 g/kg					DCPho	426 g/kg
DVMET-91	4.2 g/kg						
DVLYS-91	16.5 g/kg						
DVMET-07	4.0 g/kg						
DVLYS-07	15.6 g/kg						
SW	0.12 /kg						
VW	0.25 /kg						

Soya bean meal, solvent extracted-HiPro CF < 45 g/kg-CP < 480 g/kg 3012.407/1/1

Amino acids	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			468	88	-	85	400	-	-
LYS	6.2	0.2	29.0	90	26.1	89	25.7	88	25.5
MET	1.4	0.1	6.6	91	6.0	90	5.9	90	5.9
CYS	1.5	0.1	7.0	84	5.9	82	5.7	75	5.3
THR	3.9	0.1	18.3	86	15.8	84	15.3	83	15.2
TRP	1.3	0.1	6.1	89	5.4	86	5.3	89	5.4
ILE	4.6	0.2	21.5	89	19.1	87	18.8	87	18.7
ARG	7.5	0.3	35.1	94	33.2	93	32.8	90	31.6
PHE	5.2	0.2	24.3	90	21.8	88	21.5	87	21.2
HIS	2.7	0.1	12.6	91	11.5	89	11.3	87	11.0
LEU	7.7	0.2	36.0	88	31.6	86	31.2	87	31.4
TYR	3.7	0.3	17.3	89	15.5	88	15.2	88	15.2
VAL	4.8	0.2	22.5	88	19.7	86	19.3	86	19.3
ALA	4.4	0.2	20.6	87	17.9	85	17.4	86	17.7
ASP	11.6	0.4	54.3	88	47.9	87	47.2	84	45.6
GLU	17.8	0.8	83.3	91	76.0	90	74.9	89	74.2
GLY	4.3	0.2	20.1	87	17.5	83	16.7	84	16.9
PRO	5.1	0.3	23.9	93	22.2	89	21.2	86	20.5
SER	5.1	0.2	23.9	90	21.4	87	20.8	86	20.5
Sum AA	98.8		462	-	414	-	406	-	401

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		15.6	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	11.0	1.1	PR	-	-
C16:1	0.2	0.0	BU	-	-
C18:0	4.0	0.4	Glycerol	-	-
C18:1	22.0	2.2			
C:18:2	54.0	5.5			
C18:3	8.0	0.8			
>=C20	0.4	0.0			
Sum FA	99.8	10.1			
% FA in CFAT-fraction		65	NH3	-	

Soya bean meal, solvent extracted-HiPro CF < 45 g/kg-CP > 490 g/kg

3012.407/1/2

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	872	65	485	19	28	37	265	256		
sd	5	3	3	6	-	3	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	8	-	103	84	50	3	197	113	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.0	6.4	4.5	2.9	21.8	0.2	0.4	1.2	3.4
sd	0.5	0.3	-	0.4	1.2	0.1	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	300	37	48	15	4.2	0.1	0.3
sd	152	3	4	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	555
		CF_DI	0.95	CAD (meq/kg)	267

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	92		DCCP	90	DCCP	87	DCCP	83
DCCFAT	70		DCCFATh	55	DCCFAT	28	DCCFAT	62
DCCF	84		DCCF	72	DCNFE	35	DCCF	25
DCNFE	93		DCNFE	94	DCPpo	42	DCNFE	87
DCOM	91		DCOM	89				
			DCNSPh	86				
DVE	1991	2007	DCiSTA	100	Broilers		Horses	
%RUP	41	42	StaDCP	42	DCCP	86	DCCP	91
%DRUP	98	98	AppDCP	39	DCCFATh	71	DCOM	87
%RUSTA	-	-			DC(S+S)	60		
%DASH	65	65			DCNFEh	25		
DASHmax	52	52			DCPpo	42		

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1014 /kg	NE2015	8.57 MJ/kg	MEpo	9.32 MJ/kg	MErab	12.20 MJ/kg
VEVI	1087 /kg	NE2015	2048 kcal/kg	MEpo	2227 kcal/kg	MErab	2916 kcal/kg
FOM-91	520 g/kg	EW2015	0.97 /kg	MEla	9.35 MJ/kg		
FOMr-07	530 g/kg	StaDP	2.7 g/kg	MEla	2234 kcal/kg		
FOMr2-07	242 g/kg	AppDP	2.5 g/kg	DPpo	2.7 g/kg		
FOMr2/FOMr	0.46 /kg						
DVE-91	258 g/kg			Broilers		Horses	
DVE-07	243 g/kg			MEbr	9.36 MJ/kg	NEm	8.13 MJ/kg
OEB-91	188 g/kg			MEbr	2237 kcal/kg	NEm	1942 kcal/kg
OEB-07	202 g/kg			DPpo	2.7 g/kg	EWpa	0.91 /kg
OEB2-07	53 g/kg					DCPho	441 g/kg
DVMET-91	4.3 g/kg						
DVLYS-91	16.8 g/kg						
DVMET-07	4.1 g/kg						
DVLYS-07	15.9 g/kg						
SW	0.11 /kg						
VW	0.25 /kg						

Soya bean meal, solvent extracted-HiPro CF < 45 g/kg-CP > 490 g/kg 3012.407/1/2

Amino acids	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			485	88	-	85	414	-	-
LYS	6.2	0.2	30.1	90	27.0	89	26.6	88	26.5
MET	1.4	0.1	6.8	91	6.2	90	6.1	90	6.1
CYS	1.5	0.1	7.3	84	6.1	82	6.0	75	5.5
THR	3.9	0.1	18.9	86	16.3	84	15.8	83	15.7
TRP	1.3	0.1	6.3	89	5.6	87	5.5	89	5.6
ILE	4.6	0.2	22.3	89	19.8	87	19.5	87	19.4
ARG	7.5	0.3	36.4	94	34.4	94	34.0	90	32.7
PHE	5.2	0.2	25.2	90	22.6	89	22.3	87	21.9
HIS	2.7	0.1	13.1	91	11.9	90	11.7	87	11.4
LEU	7.7	0.2	37.3	88	32.7	87	32.3	87	32.5
TYR	3.7	0.3	17.9	89	16.0	88	15.8	88	15.8
VAL	4.8	0.2	23.3	88	20.4	86	20.0	86	20.0
ALA	4.4	0.2	21.3	87	18.5	85	18.1	86	18.3
ASP	11.6	0.4	56.2	88	49.6	87	48.9	84	47.2
GLU	17.8	0.8	86.3	91	78.7	90	77.7	89	76.8
GLY	4.3	0.2	20.8	87	18.1	83	17.4	84	17.5
PRO	5.1	0.3	24.7	93	23.0	89	22.0	86	21.3
SER	5.1	0.2	24.7	90	22.2	87	21.6	86	21.3
Sum AA	98.8		479	-	429	-	421	-	416

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		19.5	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	11.0	1.4	PR	-	-
C16:1	0.2	0.0	BU	-	-
C18:0	4.0	0.5	Glycerol	-	-
C18:1	22.0	2.8			
C:18:2	54.0	6.8			
C18:3	8.0	1.0			
>=C20	0.4	0.1			
Sum FA	99.8	12.6			
% FA in CFAT-fraction		65	NH3	-	

Soya bean meal, solvent extracted-CF 45 - 70 g/kg-CP < 450 g/kg 3012.407/2/1

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	877	61	426	22	32	60	308	298		
sd	5	3	9	5	4	5	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	9	-	91	126	81	5	273	146	
sd	-	-	-	9	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.1	6.6	4.6	3.0	21.9	0.2	0.4	2.1	3.0
sd	0.5	0.4	-	0.4	1.2	0.1	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	302	37	48	15	4.2	0.1	0.3
sd	153	3	4	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	559
		CF_DI	0.95	CAD (meq/kg)	241

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits		
DCCP	91	DCCP	84	DCCP	85	DCCP	83	
DCCFAT	71	DCCFATh	58	DCCFAT	28	DCCFAT	62	
DCCF	84	DCCF	72	DCNFE	34	DCCF	25	
DCNFE	93	DCNFE	93	DCPpo	42	DCNFE	87	
DCOM	91	DCOM	85					
		DCNSPh	86					
DVE	1991	2007	DCiSTA	100	Broilers		Horses	
%RUP	41	42	StaDCP	42	DCCP	85	DCCP	90
%DRUP	98	98	AppDCP	39	DCCFATh	71	DCOM	86
%RUSTA	-	-			DC(S+S)	60		
%DASH	65	65			DCNFEh	19		
DASHmax	49	49			DCPpo	42		

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1018 /kg	NE2015	8.22 MJ/kg	MEpo	8.70 MJ/kg	MErab	12.06 MJ/kg
VEVI	1094 /kg	NE2015	1964 kcal/kg	MEpo	2079 kcal/kg	MErab	2882 kcal/kg
FOM-91	545 g/kg	EW2015	0.93 /kg	MEla	8.74 MJ/kg		
FOMr-07	531 g/kg	StaDP	2.8 g/kg	MEla	2088 kcal/kg		
FOMr2-07	225 g/kg	AppDP	2.6 g/kg	DPpo	2.8 g/kg		
FOMr2/FOMr	0.42 /kg						
DVE-91	234 g/kg			Broilers		Horses	
DVE-07	219 g/kg			MEbr	8.42 MJ/kg	NEm	8.09 MJ/kg
OEB-91	152 g/kg			MEbr	2013 kcal/kg	NEm	1934 kcal/kg
OEB-07	168 g/kg			DPpo	2.8 g/kg	EWpa	0.91 /kg
OEB2-07	45 g/kg					DCPho	384 g/kg
DVMET-91	4.0 g/kg						
DVLYS-91	15.3 g/kg						
DVMET-07	3.7 g/kg						
DVLYS-07	14.4 g/kg						
SW	0.16 /kg						
VW	0.25 /kg						

Soya bean meal, solvent extracted-CF 45 - 70 g/kg-CP < 450 g/kg 3012.407/2/1

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			426	86	-	83	355	-	-
LYS	6.2	0.2	26.4	88	23.2	86	22.9	88	23.3
MET	1.4	0.1	6.0	89	5.3	87	5.2	90	5.4
CYS	1.5	0.1	6.4	82	5.3	80	5.1	75	4.8
THR	3.9	0.1	16.6	84	14.0	81	13.5	83	13.8
TRP	1.3	0.1	5.5	87	4.8	84	4.7	89	4.9
ILE	4.6	0.2	19.6	87	17.0	85	16.7	87	17.1
ARG	7.5	0.3	32.0	92	29.6	91	29.2	90	28.8
PHE	5.2	0.2	22.2	88	19.4	86	19.1	87	19.3
HIS	2.7	0.1	11.5	89	10.2	87	10.1	87	10.0
LEU	7.7	0.2	32.8	86	28.1	84	27.7	87	28.6
TYR	3.7	0.3	15.8	87	13.8	86	13.5	88	13.9
VAL	4.8	0.2	20.5	86	17.6	84	17.1	86	17.6
ALA	4.4	0.2	18.8	85	15.9	82	15.5	86	16.1
ASP	11.6	0.4	49.5	86	42.6	85	42.0	84	41.5
GLU	17.8	0.8	75.9	89	67.7	88	66.7	89	67.5
GLY	4.3	0.2	18.3	85	15.6	81	14.8	84	15.4
PRO	5.1	0.3	21.7	91	19.8	86	18.8	86	18.7
SER	5.1	0.2	21.7	88	19.0	85	18.5	86	18.7
Sum AA	98.8		421	-	369	-	361	-	365

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		21.7	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	11.0	1.5	PR	-	-
C16:1	0.2	0.0	BU	-	-
C18:0	4.0	0.6	Glycerol	-	-
C18:1	22.0	3.1			
C:18:2	54.0	7.6			
C18:3	8.0	1.1			
>=C20	0.4	0.1			
Sum FA	99.8	14.1			
% FA in CFAT-fraction		65	NH3		

Soya bean meal, solvent extracted-CF 45 - 70 g/kg-CP > 450 g/kg 3012.407/2/2

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	877	61	464	16	24	55	281	274		
sd	4	4	7	4	2	6	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	5	-	90	116	74	5	246	130	
sd	-	-	-	9	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.1	6.4	4.5	3.0	21.9	0.2	0.4	3.0	3.2
sd	0.5	0.3	-	0.4	1.2	0.1	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	302	37	48	15	4.2	0.1	0.3
sd	153	3	4	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	559
		CF_DI	0.95	CAD (meq/kg)	170

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits		
DCCP	91	DCCP	87	DCCP	86	DCCP	83	
DCCFAT	68	DCCFATh	48	DCCFAT	28	DCCFAT	62	
DCCF	84	DCCF	72	DCNFE	33	DCCF	25	
DCNFE	93	DCNFE	93	DCPpo	42	DCNFE	87	
DCOM	91	DCOM	87					
		DCNSPh	86	Broilers		Horses		
DVE	1991	2007	DCiSTA	100	DCCP	85	DCCP	90
%RUP	41	42	StaDCP	42	DCCFATh	71	DCOM	86
%DRUP	98	98	AppDCP	39	DC(S+S)	60		
%RUSTA	-	-			DCNFEh	20		
%DASH	65	65			DCPpo	42		
DASHmax	49	49						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1015 /kg	NE2015	8.24 MJ/kg	MEpo	8.88 MJ/kg	MErab	12.11 MJ/kg
VEVI	1087 /kg	NE2015	1969 kcal/kg	MEpo	2121 kcal/kg	MErab	2894 kcal/kg
FOM-91	538 g/kg	EW2015	0.94 /kg	MEla	8.90 MJ/kg		
FOMr-07	533 g/kg	StaDP	2.7 g/kg	MEla	2128 kcal/kg		
FOMr2-07	227 g/kg	AppDP	2.5 g/kg	DPpo	2.7 g/kg		
FOMr2/FOMr	0.43 /kg						
DVE-91	250 g/kg			Broilers		Horses	
DVE-07	235 g/kg			MEbr	8.74 MJ/kg	NEm	8.03 MJ/kg
OEB-91	173 g/kg			MEbr	2089 kcal/kg	NEm	1920 kcal/kg
OEB-07	189 g/kg			DPpo	2.7 g/kg	EWpa	0.90 /kg
OEB2-07	52 g/kg					DCPho	417 g/kg
DVMET-91	4.2 g/kg						
DVLYS-91	16.3 g/kg						
DVMET-07	3.9 g/kg						
DVLYS-07	15.3 g/kg						
SW	0.15 /kg						
VW	0.25 /kg						

Soya bean meal, solvent extracted-CF 45 - 70 g/kg-CP > 450 g/kg 3012.407/2/2

Amino acids	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			464	87	-	84	391	-	-
LYS	6.2	0.2	28.8	89	25.5	88	25.2	88	25.3
MET	1.4	0.1	6.5	90	5.8	88	5.7	90	5.8
CYS	1.5	0.1	7.0	83	5.8	81	5.6	75	5.2
THR	3.9	0.1	18.1	85	15.4	83	14.9	83	15.0
TRP	1.3	0.1	6.0	88	5.3	85	5.2	89	5.4
ILE	4.6	0.2	21.3	88	18.7	86	18.4	87	18.6
ARG	7.5	0.3	34.8	93	32.5	92	32.2	90	31.3
PHE	5.2	0.2	24.1	89	21.4	87	21.1	87	21.0
HIS	2.7	0.1	12.5	90	11.2	88	11.1	87	10.9
LEU	7.7	0.2	35.7	87	30.9	85	30.5	87	31.1
TYR	3.7	0.3	17.2	88	15.2	87	14.9	88	15.1
VAL	4.8	0.2	22.3	87	19.3	85	18.9	86	19.1
ALA	4.4	0.2	20.4	86	17.5	84	17.1	86	17.5
ASP	11.6	0.4	53.8	87	46.9	86	46.2	84	45.2
GLU	17.8	0.8	82.5	90	74.4	89	73.4	89	73.5
GLY	4.3	0.2	19.9	86	17.2	82	16.4	84	16.7
PRO	5.1	0.3	23.6	92	21.7	88	20.8	86	20.3
SER	5.1	0.2	23.6	89	21.0	86	20.4	86	20.3
Sum AA	98.8		458	-	406	-	398	-	397

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		16.4	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	11.0	1.2	PR	-	-
C16:1	0.2	0.0	BU	-	-
C18:0	4.0	0.4	Glycerol	-	-
C18:1	22.0	2.3			
C:18:2	54.0	5.8			
C18:3	8.0	0.9			
>=C20	0.4	0.0			
Sum FA	99.8	10.7			
% FA in CFAT-fraction		65	NH3	-	

Soya bean meal, solvent extracted-CF > 70 g/kg 3012.407/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	871	63	417	16	24	76	298	291	
sd	5	3	9	5	3	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	12	-	84	154	103	7	282	128
sd	-	-	-	8	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.0	5.9	4.1	2.9	21.8	0.2	0.4	3.8	2.9
sd	0.5	0.4	-	0.4	1.2	0.1	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	299	37	48	15	4.2	0.1	0.3
sd	152	3	4	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	555
		CF_DI	0.95	CAD (meq/kg)	133

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	91		DCCP	83	DCCP	83
DCCFAT	68		DCCFATh	48	DCCFAT	62
DCCF	84		DCCF	72	DCCF	25
DCNFE	93		DCNFE	94	DCPpo	42
DCOM	91		DCOM	85		
			DCNSPh	86		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	41	42	StaDCP	42	DCCP	85
%DRUP	98	98	AppDCP	39	DCCFATh	71
%RUSTA	-	-			DC(S+S)	60
%DASH	65	65			DCNFEh	19
DASHmax	51	51			DCPpo	42

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	994 /kg	NE2015	7.89 MJ/kg	MEpo	8.16 MJ/kg	MErab	11.70 MJ/kg
VEVI	1066 /kg	NE2015	1886 kcal/kg	MEpo	1951 kcal/kg	MErab	2797 kcal/kg
FOM-91	545 g/kg	EW2015	0.90 /kg	MEla	8.19 MJ/kg		
FOMr-07	523 g/kg	StaDP	2.5 g/kg	MEla	1957 kcal/kg		
FOMr2-07	214 g/kg	AppDP	2.3 g/kg	DPpo	2.5 g/kg		
FOMr2/FOMr	0.41 /kg						
DVE-91	229 g/kg			Broilers		Horses	
DVE-07	214 g/kg			MEbr	8.02 MJ/kg	NEm	7.83 MJ/kg
OEB-91	146 g/kg			MEbr	1916 kcal/kg	NEm	1871 kcal/kg
OEB-07	163 g/kg			DPpo	2.5 g/kg	EWpa	0.88 /kg
OEB2-07	45 g/kg					DCPho	371 g/kg
DVMET-91	3.9 g/kg						
DVLYS-91	15.0 g/kg						
DVMET-07	3.6 g/kg						
DVLYS-07	14.1 g/kg						
SW	0.18 /kg						
VW	0.26 /kg						

Soya bean meal, solvent extracted-CF > 70 g/kg 3012.407/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			417	86	-	83	346	-	-
LYS	6.2	0.2	25.8	88	22.7	86	22.3	88	22.7
MET	1.4	0.1	5.8	89	5.2	87	5.1	90	5.3
CYS	1.5	0.1	6.3	82	5.2	79	5.0	75	4.7
THR	3.9	0.1	16.3	84	13.7	81	13.2	83	13.5
TRP	1.3	0.1	5.4	87	4.7	84	4.6	89	4.8
ILE	4.6	0.2	19.2	87	16.6	85	16.3	87	16.7
ARG	7.5	0.3	31.3	92	28.9	91	28.6	90	28.1
PHE	5.2	0.2	21.7	88	19.0	86	18.7	87	18.9
HIS	2.7	0.1	11.3	89	10.0	87	9.8	87	9.8
LEU	7.7	0.2	32.1	86	27.5	84	27.1	87	27.9
TYR	3.7	0.3	15.4	87	13.5	86	13.2	88	13.6
VAL	4.8	0.2	20.0	86	17.2	84	16.7	86	17.2
ALA	4.4	0.2	18.3	85	15.5	82	15.1	86	15.8
ASP	11.6	0.4	48.3	86	41.7	85	41.0	84	40.6
GLU	17.8	0.8	74.2	89	66.2	88	65.1	89	66.0
GLY	4.3	0.2	17.9	85	15.2	81	14.4	84	15.1
PRO	5.1	0.3	21.3	91	19.3	86	18.3	86	18.3
SER	5.1	0.2	21.3	88	18.6	85	18.0	86	18.3
Sum AA	98.8		412	-	361	-	353	-	357

Fatty acids

	% FA	g/kg
CFAT(h)		16.5
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.2	0.0
C16:0	11.0	1.2
C16:1	0.2	0.0
C18:0	4.0	0.4
C18:1	22.0	2.4
C:18:2	54.0	5.8
C18:3	8.0	0.9
>=C20	0.4	0.0
Sum FA	99.8	10.7
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Soya beans, heat treated 3012.616/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	897	49	363	197	204	58	230	223		
sd	10	4	8	8	-	8	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	6	-	70	121	81	22	214	94	
sd	-	-	-	9	35	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.2	5.0	3.5	3.0	16.7	0.1	0.3	0.3	2.5
sd	0.3	0.2	-	0.4	0.8	-	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	197	31	32	12	-	-	-
sd	61	5	16	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	423
		CF_DI	0.96	CAD (meq/kg)	247

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	90		DCCP	86	DCCP	85
DCCFAT	96		DCCFATh	85	DCCFAT	90
DCCF	80		DCCF	74	DCNFE	40
DCNFE	82		DCNFE	94	DCPpo	90
DCOM	88		DCOM	87		
			DCNSPh	86	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	89
%RUP	37	37	StaDCP	55	DCCFATh	85
%DRUP	89	89	AppDCP	51	DC(S+S)	
%RUSTA	-	-			DCNFEh	
%DASH	65	65			DCPpo	
DASHmax	41	41				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1419 /kg	NE2015	12.47 MJ/kg	MErab	16.47 MJ/kg
VEVI	1577 /kg	NE2015	2980 kcal/kg	MEpo	3937 kcal/kg
FOM-91	417 g/kg	EW2015	1.42 /kg	MEla	14.85 MJ/kg
FOMr-07	455 g/kg	StaDP	2.7 g/kg	MEla	3550 kcal/kg
FOMr2-07	190 g/kg	AppDP	2.5 g/kg	DPpo	2.0 g/kg
FOMr2/FOMr	0.42 /kg			Horses	
DVE-91	164 g/kg			MEbr	10.50 MJ/kg
DVE-07	156 g/kg			MEbr	2509 kcal/kg
OEB-91	151 g/kg			DPpo	1.18 /kg
OEB-07	158 g/kg			DCPho	323 g/kg
OEB2-07	49 g/kg				
DVMET-91	2.8 g/kg				
DVLYS-91	10.8 g/kg				
DVMET-07	2.7 g/kg				
DVLYS-07	10.4 g/kg				
SW	0.18 /kg				
VW	0.26 /kg				

Soya beans, heat treated 3012.616/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			363	82	-	80	289	-	-
LYS	6.2	0.2	22.5	83	18.6	81	18.3	85	19.1
MET	1.4	0.1	5.1	82	4.2	80	4.1	84	4.3
CYS	1.5	0.1	5.4	75	4.1	72	3.9	68	3.7
THR	3.9	0.1	14.2	78	11.1	75	10.6	77	10.9
TRP	1.3	0.1	4.7	82	3.9	79	3.7	75	3.5
ILE	4.6	0.2	16.7	79	13.3	77	12.9	83	13.9
ARG	7.4	0.3	26.9	87	23.4	86	23.0	87	23.4
PHE	5.1	0.2	18.5	81	15.0	79	14.7	84	15.6
HIS	2.7	0.1	9.8	83	8.1	81	8.0	84	8.2
LEU	7.7	0.2	28.0	78	21.7	76	21.3	83	23.2
TYR	3.7	0.3	13.4	80	10.8	78	10.5	81	10.9
VAL	4.8	0.2	17.4	78	13.7	76	13.2	82	14.3
ALA	4.4	0.2	16.0	77	12.2	74	11.8	81	12.9
ASP	11.6	0.4	42.1	82	34.7	81	34.0	81	34.1
GLU	18.1	0.8	65.7	84	55.1	82	54.1	84	55.2
GLY	4.3	0.2	15.6	74	11.5	69	10.7	77	12.0
PRO	5.1	0.3	18.5	87	16.1	81	15.1	83	15.4
SER	5.2	0.2	18.9	77	14.6	74	14.0	81	15.3
Sum AA	99.0		359	-	292	-	284	-	296

Fatty acids

	% FA	g/kg
CFAT(h)		196.6
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.2	0.4
C16:0	11.0	20.5
C16:1	0.2	0.4
C18:0	4.0	7.5
C18:1	22.0	41.1
C:18:2	54.0	100.9
C18:3	8.0	14.9
>=C20	0.4	0.7
Sum FA	99.8	186.4
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Soya beans, heat treated:

1. this composition does not apply for dehulled, toasted soya beans.
2. The DCCFATH for pigs only applies for a ground product.
3. The nutrient digestibility values mentioned for roosters and laying hens apply for grounded unpelleted feeds.
4. The DCCFATH for broilers is valid for pelleted feeds.

Soya beans, raw 3012.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	897	49	363	196	204	58	231	223	
sd	10	4	8	8	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	6	-	70	121	81	22	215	94
sd	-	-	-	9	35	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.2	5.0	3.5	3.0	16.7	0.1	0.3	0.3	2.5
sd	0.3	0.2	-	0.4	0.8	-	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	197	31	32	12	-	-	-
sd	61	5	16	1	-	-	-

IP/P	70	SUGe/SUG	70	EB (meq/kg)	423
		CF_DI	-	CAD (meq/kg)	247

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	90		DCCP	-	DCCP	-
DCCFAT	96		DCCFATh	-	DCCFAT	-
DCCF	80		DCCF	-	DCCF	-
DCNFE	82		DCNFE	-	DCNFE	-
DCOM	88		DCOM	-	DCNFE	-
			DCNSPh	-		
DVE	1991	2007	DCiSTA	Broilers	Horses	
%RUP	21	22	StaDCP	DCCP	DCCP	89
%DRUP	89	89	AppDCP	DCCFATh	DCOM	85
%RUSTA	-	-		DC(S+S)		
%DASH	65	65		DCNFEh		
DASHmax	41	41		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1417 /kg	NE2015	MEpo	MErab
VEVI	1574 /kg	NE2015	MEpo	MErab
FOM-91	475 g/kg	EW2015	MEla	
FOMr-07	506 g/kg	StaDP	MEla	
FOMr2-07	280 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.55 /kg			
DVE-91	111 g/kg		Broilers	Horses
DVE-07	107 g/kg		MEbr	NEm
OEB-91	206 g/kg		MEbr	NEm
OEB-07	209 g/kg		DPpo	EWpa
OEB2-07	137 g/kg			DCPho
DVMET-91	2.1 g/kg			
DVLYS-91	7.6 g/kg			
DVMET-07	2.0 g/kg			
DVLYS-07	7.4 g/kg			
SW	0.18 /kg			
VW	0.26 /kg			

Soya beans, raw 3012.000/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			363	-	-	-	-	-	-
LYS	6.2	0.2	22.5	-	-	-	-	-	-
MET	1.4	0.1	5.1	-	-	-	-	-	-
CYS	1.5	0.1	5.4	-	-	-	-	-	-
THR	3.9	0.1	14.2	-	-	-	-	-	-
TRP	1.3	0.1	4.7	-	-	-	-	-	-
ILE	4.6	0.2	16.7	-	-	-	-	-	-
ARG	7.4	0.3	26.9	-	-	-	-	-	-
PHE	5.1	0.2	18.5	-	-	-	-	-	-
HIS	2.7	0.1	9.8	-	-	-	-	-	-
LEU	7.7	0.2	28.0	-	-	-	-	-	-
TYR	3.7	0.3	13.4	-	-	-	-	-	-
VAL	4.8	0.2	17.4	-	-	-	-	-	-
ALA	4.4	0.2	16.0	-	-	-	-	-	-
ASP	11.6	0.4	42.1	-	-	-	-	-	-
GLU	18.1	0.8	65.7	-	-	-	-	-	-
GLY	4.3	0.2	15.6	-	-	-	-	-	-
PRO	5.1	0.3	18.5	-	-	-	-	-	-
SER	5.2	0.2	18.9	-	-	-	-	-	-
Sum AA	99.0		359	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		195.7
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.2	0.4
C16:0	11.0	20.5
C16:1	0.2	0.4
C18:0	4.0	7.4
C18:1	22.0	40.9
C:18:2	54.0	100.4
C18:3	8.0	14.9
>=C20	0.4	0.7
Sum FA	99.8	185.6
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Soya beans, raw:

1. this composition does not apply for dehulled, toasted soya beans.

Sugar 4004.211/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	1000	-	-	-	-	-	1000	1000	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	1053	-	-	-	0	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	-
		CF_DI	0.95	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
DCCP	-	DCCP	-	DCCP	-	DCCP	-
DCCFAT	-	DCCFATh	-	DCCFAT	-	DCCFAT	-
DCCF	-	DCCF	-	DCNFE	100	DCCF	-
DCNFE	100	DCNFE	100	DCPpo	-	DCNFE	100
DCOM	100	DCOM	100				
		DCNSPh	0	Broilers		Horses	
DVE	1991	2007	DCiSTA	DCCP	-	DCCP	-
%RUP	5	-	StaDCP	DCCFATh	-	DCOM	100
%DRUP	-	-	AppDCP	DC(S+S)	100		
%RUSTA	-	-		DCNFEh	-		
%DASH	-	-		DCPpo	-		
DASHmax	-	-					

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1080 /kg	NE2015	13.40 MJ/kg	MEpo	16.41 MJ/kg	MErab	17.10 MJ/kg
VEVI	1250 /kg	NE2015	3203 kcal/kg	MEpo	3922 kcal/kg	MErab	4087 kcal/kg
FOM-91	1000 g/kg	EW2015	1.52 /kg	MEla	16.41 MJ/kg		
FOMr-07	998 g/kg	StaDP	-	MEla	3922 kcal/kg		
FOMr2-07	983 g/kg	AppDP	-	DPpo	-		
FOMr2/FOMr	0.99 /kg			Broilers		Horses	
DVE-91	96 g/kg			MEbr	17.32 MJ/kg	NEm	12.51 MJ/kg
DVE-07	111 g/kg			MEbr	4139 kcal/kg	NEm	2989 kcal/kg
OEB-91	-150 g/kg			DPpo	-	EWpa	1.40 /kg
OEB-07	-174 g/kg					DCPho	-
OEB2-07	-172 g/kg						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-0.86 /kg						
VW	0.29 /kg						

Sugar 4004.211/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N			AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		0.0	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-	NH3	-	-

Remarks

Sugar:

1. The energy value for ruminants has been derived from starch, based on its ATP yielding capacity.
2. SUG is represented as glucose units. The sacharose content is $0.95 * SUG = 1000$ g/kg.

Sugarbeet pulp, dried-SUG < 100 g/kg 4004.209/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	899	67	73	8	8	166	585	585	
sd	7	11	3	2	-	17	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	7	-	64	359	190	11	682	323
sd	-	-	-	12	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	9.9	0.8	0.2	1.7	5.4	0.5	0.4	1.4	0.5
sd	1.9	0.1	-	0.3	2.8	0.3	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	458	57	17	7	0.4	0.1	0.3
sd	164	10	8	1	0.2	0.1	0.2

IP/P	30	SUGe/SUG	95	EB (meq/kg)	149
		CF_DI	0.97	CAD (meq/kg)	29

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	51		DCCP	10	DCCP	45	
DCCFAT	62		DCCFATh	34	DCCFAT	-	
DCCF	84		DCCF	79	DCNFE	60	
DCNFE	91		DCNFE	91	DCPpo	90	
DCOM	86		DCOM	81			
			DCNSPh	87			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	56	56	StaDCP	60	DCCP	DCCP	42
%DRUP	85	85	AppDCP	37	DCCFATh	DCOM	83
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	29	29			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	933 /kg	NE2015	9.22 MJ/kg	MEpo	-	MErab	11.25 MJ/kg
VEVI	1011 /kg	NE2015	2203 kcal/kg	MEpo	-	MErab	2690 kcal/kg
FOM-91	668 g/kg	EW2015	1.05 /kg	MEla	-		
FOMr-07	572 g/kg	StaDP	0.5 g/kg	MEla	-		
FOMr2-07	186 g/kg	AppDP	0.3 g/kg	DPpo	-		
FOMr2/FOMr	0.33 /kg						
DVE-91	90 g/kg			Broilers		Horses	
DVE-07	89 g/kg			MEbr	-	NEm	7.96 MJ/kg
OEB-91	-72 g/kg			MEbr	-	NEm	1903 kcal/kg
OEB-07	-72 g/kg			DPpo	-	EWpa	0.89 /kg
OEB2-07	-21 g/kg					DCPho	31 g/kg
DVMET-91	2.1 g/kg						
DVLYS-91	6.4 g/kg						
DVMET-07	2.1 g/kg						
DVLYS-07	6.4 g/kg						
SW	0.37 /kg						
VW	0.30 /kg						

Sugarbeet pulp, dried-SUG < 100 g/kg 4004.209/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			73	46	-	32	23	-	-
LYS	5.6	-	4.1	55	2.2	46	1.9	-	-
MET	1.6	-	1.2	59	0.7	50	0.6	-	-
CYS	1.4	-	1.0	46	0.5	28	0.3	-	-
THR	5.0	-	3.7	28	1.0	14	0.5	-	-
TRP	1.0	-	0.7	50	0.4	33	0.2	-	-
ILE	3.7	-	2.7	51	1.4	39	1.1	-	-
ARG	4.6	-	3.4	53	1.8	42	1.4	-	-
PHE	3.9	-	2.9	46	1.3	36	1.0	-	-
HIS	3.2	-	2.3	52	1.2	45	1.1	-	-
LEU	6.2	-	4.5	52	2.4	43	1.9	-	-
TYR	5.1	-	3.7	52	1.9	45	1.7	-	-
VAL	5.8	-	4.2	42	1.8	30	1.3	-	-
ALA	4.8	-	3.5	47	1.6	34	1.2	-	-
ASP	8.9	-	6.5	25	1.7	15	1.0	-	-
GLU	9.6	-	7.0	58	4.1	43	3.0	-	-
GLY	4.3	-	3.1	46	1.4	20	0.6	-	-
PRO	4.6	-	3.4	45	1.5	16	0.5	-	-
SER	5.0	-	3.7	34	1.2	18	0.6	-	-
Sum AA	84.3		62	-	28	-	20	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		8.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Sugarbeet pulp, dried-SUG < 100 g/kg:

1. Vinasse may be added to this class of sugar beet pulp. In case vinasse is added the K content will be higher than mentioned.
2. The NE2015 and EW2015 have been calculated including an addition for reduced activity.

Sugarbeet pulp, dried-SUG 100 - 150 g/kg 4004.209/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	901	67	88	9	9	168	569	569	
sd	10	10	6	2	-	9	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	7	-	123	360	191	11	611	250
sd	-	-	-	17	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	9.0	0.7	0.2	1.7	6.8	0.5	0.4	1.4	0.5
sd	2.0	0.1	-	0.3	3.4	0.3	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	478	65	26	5	0.4	0.1	0.3
sd	183	10	8	1	0.2	0.1	0.2

IP/P	30	SUGe/SUG	95	EB (meq/kg)	186
		CF_DI	0.97	CAD (meq/kg)	64

Digestibility coefficients (%)

Ruminants

DCCP	60	
DCCFAT	64	
DCCF	84	
DCNFE	91	
DCOM	86	
DVE	1991	2007
%RUP	50	50
%DRUP	85	85
%RUSTA	-	-
%DASH	35	35
DASHmax	29	29

Pigs

DCCP	22
DCCFATh	37
DCCF	79
DCNFE	92
DCOM	82
DCNSPh	87
DCiSTA	100
StaDCP	60
AppDCP	35

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	45
DCCFAT	-
DCCF	60
DCNFE	89
Horses	
DCCP	42
DCOM	83

Nutritional value (in product)

Ruminants

VEM	932 /kg
VEVI	1008 /kg
FOM-91	667 g/kg
FOMr-07	587 g/kg
FOMr2-07	236 g/kg
FOMr2/FOMr	0.40 /kg
DVE-91	94 g/kg
DVE-07	93 g/kg
OEB-91	-61 g/kg
OEB-07	-61 g/kg
OEB2-07	-20 g/kg
DVMET-91	2.0 g/kg
DVLYS-91	6.3 g/kg
DVMET-07	2.0 g/kg
DVLYS-07	6.3 g/kg
SW	0.31 /kg
VW	0.30 /kg

Pigs

NE2015	9.26 MJ/kg
NE2015	2214 kcal/kg
EW2015	1.05 /kg
StaDP	0.4 g/kg
AppDP	0.2 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-

Rabbits

MErab	11.06 MJ/kg
MErab	2643 kcal/kg

Broilers

MEbr	-
MEbr	-
DPpo	-

Horses

NEm	8.04 MJ/kg
NEm	1922 kcal/kg
EWpa	0.90 /kg
DCPho	37 g/kg

Sugarbeet pulp, dried-SUG 100 - 150 g/kg 4004.209/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			88	46	-	34	30	-	-
LYS	4.9	-	4.3	55	2.4	46	2.0	-	-
MET	1.4	-	1.2	59	0.7	51	0.6	-	-
CYS	1.2	-	1.1	46	0.5	28	0.3	-	-
THR	4.4	-	3.9	28	1.1	14	0.6	-	-
TRP	0.9	-	0.8	50	0.4	34	0.3	-	-
ILE	3.4	-	3.0	51	1.5	40	1.2	-	-
ARG	4.0	-	3.5	53	1.9	43	1.5	-	-
PHE	3.4	-	3.0	46	1.4	36	1.1	-	-
HIS	2.8	-	2.5	52	1.3	46	1.1	-	-
LEU	5.5	-	4.9	52	2.5	43	2.1	-	-
TYR	4.5	-	4.0	52	2.1	45	1.8	-	-
VAL	5.3	-	4.7	42	2.0	32	1.5	-	-
ALA	4.6	-	4.1	47	1.9	36	1.5	-	-
ASP	10.1	-	8.9	25	2.3	18	1.6	-	-
GLU	9.8	-	8.7	58	5.0	46	4.0	-	-
GLY	3.9	-	3.4	45	1.6	22	0.8	-	-
PRO	4.0	-	3.5	45	1.6	17	0.6	-	-
SER	4.5	-	4.0	34	1.3	19	0.7	-	-
Sum AA	78.6		69	-	31	-	23	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		8.5
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Sugarbeet pulp, dried-SUG 100 - 150 g/kg:

1. This class of sugar beet pulp contains molasses.
2. The NE2015 and EW2015 have been calculated including an addition for reduced activity.
3. The AA pattern is based on the relative proportions of sugar beet pulp (SUG < 100 g/kg) and sugar beet molasses, and the AA pattern of these products.

Sugarbeet pulp, dried-SUG 150 - 200 g/kg 4004.209/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	907	77	99	7	7	137	587	587	
sd	11	8	8	2	-	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	7	-	185	293	155	9	538	245
sd	-	-	-	11	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	8.0	0.7	0.2	2.3	15.4	1.8	0.4	1.6	0.5
sd	1.5	0.1	-	1.1	2.6	0.6	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	482	65	26	5	0.4	0.1	0.3
sd	185	11	8	1	0.2	0.1	0.2

IP/P	30	SUGe/SUG	95	EB (meq/kg)	463
		CF_DI	0.97	CAD (meq/kg)	330

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	67		DCCP	35	DCCP	45	
DCCFAT	58		DCCFATh	26	DCCFAT	-	
DCCF	84		DCCF	79	DCNFE	60	
DCNFE	91		DCNFE	93	DCPpo	88	
DCOM	87		DCOM	83			
			DCNSPh	87			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	44	45	StaDCP	60	DCCP	DCCP	42
%DRUP	85	85	AppDCP	34	DCCFATh	DCOM	84
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	33	33			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	935 /kg	NE2015	9.31 MJ/kg	MEpo	-	MErab	11.02 MJ/kg
VEVI	1015 /kg	NE2015	2225 kcal/kg	MEpo	-	MErab	2634 kcal/kg
FOM-91	671 g/kg	EW2015	1.06 /kg	MEla	-		
FOMr-07	608 g/kg	StaDP	0.4 g/kg	MEla	-		
FOMr2-07	295 g/kg	AppDP	0.2 g/kg	DPpo	-		
FOMr2/FOMr	0.48 /kg						
DVE-91	94 g/kg			Broilers		Horses	
DVE-07	94 g/kg			MEbr	-	NEm	8.21 MJ/kg
OEB-91	-51 g/kg			MEbr	-	NEm	1962 kcal/kg
OEB-07	-53 g/kg			DPpo	-	EWpa	0.92 /kg
OEB2-07	-19 g/kg					DCPho	42 g/kg
DVMET-91	2.0 g/kg						
DVLYS-91	6.0 g/kg						
DVMET-07	2.0 g/kg						
DVLYS-07	6.2 g/kg						
SW	0.21 /kg						
VW	0.29 /kg						

Sugarbeet pulp, dried-SUG 150 - 200 g/kg 4004.209/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			99	46	-	35	35	-	-
LYS	4.1	-	4.1	55	2.2	46	1.9	-	-
MET	1.3	-	1.3	59	0.8	51	0.7	-	-
CYS	1.0	-	1.0	46	0.5	27	0.3	-	-
THR	3.8	-	3.8	28	1.1	14	0.5	-	-
TRP	0.7	-	0.7	50	0.3	32	0.2	-	-
ILE	3.0	-	3.0	51	1.5	40	1.2	-	-
ARG	3.4	-	3.4	53	1.8	42	1.4	-	-
PHE	3.0	-	3.0	46	1.4	36	1.1	-	-
HIS	2.4	-	2.4	52	1.2	45	1.1	-	-
LEU	4.8	-	4.8	52	2.5	43	2.0	-	-
TYR	3.8	-	3.8	52	2.0	45	1.7	-	-
VAL	4.7	-	4.7	42	1.9	31	1.5	-	-
ALA	4.4	-	4.4	47	2.0	36	1.6	-	-
ASP	11.3	-	11.2	26	2.9	19	2.2	-	-
GLU	10.0	-	9.9	58	5.8	48	4.7	-	-
GLY	3.5	-	3.5	45	1.6	22	0.8	-	-
PRO	3.4	-	3.4	45	1.5	15	0.5	-	-
SER	3.9	-	3.9	34	1.3	18	0.7	-	-
Sum AA	72.5		72	-	32	-	24	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		7.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Sugarbeet pulp, dried-SUG 150 - 200 g/kg:

1. This class of sugar beet pulp contains molasses.
2. The NE2015 and EW2015 have been calculated including an addition for reduced activity.
3. The AA pattern is based on the relative proportions of sugar beet pulp (SUG < 100 g/kg) and sugar beet molasses, and the AA pattern of these products.

Sugarbeet pulp, dried-SUG > 200 g/kg 4004.209/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	912	76	103	7	7	130	595	595	
sd	11	8	9	1	-	7	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	7	-	219	279	149	8	506	227
sd	-	-	-	13	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	7.7	0.8	0.2	1.4	16.2	2.3	0.6	1.4	0.5
sd	1.5	0.2	-	0.3	2.8	0.7	0.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	485	65	26	5	0.4	0.1	0.3
sd	186	11	8	1	0.2	0.1	0.2

IP/P	30	SUGe/SUG	95	EB (meq/kg)	498
		CF_DI	0.97	CAD (meq/kg)	380

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	68		DCCP	39	DCCP	45	
DCCFAT	58		DCCFATh	26	DCCFAT	-	
DCCF	84		DCCF	79	DCNFE	60	
DCNFE	91		DCNFE	94	DCPpo	87	
DCOM	87		DCOM	84			
			DCNSPh	87			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	41	42	StaDCP	60	DCCP	DCCP	42
%DRUP	85	85	AppDCP	36	DCCFATh	DCOM	84
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	33	33			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	943 /kg	NE2015	9.41 MJ/kg	MEpo	-	MErab	11.01 MJ/kg
VEVI	1024 /kg	NE2015	2250 kcal/kg	MEpo	-	MErab	2631 kcal/kg
FOM-91	678 g/kg	EW2015	1.07 /kg	MEla	-		
FOMr-07	623 g/kg	StaDP	0.5 g/kg	MEla	-		
FOMr2-07	327 g/kg	AppDP	0.3 g/kg	DPpo	-		
FOMr2/FOMr	0.52 /kg						
DVE-91	93 g/kg			Broilers		Horses	
DVE-07	95 g/kg			MEbr	-	NEm	8.30 MJ/kg
OEB-91	-46 g/kg			MEbr	-	NEm	1985 kcal/kg
OEB-07	-49 g/kg			DPpo	-	EWpa	0.93 /kg
OEB2-07	-18 g/kg					DCPho	43 g/kg
DVMET-91	1.9 g/kg						
DVLYS-91	5.8 g/kg						
DVMET-07	2.0 g/kg						
DVLYS-07	6.0 g/kg						
SW	0.17 /kg						
VW	0.29 /kg						

Sugarbeet pulp, dried-SUG > 200 g/kg 4004.209/4/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			103	46	-	36	37	-	-
LYS	3.6	-	3.7	55	2.0	45	1.7	-	-
MET	1.1	-	1.1	59	0.7	50	0.6	-	-
CYS	0.9	-	0.9	46	0.4	25	0.2	-	-
THR	3.5	-	3.6	28	1.0	13	0.5	-	-
TRP	0.6	-	0.6	50	0.3	29	0.2	-	-
ILE	2.7	-	2.8	51	1.4	39	1.1	-	-
ARG	2.9	-	3.0	53	1.6	41	1.2	-	-
PHE	2.7	-	2.8	46	1.3	35	1.0	-	-
HIS	2.1	-	2.2	52	1.1	45	1.0	-	-
LEU	4.3	-	4.4	52	2.3	42	1.9	-	-
TYR	3.4	-	3.5	52	1.8	44	1.6	-	-
VAL	4.4	-	4.5	42	1.9	31	1.4	-	-
ALA	4.2	-	4.3	47	2.0	36	1.6	-	-
ASP	12.1	-	12.5	26	3.2	20	2.5	-	-
GLU	10.2	-	10.5	58	6.1	48	5.1	-	-
GLY	3.2	-	3.3	45	1.5	21	0.7	-	-
PRO	3.0	-	3.1	45	1.4	12	0.4	-	-
SER	3.6	-	3.7	33	1.2	18	0.7	-	-
Sum AA	68.5		71	-	31	-	23	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		7.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Sugarbeet pulp, dried-SUG > 200 g/kg:

1. This class of sugar beet pulp contains molasses.
2. The NE2015 and EW2015 have been calculated including an addition for reduced activity.
3. The AA pattern is based on the relative proportions of sugar beet pulp (SUG < 100 g/kg) and sugar beet molasses, and the AA pattern of these products.

Sunflower seed-dehulled, CF < 90 g/kg 3003.000/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	940	34	212	450	458	75	168	161	
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	17	4	-	32	-	-	-	209	209
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.4	4.4	3.5	2.6	9.2	0.3	0.2	0.2	2.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	126	21	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	80	SUGe/SUG	-	EB (meq/kg)	241
		CF_DI	0.96	CAD (meq/kg)	106

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	82		DCCP	85	DCCP	-
DCCFAT	94		DCCFATh	96	DCCFAT	-
DCCF	44		DCCF	12	DCCF	-
DCNFE	82		DCNFE	32	DCNFE	-
DCOM	85		DCOM			
			DCNSPh			
DVE	1991	2007	DCiSTA	Broilers	Horses	
%RUP	22	25	StaDCP	DCCP	DCCP	85
%DRUP	80	80	AppDCP	DCCFATh	DCOM	73
%RUSTA	-	-		DC(S+S)		
%DASH	65	65		DCNFEh		
DASHmax	30	30		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1979 /kg	NE2015	MEpo	MErab
VEVI	2256 /kg	NE2015	MEpo	MErab
FOM-91	275 g/kg	EW2015	MEla	
FOMr-07	295 g/kg	StaDP	MEla	
FOMr2-07	138 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.47 /kg			
DVE-91	56 g/kg		Broilers	Horses
DVE-07	58 g/kg		MEbr	NEm
OEB-91	120 g/kg		MEbr	NEm
OEB-07	118 g/kg		DPpo	EWpa
OEB2-07	69 g/kg			DCPho
DVMET-91	1.4 g/kg			
DVLYS-91	2.8 g/kg			
DVMET-07	1.5 g/kg			
DVLYS-07	2.9 g/kg			
SW	0.34 /kg			
VW	0.28 /kg			

Sunflower seed-dehulled, CF < 90 g/kg 3003.000/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			212	-	-	-	-	-	-
LYS	3.5	0.2	7.4	-	-	-	-	-	-
MET	2.2	0.1	4.7	-	-	-	-	-	-
CYS	1.7	0.1	3.6	-	-	-	-	-	-
THR	3.7	0.2	7.9	-	-	-	-	-	-
TRP	1.2	0.1	2.5	-	-	-	-	-	-
ILE	4.1	0.2	8.7	-	-	-	-	-	-
ARG	8.1	0.5	17.2	-	-	-	-	-	-
PHE	4.6	0.2	9.8	-	-	-	-	-	-
HIS	2.5	0.2	5.3	-	-	-	-	-	-
LEU	6.3	0.2	13.4	-	-	-	-	-	-
TYR	2.5	0.2	5.3	-	-	-	-	-	-
VAL	4.9	0.2	10.4	-	-	-	-	-	-
ALA	4.3	0.2	9.1	-	-	-	-	-	-
ASP	9.2	0.4	19.5	-	-	-	-	-	-
GLU	19.3	0.9	41.0	-	-	-	-	-	-
GLY	5.7	0.3	12.1	-	-	-	-	-	-
PRO	4.3	0.3	9.1	-	-	-	-	-	-
SER	4.3	0.2	9.1	-	-	-	-	-	-
Sum AA	92.4		196	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		450.3
<=C10	0.1	0.4
C12:0	0.2	0.9
C14:0	0.3	1.3
C16:0	7.0	29.9
C16:1	0.3	1.3
C18:0	4.0	17.1
C18:1	22.0	94.1
C:18:2	65.0	278.0
C18:3	0.4	1.7
>=C20	0.3	1.3
Sum FA	99.6	426.0
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed-partly dehulled, CF 90 - 200 g/kg 3003.000/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	914	30	182	326	332	165	210	205	
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	16	4	-	24	317	215	53	349	32
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	4.3	3.4	2.5	7.8	0.1	0.2	0.2	1.7
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	123	15	42	14	-	-	-
sd	-	-	-	-	-	-	-

IP/P	80	SUGe/SUG	-	EB (meq/kg)	196
		CF_DI	0.96	CAD (meq/kg)	79

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	81		DCCP	85	DCCP	-
DCCFAT	94		DCCFATh	96	DCCFAT	-
DCCF	25		DCCF	12	DCCF	-
DCNFE	72		DCNFE	32	DCNFE	-
DCOM	73		DCOM			
			DCNSPh			
DVE	1991	2007	DCiSTA	Broilers	Horses	
%RUP	22	25	StaDCP	DCCP	DCCP	85
%DRUP	80	80	AppDCP	DCCFATh	DCOM	61
%RUSTA	-	-		DC(S+S)		
%DASH	65	65		DCNFEh		
DASHmax	28	28		DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1494 /kg	NE2015	MEpo	MErab
VEVI	1642 /kg	NE2015	MEpo	MErab
FOM-91	280 g/kg	EW2015	MEla	
FOMr-07	275 g/kg	StaDP	MEla	
FOMr2-07	119 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.43 /kg			
DVE-91	43 g/kg		Broilers	Horses
DVE-07	43 g/kg		MEbr	NEm
OEB-91	96 g/kg		MEbr	NEm
OEB-07	97 g/kg		DPpo	EWpa
OEB2-07	59 g/kg			DCPho
DVMET-91	1.2 g/kg			
DVLYS-91	2.2 g/kg			
DVMET-07	1.2 g/kg			
DVLYS-07	2.2 g/kg			
SW	0.43 /kg			
VW	0.31 /kg			

Sunflower seed-partly dehulled, CF 90 - 200 g/kg 3003.000/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			182	-	-	-	-	-	-
LYS	3.5	0.2	6.4	-	-	-	-	-	-
MET	2.2	0.1	4.0	-	-	-	-	-	-
CYS	1.7	0.1	3.1	-	-	-	-	-	-
THR	3.7	0.2	6.7	-	-	-	-	-	-
TRP	1.2	0.1	2.2	-	-	-	-	-	-
ILE	4.1	0.2	7.5	-	-	-	-	-	-
ARG	8.1	0.5	14.7	-	-	-	-	-	-
PHE	4.6	0.2	8.4	-	-	-	-	-	-
HIS	2.5	0.2	4.5	-	-	-	-	-	-
LEU	6.3	0.2	11.5	-	-	-	-	-	-
TYR	2.5	0.2	4.5	-	-	-	-	-	-
VAL	4.9	0.2	8.9	-	-	-	-	-	-
ALA	4.3	0.2	7.8	-	-	-	-	-	-
ASP	9.2	0.4	16.7	-	-	-	-	-	-
GLU	19.3	0.9	35.1	-	-	-	-	-	-
GLY	5.7	0.3	10.4	-	-	-	-	-	-
PRO	4.3	0.3	7.8	-	-	-	-	-	-
SER	4.3	0.2	7.8	-	-	-	-	-	-
Sum AA	92.4		168	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		326.3
<=C10	0.1	0.3
C12:0	0.2	0.6
C14:0	0.3	0.9
C16:0	7.0	21.7
C16:1	0.3	0.9
C18:0	4.0	12.4
C18:1	22.0	68.2
C:18:2	65.0	201.5
C18:3	0.4	1.2
>=C20	0.3	0.9
Sum FA	99.6	308.7
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed-non-dehulled, CF > 200 g/kg 3003.000/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	914	27	140	291	295	285	171	166	
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	16	4	-	33	419	315	90	421	2
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.3	4.3	3.4	2.5	7.8	0.1	0.2	0.2	1.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	123	15	42	14	-	-	-
sd	-	-	-	-	-	-	-

IP/P	80	SUGe/SUG	-	EB (meq/kg)	196
		CF_DI	0.96	CAD (meq/kg)	103

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	76		DCCP	85	DCCP
DCCFAT	94		DCCFATh	96	DCCFAT
DCCF	15		DCCF	12	DCCF
DCNFE	46		DCNFE	32	DCNFE
DCOM	57		DCOM		
			DCNSPh		
DVE	1991	2007	DCiSTA	Broilers	Horses
%RUP	22	25	StaDCP	DCCP	DCCP
%DRUP	80	80	AppDCP	DCCFATh	DCOM
%RUSTA	-	-		DC(S+S)	
%DASH	65	65		DCNFEh	
DASHmax	26	26		DCPpo	

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1177 /kg	NE2015	MEpo	MErab
VEVI	1226 /kg	NE2015	MEpo	MErab
FOM-91	180 g/kg	EW2015	MEla	
FOMr-07	179 g/kg	StaDP	MEla	
FOMr2-07	98 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.55 /kg			
DVE-91	15 g/kg		Broilers	Horses
DVE-07	14 g/kg		MEbr	NEm
OEB-91	79 g/kg		MEbr	NEm
OEB-07	80 g/kg		DPpo	EWpa
OEB2-07	44 g/kg			DCPho
DVMET-91	0.6 g/kg			
DVLYS-91	0.6 g/kg			
DVMET-07	0.6 g/kg			
DVLYS-07	0.5 g/kg			
SW	0.53 /kg			
VW	0.36 /kg			

Sunflower seed-non-dehulled, CF > 200 g/kg 3003.000/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			140	-	-	-	-	-	-
LYS	3.5	0.2	4.9	-	-	-	-	-	-
MET	2.2	0.1	3.1	-	-	-	-	-	-
CYS	1.7	0.1	2.4	-	-	-	-	-	-
THR	3.7	0.2	5.2	-	-	-	-	-	-
TRP	1.2	0.1	1.7	-	-	-	-	-	-
ILE	4.1	0.2	5.7	-	-	-	-	-	-
ARG	8.1	0.5	11.3	-	-	-	-	-	-
PHE	4.6	0.2	6.4	-	-	-	-	-	-
HIS	2.5	0.2	3.5	-	-	-	-	-	-
LEU	6.3	0.2	8.8	-	-	-	-	-	-
TYR	2.5	0.2	3.5	-	-	-	-	-	-
VAL	4.9	0.2	6.9	-	-	-	-	-	-
ALA	4.3	0.2	6.0	-	-	-	-	-	-
ASP	9.2	0.4	12.9	-	-	-	-	-	-
GLU	19.3	0.9	27.0	-	-	-	-	-	-
GLY	5.7	0.3	8.0	-	-	-	-	-	-
PRO	4.3	0.3	6.0	-	-	-	-	-	-
SER	4.3	0.2	6.0	-	-	-	-	-	-
Sum AA	92.4		129	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		290.7
<=C10	0.1	0.3
C12:0	0.2	0.6
C14:0	0.3	0.8
C16:0	7.0	19.3
C16:1	0.3	0.8
C18:0	4.0	11.0
C18:1	22.0	60.7
C:18:2	65.0	179.5
C18:3	0.4	1.1
>=C20	0.3	0.8
Sum FA	99.6	275.0
% FA in CFAT-fraction		95

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed expeller-dehulled, CF < 200 g/kg 3003.401/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	930	63	381	73	78	163	250	244	
sd	12	8	19	-	-	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	39	5	-	60	319	215	52	351	32
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	7.7	6.2	3.8	13.1	0.2	1.2	0.2	3.5
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1071	57	72	29	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	60	EB (meq/kg)	309
		CF_DI	0.96	CAD (meq/kg)	78

Digestibility coefficients (%)

Ruminants

DCCP	88
DCCFAT	91
DCCF	36
DCNFE	76
DCOM	75

DVE	1991	2007
%RUP	32	33
%DRUP	88	88
%RUSTA	-	-
%DASH	65	65
DASHmax	51	51

Pigs

DCCP	75
DCCFATh	87
DCCF	18
DCNFE	65
DCOM	63
DCNSPh	37
DCiSTA	100
StaDCP	17
AppDCP	15

Roosters/Laying hens

DCCP	85
DCCFAT	65
DCNFE	17
DCPpo	27
DCCP	83
DCCFATh	83
DC(S+S)	15
DCNFEh	4
DCPpo	27

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
DCCP	85
DCOM	69

Horses

Nutritional value (in product)

Ruminants

VEM	977 /kg
VEVI	1010 /kg
FOM-91	457 g/kg
FOMr-07	471 g/kg
FOMr2-07	186 g/kg
FOMr2/FOMr	0.39 /kg
DVE-91	145 g/kg
DVE-07	136 g/kg
OEB-91	177 g/kg
OEB-07	187 g/kg
OEB2-07	73 g/kg
DVMET-91	3.5 g/kg
DVLYS-91	6.5 g/kg
DVMET-07	3.4 g/kg
DVLYS-07	6.2 g/kg
SW	0.39 /kg
VW	0.31 /kg

Pigs

NE2015	7.77 MJ/kg
NE2015	1857 kcal/kg
EW2015	0.88 /kg
StaDP	1.3 g/kg
AppDP	1.1 g/kg

Roosters/Laying hens

MEpo	8.22 MJ/kg
MEpo	1965 kcal/kg
MEla	8.50 MJ/kg
MEla	2031 kcal/kg
DPpo	2.1 g/kg

Rabbits

MErab	-
MErab	-

Broilers

MEbr	8.36 MJ/kg
MEbr	1999 kcal/kg
DPpo	2.1 g/kg

Horses

NEm	7.28 MJ/kg
NEm	1740 kcal/kg
EWpa	0.82 /kg
DCPho	324 g/kg

Sunflower seed expeller-dehulled, CF < 200 g/kg 3003.401/1/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			381	80	-	78	296	-	-
LYS	3.5	0.2	13.3	79	10.6	77	10.2	82	10.9
MET	2.2	0.1	8.4	88	7.3	86	7.2	92	7.7
CYS	1.7	0.1	6.5	77	5.0	74	4.8	69	4.5
THR	3.7	0.2	14.1	80	11.3	76	10.7	76	10.7
TRP	1.2	0.1	4.6	83	3.8	80	3.7	84	3.8
ILE	4.1	0.2	15.6	83	12.9	80	12.6	84	13.1
ARG	8.1	0.5	30.9	92	28.4	91	28.1	90	27.8
PHE	4.6	0.2	17.5	82	14.4	81	14.1	87	15.2
HIS	2.5	0.2	9.5	82	7.8	80	7.7	78	7.4
LEU	6.3	0.2	24.0	81	19.4	79	19.0	84	20.2
TYR	2.5	0.2	9.5	83	7.9	80	7.6	87	8.3
VAL	4.9	0.2	18.7	81	15.1	78	14.6	84	15.7
ALA	4.3	0.2	16.4	78	12.8	75	12.3	85	13.9
ASP	9.2	0.4	35.1	81	28.3	79	27.6	81	28.4
GLU	19.3	0.9	73.5	88	64.8	87	63.8	88	64.7
GLY	5.7	0.3	21.7	73	15.8	69	15.0	73	15.9
PRO	4.3	0.3	16.4	86	14.1	80	13.1	94	15.4
SER	4.3	0.2	16.4	82	13.4	78	12.8	77	12.6
Sum AA	92.4		352	-	293	-	285	-	296

Fatty acids

	% FA	g/kg
CFAT(h)		72.5
<=C10	0.1	0.1
C12:0	0.2	0.1
C14:0	0.3	0.2
C16:0	7.0	3.8
C16:1	0.3	0.2
C18:0	4.0	2.2
C18:1	22.0	12.0
C:18:2	65.0	35.4
C18:3	0.4	0.2
>=C20	0.3	0.2
Sum FA	99.6	54.2
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed expeller-partly dehulled, CF 200 - 315 3003.401/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	924	59	287	100	107	239	238	231	
sd	24	11	-	-	-	18	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	30	4	-	47	381	277	76	428	48
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	7.7	6.1	3.8	13.0	0.2	1.2	0.2	2.7
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1064	57	72	28	-	-	-
sd	-	-	-	-	-	-	-

IP/P	75	SUGe/SUG	60	EB (meq/kg)	308
		CF_DI	0.96	CAD (meq/kg)	131

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	86		DCCP	85	DCCP	76	
DCCFAT	92		DCCFATh	65	DCCFAT	85	
DCCF	23		DCCF	17	DCCF	15	
DCNFE	66		DCNFE	27	DCNFE	65	
DCOM	64		DCOM				
			DCNSPh				
			DCiSTA				
DVE	1991	2007	StaDCP	Broilers		Horses	
%RUP	32	33	AppDCP	DCCP	82	DCCP	85
%DRUP	88	88		DCCFATh	86	DCOM	59
%RUSTA	-	-		DC(S+S)	15		
%DASH	65	65		DCNFEh	3		
DASHmax	48	48		DCPpo	27		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	874 /kg	NE2015	7.72 MJ/kg	MEpo	7.94 MJ/kg	MErab	10.59 MJ/kg
VEVI	875 /kg	NE2015	1844 kcal/kg	MEpo	1897 kcal/kg	MErab	2531 kcal/kg
FOM-91	360 g/kg	EW2015	0.88 /kg	MEla	8.31 MJ/kg		
FOMr-07	374 g/kg	StaDP	1.3 g/kg	MEla	1987 kcal/kg		
FOMr2-07	145 g/kg	AppDP	1.1 g/kg	DPpo	2.1 g/kg		
FOMr2/FOMr	0.39 /kg						
DVE-91	99 g/kg			Broilers		Horses	
DVE-07	93 g/kg			MEbr	7.93 MJ/kg	NEm	6.47 MJ/kg
OEB-91	132 g/kg			MEbr	1896 kcal/kg	NEm	1546 kcal/kg
OEB-07	137 g/kg			DPpo	2.1 g/kg	EWpa	0.72 /kg
OEB2-07	54 g/kg					DCPho	244 g/kg
DVMET-91	2.5 g/kg						
DVLYS-91	4.4 g/kg						
DVMET-07	2.4 g/kg						
DVLYS-07	4.2 g/kg						
SW	0.47 /kg						
VW	0.34 /kg						

Sunflower seed expeller-partly dehulled, CF 200 - 315 3003.401/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			287	80	-	77	220	-	-
LYS	3.5	0.2	10.1	79	8.0	76	7.6	82	8.2
MET	2.2	0.1	6.3	88	5.5	86	5.4	92	5.8
CYS	1.7	0.1	4.9	77	3.8	73	3.6	69	3.4
THR	3.7	0.2	10.6	80	8.5	75	7.9	76	8.1
TRP	1.2	0.1	3.4	83	2.9	79	2.7	84	2.9
ILE	4.1	0.2	11.8	83	9.7	80	9.4	84	9.9
ARG	8.1	0.5	23.3	92	21.4	91	21.1	90	20.9
PHE	4.6	0.2	13.2	82	10.9	80	10.6	87	11.5
HIS	2.5	0.2	7.2	82	5.9	80	5.7	78	5.6
LEU	6.3	0.2	18.1	81	14.7	79	14.2	84	15.2
TYR	2.5	0.2	7.2	83	6.0	79	5.7	87	6.2
VAL	4.9	0.2	14.1	81	11.4	77	10.9	84	11.8
ALA	4.3	0.2	12.4	78	9.6	74	9.2	85	10.5
ASP	9.2	0.4	26.4	81	21.4	78	20.6	81	21.4
GLU	19.3	0.9	55.5	88	48.9	86	47.8	88	48.8
GLY	5.7	0.3	16.4	73	11.9	68	11.1	73	12.0
PRO	4.3	0.3	12.4	86	10.7	78	9.6	94	11.6
SER	4.3	0.2	12.4	82	10.1	77	9.5	77	9.5
Sum AA	92.4		266	-	221	-	213	-	223

Fatty acids

	% FA	g/kg
CFAT(h)		99.8
<=C10	0.1	0.1
C12:0	0.2	0.1
C14:0	0.3	0.2
C16:0	7.0	5.2
C16:1	0.3	0.2
C18:0	4.0	3.0
C18:1	22.0	16.5
C:18:2	65.0	48.6
C18:3	0.4	0.3
>=C20	0.3	0.2
Sum FA	99.6	74.5
% FA in CFAT-fraction		75

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed expeller-non-dehulled, CF > 315 3003.401/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	913	56	214	103	111	372	169	161	
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	17	2	-	26	490	386	118	513	23
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	7.6	6.1	3.8	12.9	0.2	1.0	0.2	2.0
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1052	56	71	28	-	-	0.1
sd	-	-	-	-	-	-	-

IP/P	80	SUGe/SUG	-	EB (meq/kg)	310
		CF_DI	0.96	CAD (meq/kg)	175

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	83		DCCP	85	DCCP	-
DCCFAT	92		DCCFATh	67	DCCFAT	-
DCCF	15		DCCF	11	DCCF	-
DCNFE	30		DCNFE	27	DCNFE	-
DCOM	44		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP			
%RUP	32	33	AppDCP			
%DRUP	88	88				
%RUSTA	-	-				
%DASH	65	65				
DASHmax	46	46				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	626 /kg	NE2015	MEpo	6.28 MJ/kg	MErab	-
VEVI	564 /kg	NE2015	MEpo	1501 kcal/kg	MErab	-
FOM-91	207 g/kg	EW2015	MEla	6.68 MJ/kg		
FOMr-07	218 g/kg	StaDP	MEla	1597 kcal/kg		
FOMr2-07	90 g/kg	AppDP	DPpo	2.0 g/kg		
FOMr2/FOMr	0.41 /kg					
DVE-91	49 g/kg					
DVE-07	44 g/kg					
OEB-91	107 g/kg					
OEB-07	113 g/kg					
OEB2-07	43 g/kg					
DVMET-91	1.5 g/kg					
DVLYS-91	1.7 g/kg					
DVMET-07	1.3 g/kg					
DVLYS-07	1.5 g/kg					
SW	0.63 /kg					
VW	0.36 /kg					

Sunflower seed expeller-non-dehulled, CF > 315 3003.401/3/0

Amino acids	Ileal digestible				Standardized ileal digestible		
	g/16g N		g/kg	AA pigs		AA poultry	
	mean	sdc		standardized	apparent	DC	g/kg
			DC	g/kg	DC	g/kg	
CP			214	-	-	-	-
LYS	3.5	0.2	7.5	-	-	-	-
MET	2.2	0.1	4.7	-	-	-	-
CYS	1.7	0.1	3.6	-	-	-	-
THR	3.7	0.2	7.9	-	-	-	-
TRP	1.2	0.1	2.6	-	-	-	-
ILE	4.1	0.2	8.8	-	-	-	-
ARG	8.1	0.5	17.3	-	-	-	-
PHE	4.6	0.2	9.8	-	-	-	-
HIS	2.5	0.2	5.3	-	-	-	-
LEU	6.3	0.2	13.5	-	-	-	-
TYR	2.5	0.2	5.3	-	-	-	-
VAL	4.9	0.2	10.5	-	-	-	-
ALA	4.3	0.2	9.2	-	-	-	-
ASP	9.2	0.4	19.7	-	-	-	-
GLU	19.3	0.9	41.2	-	-	-	-
GLY	5.7	0.3	12.2	-	-	-	-
PRO	4.3	0.3	9.2	-	-	-	-
SER	4.3	0.2	9.2	-	-	-	-
Sum AA	92.4		197	-	-	-	-

Fatty acids	%		g/kg	Fermentation products	
	FA			g/kg	sdc
CFAT(h)			103.2	FP	-
<=C10	0.1		0.1	LA	-
C12:0	0.2		0.2	AC	-
C14:0	0.3		0.2	ETH	-
C16:0	7.0		5.4	PR	-
C16:1	0.3		0.2	BU	-
C18:0	4.0		3.1	Glycerol	-
C18:1	22.0		17.0		
C:18:2	65.0		50.3		
C18:3	0.4		0.3		
>=C20	0.3		0.2		
Sum FA	99.6		77.1		
% FA in CFAT-fraction			75		

Sunflower seed meal, solvent extracted-dehulled, CF < 160 g/kg 3003.407/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	892	66	382	17	26	148	278	270		
sd	6	4	9	3	-	6	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	36	8	-	53	297	200	47	369	71	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.5	10.3	8.2	5.6	14.9	0.2	1.1	0.2	3.5
sd	0.4	1.1	-	0.7	1.3	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	234	44	90	33	-	-	-
sd	98	8	17	5	-	-	-

IP/P	85	SUGe/SUG	60	EB (meq/kg)	357
		CF_DI	0.95	CAD (meq/kg)	124

Digestibility coefficients (%)

Ruminants		Pigs		Roosters/Laying hens		Rabbits		
DCCP	89	DCCP	75	DCCP	85	DCCP	76	
DCCFAT	82	DCCFATh	64	DCCFAT	51	DCCFAT	75	
DCCF	40	DCCF	22	DCNFE	15	DCCF	15	
DCNFE	80	DCNFE	64	DCPpo	27	DCNFE	65	
DCOM	77	DCOM	62					
		DCNSPh	41					
DVE	1991	2007	DCiSTA	100	Broilers		Horses	
%RUP	32	33	StaDCP	17	DCCP	83	DCCP	85
%DRUP	88	88	AppDCP	15	DCCFATh	64	DCOM	64
%RUSTA	-	-			DC(S+S)	15		
%DASH	65	65			DCNFEh	3		
DASHmax	53	53			DCPpo	27		

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	845 /kg	NE2015	6.11 MJ/kg	MEpo	6.68 MJ/kg	MErab	9.46 MJ/kg
VEVI	862 /kg	NE2015	1460 kcal/kg	MEpo	1596 kcal/kg	MErab	2261 kcal/kg
FOM-91	494 g/kg	EW2015	0.69 /kg	MEla	6.73 MJ/kg		
FOMr-07	485 g/kg	StaDP	1.7 g/kg	MEla	1608 kcal/kg		
FOMr2-07	184 g/kg	AppDP	1.6 g/kg	DPpo	2.8 g/kg		
FOMr2/FOMr	0.38 /kg						
DVE-91	150 g/kg			Broilers		Horses	
DVE-07	140 g/kg			MEbr	6.48 MJ/kg	NEm	5.92 MJ/kg
OEB-91	172 g/kg			MEbr	1549 kcal/kg	NEm	1415 kcal/kg
OEB-07	185 g/kg			DPpo	2.8 g/kg	EWpa	0.66 /kg
OEB2-07	73 g/kg					DCPho	324 g/kg
DVMET-91	3.7 g/kg						
DVLYS-91	6.9 g/kg						
DVMET-07	3.4 g/kg						
DVLYS-07	6.5 g/kg						
SW	0.36 /kg						
VW	0.29 /kg						

Sunflower seed meal, solvent extracted-dehulled, CF < 160 g/kg

3003.407/1/0

Amino acids	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			382	80	-	78	297	-	-
LYS	3.5	0.2	13.4	79	10.6	77	10.2	82	11.0
MET	2.2	0.1	8.4	88	7.3	86	7.2	92	7.7
CYS	1.7	0.1	6.5	77	5.0	74	4.8	73	4.7
THR	3.7	0.2	14.1	80	11.3	76	10.8	76	10.7
TRP	1.2	0.1	4.6	83	3.8	80	3.7	84	3.8
ILE	4.1	0.2	15.6	83	12.9	80	12.6	85	13.3
ARG	8.1	0.5	30.9	92	28.5	91	28.1	91	28.1
PHE	4.6	0.2	17.6	82	14.4	81	14.2	87	15.3
HIS	2.5	0.2	9.5	82	7.8	80	7.7	77	7.3
LEU	6.3	0.2	24.0	81	19.5	79	19.1	84	20.2
TYR	2.5	0.2	9.5	83	7.9	80	7.7	86	8.2
VAL	4.9	0.2	18.7	81	15.1	78	14.6	83	15.5
ALA	4.3	0.2	16.4	78	12.8	75	12.4	83	13.6
ASP	9.2	0.4	35.1	81	28.4	79	27.7	80	28.1
GLU	19.3	0.9	73.6	88	64.9	87	63.9	87	64.1
GLY	5.7	0.3	21.8	73	15.8	69	15.0	71	15.4
PRO	4.3	0.3	16.4	86	14.2	80	13.2	94	15.4
SER	4.3	0.2	16.4	82	13.4	78	12.8	78	12.8
Sum AA	92.4		353	-	294	-	286	-	295

Fatty acids	% FA	g/kg
CFAT(h)		17.4
<=C10	0.1	0.0
C12:0	0.2	0.0
C14:0	0.3	0.0
C16:0	7.0	0.8
C16:1	0.3	0.0
C18:0	4.0	0.5
C18:1	22.0	2.5
C:18:2	65.0	7.4
C18:3	0.4	0.0
>=C20	0.3	0.0
Sum FA	99.6	11.3
% FA in CFAT-fraction		65

Fermentation products	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed meal, solvent extracted-partly dehulled, CF 160 - 200 g/kg 3003.407/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	892	67	352	19	26	178	276	268		
sd	8	4	21	3	-	15	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	36	8	-	50	324	224	57	399	75	
sd	-	-	-	6	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.5	10.3	8.2	5.6	14.9	0.2	1.1	1.1	3.3
sd	0.4	1.1	-	0.7	1.3	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	234	44	90	33	-	-	-
sd	98	8	17	5	-	-	-

IP/P	85	SUGe/SUG	60	EB (meq/kg)	357
		CF_DI	0.95	CAD (meq/kg)	85

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	88		DCCP	75	DCCP	76
DCCFAT	83		DCCFATh	64	DCCFAT	75
DCCF	33		DCCF	22	DCNFE	15
DCNFE	76		DCNFE	61	DCPpo	27
DCOM	72		DCOM	59		
			DCNSPh	38	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	85
%RUP	32	33	StaDCP	17	DCCFATh	64
%DRUP	88	88	AppDCP	15	DC(S+S)	15
%RUSTA	-	-			DCNFEh	3
%DASH	65	65			DCPpo	27
DASHmax	54	54				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	787 /kg	NE2015	5.82 MJ/kg	MEpo	6.40 MJ/kg	MErab	9.12 MJ/kg
VEVI	789 /kg	NE2015	1390 kcal/kg	MEpo	1529 kcal/kg	MErab	2179 kcal/kg
FOM-91	464 g/kg	EW2015	0.66 /kg	MEla	6.45 MJ/kg		
FOMr-07	459 g/kg	StaDP	1.7 g/kg	MEla	1542 kcal/kg		
FOMr2-07	173 g/kg	AppDP	1.6 g/kg	DPpo	2.8 g/kg		
FOMr2/FOMr	0.38 /kg						
DVE-91	135 g/kg			Broilers		Horses	
DVE-07	126 g/kg			MEbr	6.03 MJ/kg	NEm	5.55 MJ/kg
OEB-91	158 g/kg			MEbr	1441 kcal/kg	NEm	1325 kcal/kg
OEB-07	169 g/kg			DPpo	2.8 g/kg	EWpa	0.62 /kg
OEB2-07	67 g/kg					DCPho	300 g/kg
DVMET-91	3.3 g/kg						
DVLYS-91	6.2 g/kg						
DVMET-07	3.1 g/kg						
DVLYS-07	5.8 g/kg						
SW	0.40 /kg						
VW	0.31 /kg						

Sunflower seed meal, solvent extracted-partly dehulled, CF 160 - 200 g/kg 3003.407/2/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
CP			352	80	-	78	273	-	-
LYS	3.5	0.2	12.3	79	9.8	76	9.4	82	10.1
MET	2.2	0.1	7.8	88	6.8	86	6.7	92	7.1
CYS	1.7	0.1	6.0	77	4.6	74	4.4	73	4.4
THR	3.7	0.2	13.0	80	10.4	76	9.9	76	9.9
TRP	1.2	0.1	4.2	83	3.5	80	3.4	84	3.6
ILE	4.1	0.2	14.5	83	11.9	80	11.6	85	12.3
ARG	8.1	0.5	28.6	92	26.3	91	25.9	91	26.0
PHE	4.6	0.2	16.2	82	13.3	81	13.1	87	14.1
HIS	2.5	0.2	8.8	82	7.2	80	7.1	77	6.8
LEU	6.3	0.2	22.2	81	18.0	79	17.6	84	18.7
TYR	2.5	0.2	8.8	83	7.3	80	7.1	86	7.6
VAL	4.9	0.2	17.3	81	14.0	78	13.5	83	14.3
ALA	4.3	0.2	15.2	78	11.8	75	11.4	83	12.6
ASP	9.2	0.4	32.4	81	26.2	79	25.5	80	25.9
GLU	19.3	0.9	68.0	88	60.0	87	58.9	87	59.2
GLY	5.7	0.3	20.1	73	14.6	69	13.8	71	14.3
PRO	4.3	0.3	15.2	86	13.1	80	12.1	94	14.2
SER	4.3	0.2	15.2	82	12.4	78	11.8	78	11.8
Sum AA	92.4		326	-	271	-	263	-	273

Fatty acids

	% FA	g/kg
CFAT(h)		18.7
<=C10	0.1	0.0
C12:0	0.2	0.0
C14:0	0.3	0.0
C16:0	7.0	0.8
C16:1	0.3	0.0
C18:0	4.0	0.5
C18:1	22.0	2.7
C:18:2	65.0	7.9
C18:3	0.4	0.0
>=C20	0.3	0.0
Sum FA	99.6	12.1
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Sunflower seed meal, solvent extracted-partly dehulled, CF 200 - 240 g/kg 3003.407/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	888	64	308	19	27	224	273	265	
sd	9	4	17	4	3	13	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	37	8	-	52	360	261	71	439	79
sd	-	-	-	6	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.5	10.2	8.2	5.6	14.8	0.2	1.1	2.0	2.9
sd	0.4	1.1	-	0.7	1.3	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	232	44	89	33	-	-	-
sd	97	8	17	5	-	-	-

IP/P	85	SUGe/SUG	60	EB (meq/kg)	355
		CF_DI	0.95	CAD (meq/kg)	54

Digestibility coefficients (%)

Ruminants

DCCP	87
DCCFAT	83
DCCF	26
DCNFE	71
DCOM	65

DVE	1991	2007
%RUP	32	33
%DRUP	88	88
%RUSTA	-	-
%DASH	65	65
DASHmax	51	51

Pigs

DCCP	75
DCCFATh	65
DCCF	22
DCNFE	58
DCOM	55
DCNSPh	33
DCiSTA	100
StaDCP	17
AppDCP	15

Roosters/Laying hens

DCCP	85
DCCFAT	51
DCNFE	15
DCPpo	27
DCCP	82
DCCFATh	64
DC(S+S)	15
DCNFEh	3
DCPpo	27

Rabbits

DCCP	76
DCCFAT	75
DCCF	10
DCNFE	65

Horses

DCCP	85
DCOM	56

Nutritional value (in product)

Ruminants

VEM	699 /kg
VEVI	677 /kg
FOM-91	419 g/kg
FOMr-07	418 g/kg
FOMr2-07	161 g/kg
FOMr2/FOMr	0.39 /kg
DVE-91	113 g/kg
DVE-07	106 g/kg
OEB-91	136 g/kg
OEB-07	144 g/kg
OEB2-07	57 g/kg
DVMET-91	2.9 g/kg
DVLYS-91	5.1 g/kg
DVMET-07	2.7 g/kg
DVLYS-07	4.9 g/kg
SW	0.44 /kg
VW	0.33 /kg

Pigs

NE2015	5.43 MJ/kg
NE2015	1298 kcal/kg
EW2015	0.62 /kg
StaDP	1.7 g/kg
AppDP	1.6 g/kg

Roosters/Laying hens

MEpo	5.94 MJ/kg
MEpo	1419 kcal/kg
MEla	6.00 MJ/kg
MEla	1433 kcal/kg
DPpo	2.8 g/kg
MEbr	5.39 MJ/kg
MEbr	1287 kcal/kg
DPpo	2.8 g/kg

Rabbits

MErab	8.39 MJ/kg
MErab	2005 kcal/kg

Horses

NEm	5.15 MJ/kg
NEm	1232 kcal/kg
EWpa	0.58 /kg
DCPho	262 g/kg

Sunflower seed meal, solvent extracted-partly dehulled, CF 200 - 240 g/kg 3003.407/3/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			308	80	-	77	238	-	-
LYS	3.5	0.2	10.8	79	8.5	76	8.2	-	-
MET	2.2	0.1	6.8	88	5.9	86	5.8	-	-
CYS	1.7	0.1	5.2	77	4.0	74	3.9	-	-
THR	3.7	0.2	11.4	80	9.1	75	8.6	-	-
TRP	1.2	0.1	3.7	83	3.1	79	2.9	-	-
ILE	4.1	0.2	12.6	83	10.4	80	10.1	-	-
ARG	8.1	0.5	25.0	92	23.0	91	22.6	-	-
PHE	4.6	0.2	14.2	82	11.7	80	11.4	-	-
HIS	2.5	0.2	7.7	82	6.3	80	6.2	-	-
LEU	6.3	0.2	19.4	81	15.7	79	15.3	-	-
TYR	2.5	0.2	7.7	83	6.4	80	6.1	-	-
VAL	4.9	0.2	15.1	81	12.2	78	11.7	-	-
ALA	4.3	0.2	13.2	78	10.3	75	9.9	-	-
ASP	9.2	0.4	28.3	81	22.9	78	22.2	-	-
GLU	19.3	0.9	59.5	88	52.4	86	51.4	-	-
GLY	5.7	0.3	17.6	73	12.8	68	12.0	-	-
PRO	4.3	0.3	13.2	86	11.4	79	10.4	-	-
SER	4.3	0.2	13.2	82	10.8	77	10.2	-	-
Sum AA	92.4		285	-	237	-	229	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		19.2
<=C10	0.1	0.0
C12:0	0.2	0.0
C14:0	0.3	0.0
C16:0	7.0	0.9
C16:1	0.3	0.0
C18:0	4.0	0.5
C18:1	22.0	2.7
C:18:2	65.0	8.1
C18:3	0.4	0.0
>=C20	0.3	0.0
Sum FA	99.6	12.4
% FA in CFAT-fraction		65

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Sunflower seed meal, solvent extracted-non-dehulled, CF > 240 g/kg

3003.407/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	890	59	270	19	26	274	267	260	
sd	13	4	23	5	-	22	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	32	8	-	44	403	302	87	492	89
sd	-	-	-	13	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.5	10.3	8.2	5.6	14.8	0.2	1.1	2.9	2.5
sd	0.4	1.1	-	0.7	1.3	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	233	44	90	33	-	-	-
sd	97	8	17	5	-	-	-

IP/P	85	SUGe/SUG	60	EB (meq/kg)	356
		CF_DI	0.95	CAD (meq/kg)	21

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	86		DCCP	74	DCCP	76	
DCCFAT	83		DCCFATh	64	DCCFAT	75	
DCCF	22		DCCF	22	DCNFE	5	
DCNFE	65		DCNFE	52	DCPpo	65	
DCOM	58		DCOM	50			
			DCNSPh	30			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	32	33	StaDCP	17	DCCP	DCCP	-
%DRUP	88	88	AppDCP	15	DCCFATh	DCOM	-
%RUSTA	-	-			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	48	48			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	612 /kg	NE2015	4.97 MJ/kg	MEpo	5.20 MJ/kg	MErab	7.62 MJ/kg
VEVI	568 /kg	NE2015	1188 kcal/kg	MEpo	1242 kcal/kg	MErab	1820 kcal/kg
FOM-91	375 g/kg	EW2015	0.56 /kg	MEla	5.25 MJ/kg		
FOMr-07	367 g/kg	StaDP	1.7 g/kg	MEla	1255 kcal/kg		
FOMr2-07	141 g/kg	AppDP	1.6 g/kg	DPpo	2.8 g/kg		
FOMr2/FOMr	0.38 /kg						
DVE-91	92 g/kg			Broilers		Horses	
DVE-07	85 g/kg			MEbr	4.75 MJ/kg	NEm	-
OEB-91	118 g/kg			MEbr	1134 kcal/kg	NEm	-
OEB-07	126 g/kg			DPpo	2.8 g/kg	EWpa	-
OEB2-07	50 g/kg					DCPho	-
DVMET-91	2.4 g/kg						
DVLYS-91	4.1 g/kg						
DVMET-07	2.2 g/kg						
DVLYS-07	3.8 g/kg						
SW	0.50 /kg						
VW	0.35 /kg						

Sunflower seed meal, solvent extracted-non-dehulled, CF > 240 g/kg 3003.407/4/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
CP			270	80	-	77	207	-	-
LYS	3.5	0.2	9.4	79	7.5	76	7.1	-	-
MET	2.2	0.1	5.9	88	5.2	86	5.1	-	-
CYS	1.7	0.1	4.6	77	3.5	73	3.4	-	-
THR	3.7	0.2	10.0	80	8.0	75	7.4	-	-
TRP	1.2	0.1	3.2	83	2.7	79	2.6	-	-
ILE	4.1	0.2	11.1	83	9.1	80	8.8	-	-
ARG	8.1	0.5	21.8	92	20.1	90	19.8	-	-
PHE	4.6	0.2	12.4	82	10.2	80	9.9	-	-
HIS	2.5	0.2	6.7	82	5.5	80	5.4	-	-
LEU	6.3	0.2	17.0	81	13.8	79	13.3	-	-
TYR	2.5	0.2	6.7	83	5.6	79	5.3	-	-
VAL	4.9	0.2	13.2	81	10.7	77	10.2	-	-
ALA	4.3	0.2	11.6	78	9.0	74	8.6	-	-
ASP	9.2	0.4	24.8	81	20.0	78	19.3	-	-
GLU	19.3	0.9	52.1	88	45.9	86	44.8	-	-
GLY	5.7	0.3	15.4	73	11.2	67	10.4	-	-
PRO	4.3	0.3	11.6	86	10.0	78	9.0	-	-
SER	4.3	0.2	11.6	82	9.5	77	8.9	-	-
Sum AA	92.4		249	-	207	-	199	-	-

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		18.5	FP	-	-
<=C10	0.1	0.0	LA	-	-
C12:0	0.2	0.0	AC	-	-
C14:0	0.3	0.0	ETH	-	-
C16:0	7.0	0.8	PR	-	-
C16:1	0.3	0.0	BU	-	-
C18:0	4.0	0.5	Glycerol	-	-
C18:1	22.0	2.6			
C:18:2	65.0	7.8			
C18:3	0.4	0.0			
>=C20	0.3	0.0			
Sum FA	99.6	12.0			
% FA in CFAT-fraction		65	NH3	-	

Sweet potatoes, dried 4007.611/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	878	38	40	6	6	27	767	767	
sd	10	13	4	1	-	4	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	618	592	-	68	50	37	10	136	87
sd	26	-	-	10	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.7	1.3	0.3	-	5.8	2.6	1.7	1.2	0.3
sd	-	-	-	-	0.8	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	6	6	-	-	-
sd	-	-	-	-	-	-	-

IP/P	20	SUGe/SUG	75	EB (meq/kg)	214
		CF_DI	0.96	CAD (meq/kg)	121

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	-		DCCP	20	DCCP	40
DCCFAT	53		DCCFATh	-	DCCFAT	-
DCCF	11		DCCF	91	DCCF	92
DCNFE	92		DCNFE	74	DCNFE	92
DCOM	85		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP			
%RUP	40	52	AppDCP			
%DRUP	80	80				
%RUSTA	10	9				
%DASH	50	50				
DASHmax	25	25				

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
VEM	939 /kg		NE2015	12.24 MJ/kg	MErab	12.78 MJ/kg
VEVI	1030 /kg		NE2015	2925 kcal/kg	MErab	3055 kcal/kg
FOM-91	631 g/kg		EW2015	12.24 MJ/kg		
FOMr-07	720 g/kg		StaDP	2925 kcal/kg		
FOMr2-07	572 g/kg		AppDP	1.0 g/kg		
FOMr2/FOMr	0.79 /kg					
DVE-91	63 g/kg					
DVE-07	87 g/kg					
OEB-91	-72 g/kg					
OEB-07	-109 g/kg					
OEB2-07	-89 g/kg					
DVMET-91	1.6 g/kg					
DVLYS-91	4.6 g/kg					
DVMET-07	2.2 g/kg					
DVLYS-07	6.3 g/kg					
SW	-0.23 /kg					
VW	0.25 /kg					

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	939 /kg	NE2015	12.24 MJ/kg	MErab	12.78 MJ/kg
VEVI	1030 /kg	NE2015	2925 kcal/kg	MErab	3055 kcal/kg
FOM-91	631 g/kg	EW2015	12.24 MJ/kg		
FOMr-07	720 g/kg	StaDP	2925 kcal/kg		
FOMr2-07	572 g/kg	AppDP	1.0 g/kg		
FOMr2/FOMr	0.79 /kg				
DVE-91	63 g/kg				
DVE-07	87 g/kg				
OEB-91	-72 g/kg				
OEB-07	-109 g/kg				
OEB2-07	-89 g/kg				
DVMET-91	1.6 g/kg				
DVLYS-91	4.6 g/kg				
DVMET-07	2.2 g/kg				
DVLYS-07	6.3 g/kg				
SW	-0.23 /kg				
VW	0.25 /kg				

Sweet potatoes, dried 4007.611/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg	AA pigs		AA poultry			
				standardized	apparent	DC	g/kg		
CP			40	54	-	29	12	-	-
LYS	4.0	-	1.6	54	0.9	33	0.5	57	0.9
MET	1.6	-	0.6	55	0.4	40	0.3	58	0.4
CYS	1.4	-	0.6	55	0.3	22	0.1	51	0.3
THR	3.2	-	1.3	54	0.7	13	0.2	53	0.7
TRP	1.1	-	0.4	55	0.2	27	0.1	52	0.2
ILE	3.1	-	1.2	54	0.7	28	0.4	55	0.7
ARG	4.1	-	1.6	54	0.9	34	0.6	51	0.8
PHE	4.0	-	1.6	54	0.9	36	0.6	56	0.9
HIS	1.6	-	0.6	54	0.3	29	0.2	51	0.3
LEU	5.5	-	2.2	54	1.2	35	0.8	55	1.2
TYR	2.7	-	1.1	54	0.6	31	0.3	53	0.6
VAL	3.9	-	1.6	54	0.9	25	0.4	55	0.9
ALA	4.2	-	1.7	54	0.9	29	0.5	58	1.0
ASP	11.4	-	4.6	54	2.5	39	1.8	54	2.5
GLU	13.0	-	5.2	53	2.8	34	1.8	53	2.8
GLY	3.7	-	1.5	54	0.8	1	0.0	53	0.8
PRO	4.0	-	1.6	53	0.8	-	-0.1	54	0.9
SER	3.4	-	1.4	53	0.7	11	0.2	51	0.7
Sum AA	75.9		30	-	16	-	8	-	16

Fatty acids

	% FA	g/kg
CFAT(h)		6.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Tapioca starch 4008.201/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	880	1	11	2	2	2	864	864	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	855	855	-	-	4	2	-	11	7
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.2	0.4	0.1	-	-	0.1	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	75	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	100		DCCP	-	DCCP	-
DCCFAT	90		DCCFATh	0	DCCFAT	-
DCCF	94		DCCF	-	DCNFE	99
DCNFE	94		DCNFE	99	DCPpo	59
DCOM	94		DCOM	97		
			DCNSPh	0	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	40	52	StaDCP	60	DCCFATh	89
%DRUP	80	80	AppDCP	10	DC(S+S)	100
%RUSTA	10	9			DCNFEh	99
%DASH	50	50			DCPpo	59
DASHmax	-	-				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1129 /kg	NE2015	12.09 MJ/kg	MEpo	14.82 MJ/kg	MErab	-
VEVI	1283 /kg	NE2015	2891 kcal/kg	MEpo	3541 kcal/kg	MErab	-
FOM-91	736 g/kg	EW2015	1.37 /kg	MEla	14.82 MJ/kg		
FOMr-07	794 g/kg	StaDP	0.2 g/kg	MEla	3541 kcal/kg		
FOMr2-07	657 g/kg	AppDP	0.0 g/kg	DPpo	0.2 g/kg		
FOMr2/FOMr	0.83 /kg			Broilers		Horses	
DVE-91	70 g/kg			MEbr	14.85 MJ/kg	NEm	9.94 MJ/kg
DVE-07	94 g/kg			MEbr	3549 kcal/kg	NEm	2375 kcal/kg
OEB-91	-104 g/kg			DPpo	0.2 g/kg	EWpa	1.11 /kg
OEB-07	-141 g/kg					DCPho	-
OEB2-07	-114 g/kg						
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-0.43 /kg						
VW	0.25 /kg						

Tapioca starch 4008.201/0/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs				AA poultry	
				standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC		
CP			11	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	0	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		1.8
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Tapioca, dried-STAew < 630 g/kg 4008.611/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	883	58	23	5	9	62	735	732	
sd	7	7	2	1	-	9	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	618	593	-	9	120	87	23	196	76
sd	10	-	-	5	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.1	0.7	0.1	1.0	6.0	0.1	0.4	0.2	0.1
sd	2.2	0.1	-	-	0.7	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	791	33	8	3	0.2	0.3	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	75	EB (meq/kg)	145
		CF_DI	0.99	CAD (meq/kg)	126

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	-		DCCP	-7	DCCP	40		
DCCFAT	47		DCCFATh	37	DCCFAT	-		
DCCF	26		DCCF	41	DCCF	31		
DCNFE	92		DCNFE	93	DCNFE	95		
DCOM	83		DCOM	86				
			DCNSPh	55				
DVE	1991	2007	DCiSTA	100	Broilers	Horses		
%RUP	40	52	StaDCP	60	DCCP	-		
%DRUP	80	80	AppDCP	36	DCCFATh	89	DCOM	83
%RUSTA	10	9			DC(S+S)	100		
%DASH	35	35			DCNFEh	82		
DASHmax	25	25			DCPpo	66		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	894 /kg	NE2015	9.62 MJ/kg	MEpo	11.36 MJ/kg	MErab	12.43 MJ/kg
VEVI	973 /kg	NE2015	2299 kcal/kg	MEpo	2715 kcal/kg	MErab	2971 kcal/kg
FOM-91	612 g/kg	EW2015	1.09 /kg	MEla	11.36 MJ/kg		
FOMr-07	665 g/kg	StaDP	0.4 g/kg	MEla	2715 kcal/kg		
FOMr2-07	510 g/kg	AppDP	0.3 g/kg	DPpo	0.5 g/kg		
FOMr2/FOMr	0.77 /kg						
DVE-91	53 g/kg			Broilers		Horses	
DVE-07	72 g/kg			MEbr	10.82 MJ/kg	NEm	8.57 MJ/kg
OEB-91	-79 g/kg			MEbr	2586 kcal/kg	NEm	2049 kcal/kg
OEB-07	-109 g/kg			DPpo	0.5 g/kg	EWpa	0.96 /kg
OEB2-07	-83 g/kg					DCPho	-
DVMET-91	1.4 g/kg						
DVLYS-91	4.0 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	5.5 g/kg						
SW	-0.16 /kg						
VW	0.26 /kg						

Tapioca, dried-STAw < 630 g/kg 4008.611/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			23	54	-	9	2	-	-
LYS	3.7	0.4	0.8	54	0.5	13	0.1	56	0.5
MET	1.3	0.2	0.3	55	0.2	22	0.1	58	0.2
CYS	1.2	0.3	0.3	55	0.1	-	0.0	50	0.1
THR	3.3	0.3	0.7	53	0.4	-	-0.1	52	0.4
TRP	1.1	0.2	0.2	55	0.1	5	0.0	51	0.1
ILE	3.1	0.3	0.7	54	0.4	7	0.1	55	0.4
ARG	4.9	0.9	1.1	54	0.6	23	0.3	51	0.6
PHE	3.4	0.7	0.8	53	0.4	16	0.1	55	0.4
HIS	2.4	0.7	0.5	53	0.3	24	0.1	50	0.3
LEU	5.4	0.6	1.2	54	0.7	20	0.2	55	0.7
TYR	2.1	0.4	0.5	53	0.3	-	0.0	52	0.2
VAL	4.1	0.3	0.9	54	0.5	4	0.0	55	0.5
ALA	5.2	0.7	1.2	54	0.6	17	0.2	57	0.7
ASP	7.6	0.7	1.7	53	0.9	13	0.2	53	0.9
GLU	13.9	1.9	3.1	52	1.6	19	0.6	51	1.6
GLY	3.7	0.6	0.8	53	0.4	-	-0.4	52	0.4
PRO	3.9	0.7	0.9	51	0.5	-	-0.5	53	0.5
SER	3.6	0.4	0.8	52	0.4	-	-0.2	49	0.4
Sum AA	73.9		17	-	9	-	1	-	9

Fatty acids

	% FA	g/kg
CFAT(h)		5.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Tapioca, dried-STAw < 630 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 26 g/kg DM.

Tapioca, dried-STAew 630 - 680 g/kg 4008.611/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	879	58	23	5	8	53	740	737	
sd	9	8	2	1	-	6	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	647	620	-	8	103	75	19	165	63
sd	11	-	-	4	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.5	0.7	0.1	1.0	6.2	0.1	0.4	1.1	0.1
sd	0.5	0.1	-	-	0.8	0.0	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	787	33	8	3	0.2	0.3	-
sd	-	-	1	-	-	-	-

IP/P	15	SUGe/SUG	75	EB (meq/kg)	149
		CF_DI	0.99	CAD (meq/kg)	75

Digestibility coefficients (%)

Ruminants

DCCP	-	
DCCFAT	44	
DCCF	26	
DCNFE	93	
DCOM	84	
DVE	1991	2007
%RUP	40	52
%DRUP	80	80
%RUSTA	10	9
%DASH	35	35
DASHmax	25	25

Pigs

DCCP	0
DCCFATh	31
DCCF	41
DCNFE	94
DCOM	88
DCNSPh	55
DCiSTA	100
StaDCP	60
AppDCP	36

Roosters/Laying hens

DCCP	20
DCCFAT	-
DCNFE	91
DCPpo	66
Broilers	
DCCP	24
DCCFATh	89
DC(S+S)	100
DCNFEh	85
DCPpo	66

Rabbits

DCCP	40
DCCFAT	-
DCCF	31
DCNFE	96
Horses	
DCCP	-
DCOM	84

Nutritional value (in product)

Ruminants

VEM	907 /kg
VEVI	993 /kg
FOM-91	617 g/kg
FOMr-07	673 g/kg
FOMr2-07	522 g/kg
FOMr2/FOMr	0.78 /kg
DVE-91	54 g/kg
DVE-07	74 g/kg
OEB-91	-80 g/kg
OEB-07	-110 g/kg
OEB2-07	-86 g/kg
DVMET-91	1.4 g/kg
DVLYS-91	4.1 g/kg
DVMET-07	1.9 g/kg
DVLYS-07	5.6 g/kg
SW	-0.19 /kg
VW	0.25 /kg

Pigs

NE2015	9.82 MJ/kg
NE2015	2347 kcal/kg
EW2015	1.12 /kg
StaDP	0.4 g/kg
AppDP	0.3 g/kg

Roosters/Laying hens

MEpo	11.61 MJ/kg
MEpo	2775 kcal/kg
MEla	11.61 MJ/kg
MEla	2775 kcal/kg
DPpo	0.5 g/kg
Broilers	
MEbr	11.24 MJ/kg
MEbr	2688 kcal/kg
DPpo	0.5 g/kg

Rabbits

MErab	12.59 MJ/kg
MErab	3010 kcal/kg
Horses	
NEm	8.65 MJ/kg
NEm	2067 kcal/kg
EWpa	0.97 /kg
DCPho	-

Tapioca, dried-STAw 630 - 680 g/kg 4008.611/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			23	54	-	9	2	-	-
LYS	3.7	0.4	0.8	54	0.5	13	0.1	56	0.5
MET	1.3	0.2	0.3	55	0.2	22	0.1	58	0.2
CYS	1.2	0.3	0.3	55	0.1	-	0.0	50	0.1
THR	3.3	0.3	0.7	53	0.4	-	-0.1	52	0.4
TRP	1.1	0.2	0.2	55	0.1	5	0.0	51	0.1
ILE	3.1	0.3	0.7	54	0.4	7	0.1	55	0.4
ARG	4.9	0.9	1.1	54	0.6	23	0.3	51	0.6
PHE	3.4	0.7	0.8	53	0.4	16	0.1	55	0.4
HIS	2.4	0.7	0.5	53	0.3	24	0.1	50	0.3
LEU	5.4	0.6	1.2	54	0.7	20	0.2	55	0.7
TYR	2.1	0.4	0.5	53	0.3	-	0.0	52	0.2
VAL	4.1	0.3	0.9	54	0.5	4	0.0	55	0.5
ALA	5.2	0.7	1.2	54	0.6	18	0.2	57	0.7
ASP	7.6	0.7	1.7	53	0.9	13	0.2	53	0.9
GLU	13.9	1.9	3.1	52	1.6	19	0.6	51	1.6
GLY	3.7	0.6	0.8	53	0.4	-	-0.3	52	0.4
PRO	3.9	0.7	0.9	51	0.4	-	-0.5	53	0.5
SER	3.6	0.4	0.8	52	0.4	-	-0.2	49	0.4
Sum AA	73.9		17	-	9	-	1	-	9

Fatty acids

	% FA	g/kg
CFAT(h)		4.8
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Tapioca, dried-STAw 630 - 680 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 26 g/kg DM.

Tapioca, dried-STAew 680 - 730 g/kg 4008.611/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	873	51	23	4	7	48	746	744		
sd	6	5	3	1	-	9	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	681	653	-	7	92	66	17	135	44	
sd	6	-	-	3	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.0	0.9	0.1	1.0	6.6	0.1	0.4	1.9	0.1
sd	0.5	0.1	-	-	1.0	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	635	26	8	3	0.2	0.3	-
sd	158	8	1	1	-	-	-

IP/P	15	SUGe/SUG	75	EB (meq/kg)	160
		CF_DI	0.99	CAD (meq/kg)	32

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits			
DCCP	-		DCCP	5	DCCP	28	DCCP	40
DCCFAT	38		DCCFATh	24	DCCFAT	-	DCCFAT	-
DCCF	26		DCCF	41	DCNFE	93	DCCF	31
DCNFE	93		DCNFE	95	DCPpo	66	DCNFE	97
DCOM	85		DCOM	88				
			DCNSPh	49	Broilers		Horses	
DVE	1991	2007	DCiSTA	100	DCCP	25	DCCP	-
%RUP	40	52	StaDCP	60	DCCFATh	89	DCOM	85
%DRUP	80	80	AppDCP	40	DC(S+S)	100		
%RUSTA	10	9			DCNFEh	89		
%DASH	35	35			DCPpo	66		
DASHmax	23	23						

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	917 /kg	NE2015	10.02 MJ/kg	MEpo	11.79 MJ/kg	MErab	12.80 MJ/kg
VEVI	1006 /kg	NE2015	2394 kcal/kg	MEpo	2818 kcal/kg	MErab	3059 kcal/kg
FOM-91	620 g/kg	EW2015	1.14 /kg	MEla	11.79 MJ/kg		
FOMr-07	684 g/kg	StaDP	0.5 g/kg	MEla	2818 kcal/kg		
FOMr2-07	536 g/kg	AppDP	0.4 g/kg	DPpo	0.6 g/kg		
FOMr2/FOMr	0.78 /kg						
DVE-91	56 g/kg			Broilers		Horses	
DVE-07	77 g/kg			MEbr	11.77 MJ/kg	NEm	8.80 MJ/kg
OEB-91	-80 g/kg			MEbr	2812 kcal/kg	NEm	2103 kcal/kg
OEB-07	-113 g/kg			DPpo	0.6 g/kg	EWpa	0.99 /kg
OEB2-07	-89 g/kg					DCPho	-
DVMET-91	1.4 g/kg						
DVLYS-91	4.2 g/kg						
DVMET-07	1.9 g/kg						
DVLYS-07	5.8 g/kg						
SW	-0.22 /kg						
VW	0.25 /kg						

Tapioca, dried-STAw 680 - 730 g/kg 4008.611/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			23	54	-	10	2	-	-
LYS	3.7	0.4	0.8	54	0.5	14	0.1	56	0.5
MET	1.3	0.2	0.3	55	0.2	23	0.1	58	0.2
CYS	1.2	0.3	0.3	55	0.2	-	0.0	50	0.1
THR	3.3	0.3	0.8	53	0.4	-	-0.1	52	0.4
TRP	1.1	0.2	0.3	55	0.1	6	0.0	51	0.1
ILE	3.1	0.3	0.7	54	0.4	8	0.1	55	0.4
ARG	4.9	0.9	1.1	54	0.6	24	0.3	51	0.6
PHE	3.4	0.7	0.8	53	0.4	17	0.1	55	0.4
HIS	2.4	0.7	0.5	53	0.3	25	0.1	50	0.3
LEU	5.4	0.6	1.2	54	0.7	20	0.3	55	0.7
TYR	2.1	0.4	0.5	53	0.3	0	0.0	52	0.2
VAL	4.1	0.3	0.9	54	0.5	5	0.0	55	0.5
ALA	5.2	0.7	1.2	54	0.6	18	0.2	57	0.7
ASP	7.6	0.7	1.7	53	0.9	14	0.2	53	0.9
GLU	13.9	1.9	3.2	52	1.7	20	0.6	51	1.6
GLY	3.7	0.6	0.8	53	0.4	-	-0.3	52	0.4
PRO	3.9	0.7	0.9	51	0.5	-	-0.5	53	0.5
SER	3.6	0.4	0.8	52	0.4	-	-0.1	49	0.4
Sum AA	73.9		17	-	9	-	1	-	9

Fatty acids

	% FA	g/kg
CFAT(h)		4.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Tapioca, dried-STAw 680 - 730 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 26 g/kg DM.

Tapioca, dried-STAew > 730 g/kg 4008.611/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	-	-	-	-	-	-	-	-		
sd	-	-	-	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	1000	1000	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	-	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	-	DCCP	-	
DCCFAT	-	DCCFATh	-	DCCFAT	-	
DCCF	-	DCCF	-	DCCF	-	
DCNFE	-	DCNFE	-	DCNFE	-	
DCOM	-	DCOM	-			
		DCNSPh				
		DCiSTA				
DVE	1991	2007	Broilers	Horses		
%RUP	-	-	DCCP	-	DCCP	-
%DRUP	-	-	DCCFATh	-	DCOM	-
%RUSTA	-	-	DC(S+S)	-		
%DASH	-	-	DCNFEh	-		
DASHmax	-	-	DCPpo	-		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	-	NE2015	-	MEpo	-
VEVI	-	NE2015	-	MEpo	-
FOM-91	-	EW2015	-	MEla	-
FOMr-07	-	StaDP	-	MEla	-
FOMr2-07	-	AppDP	-	DPpo	-
FOMr2/FOMr	-				
DVE-91	-				
DVE-07	-				
OEB-91	-				
OEB-07	-				
OEB2-07	-				
DVMET-91	-				
DVLYS-91	-				
DVMET-07	-				
DVLYS-07	-				
SW	-				
VW	-				

Tapioca, dried-STAew > 730 g/kg 4008.611/4/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	56	-
MET	-	-	-	-	-	-	-	58	-
CYS	-	-	-	-	-	-	-	50	-
THR	-	-	-	-	-	-	-	52	-
TRP	-	-	-	-	-	-	-	51	-
ILE	-	-	-	-	-	-	-	55	-
ARG	-	-	-	-	-	-	-	51	-
PHE	-	-	-	-	-	-	-	55	-
HIS	-	-	-	-	-	-	-	50	-
LEU	-	-	-	-	-	-	-	55	-
TYR	-	-	-	-	-	-	-	52	-
VAL	-	-	-	-	-	-	-	55	-
ALA	-	-	-	-	-	-	-	57	-
ASP	-	-	-	-	-	-	-	53	-
GLU	-	-	-	-	-	-	-	51	-
GLY	-	-	-	-	-	-	-	52	-
PRO	-	-	-	-	-	-	-	53	-
SER	-	-	-	-	-	-	-	49	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		0.0	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-			

Remarks

Tapioca, dried-STAew > 730 g/kg:

1. This product may be contaminated with sand / soil; this is the case when the ASH content is higher than approximately 26 g/kg DM.

Triticale 1012.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	870	17	107	13	18	22	711	705		
sd	20	1	9	2	-	3	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	589	540	-	31	104	32	10	163	58	
sd	17	-	-	5	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	3.4	2.2	1.2	4.8	0.1	0.5	0.1	1.0
sd	-	0.3	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	46	32	40	5	0.4	0.0	-
sd	20	3	12	1	-	-	-

IP/P	65	SUGe/SUG	75	EB (meq/kg)	112
		CF_DI	0.96	CAD (meq/kg)	41

Digestibility coefficients (%)

Ruminants

DCCP	73	
DCCFAT	70	
DCCF	30	
DCNFE	94	
DCOM	89	
DVE	1991	2007
%RUP	21	23
%DRUP	88	88
%RUSTA	10	9
%DASH	65	65
DASHmax	18	18

Pigs

DCCP	81
DCCFATh	59
DCCF	17
DCNFE	95
DCOM	91
DCNSPh	68
DCiSTA	100
StaDCP	30
AppDCP	25

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
Broilers	
DCCP	82
DCCFATh	24
DC(S+S)	93
DCNFEh	75
DCPpo	-

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
Horses	
DCCP	78
DCOM	88

Nutritional value (in product)

Ruminants

VEM	1035 /kg
VEVI	1146 /kg
FOM-91	669 g/kg
FOMr-07	704 g/kg
FOMr2-07	482 g/kg
FOMr2/FOMr	0.68 /kg
DVE-91	79 g/kg
DVE-07	99 g/kg
OEB-91	-19 g/kg
OEB-07	-51 g/kg
OEB2-07	-47 g/kg
DVMET-91	1.9 g/kg
DVLYS-91	5.2 g/kg
DVMET-07	2.4 g/kg
DVLYS-07	6.8 g/kg
SW	-0.15 /kg
VW	0.25 /kg

Pigs

NE2015	10.44 MJ/kg
NE2015	2494 kcal/kg
EW2015	1.19 /kg
StaDP	1.0 g/kg
AppDP	0.9 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-
Broilers	
MEbr	10.93 MJ/kg
MEbr	2612 kcal/kg
DPpo	-

Rabbits

MErab	-
MErab	-
Horses	
NEm	9.45 MJ/kg
NEm	2258 kcal/kg
EWpa	1.06 /kg
DCPho	83 g/kg

Triticale 1012.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			107	85	-	75	81	-	-
LYS	3.3	0.3	3.5	83	2.9	73	2.6	82	2.9
MET	1.7	0.1	1.8	89	1.6	84	1.5	91	1.7
CYS	2.3	0.1	2.5	90	2.2	82	2.0	75	1.8
THR	3.1	0.2	3.3	78	2.6	62	2.1	79	2.6
TRP	1.1	0.1	1.2	80	0.9	70	0.8	80	0.9
ILE	3.4	0.1	3.6	88	3.2	79	2.9	83	3.0
ARG	5.0	0.3	5.3	87	4.6	81	4.3	80	4.3
PHE	4.5	0.3	4.8	87	4.2	81	3.9	87	4.2
HIS	2.3	0.1	2.5	86	2.1	80	2.0	79	1.9
LEU	6.5	0.1	6.9	87	6.1	81	5.6	85	5.9
TYR	2.8	0.2	3.0	86	2.6	78	2.3	82	2.4
VAL	4.6	0.3	4.9	88	4.3	79	3.9	85	4.2
ALA	4.0	0.2	4.3	83	3.6	73	3.1	80	3.4
ASP	6.1	0.4	6.5	83	5.4	73	4.8	77	5.0
GLU	25.3	1.8	27.0	93	25.1	89	24.1	93	25.1
GLY	4.2	0.2	4.5	81	3.6	64	2.9	79	3.5
PRO	9.4	0.7	10.0	93	9.3	83	8.3	89	8.9
SER	4.5	0.2	4.8	88	4.2	76	3.7	84	4.0
Sum AA	94.1		100	-	89	-	81	-	86

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		13.1	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-	NH3	-	
% FA in CFAT-fraction					

Remarks

Triticale:

1. The STaDCP of triticale including endogenous phytase activity is 50%.

Vinasse, beet-CP < 240 g/kg 4004.306/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	663	174	214	-	-	1	274	274		
sd	-	11	11	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	37	2	1	-	240	238	
sd	-	-	-	12	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.1	0.9	0.0	1.0	70.2	16.3	10.0	5.8	1.1
sd	1.3	0.4	-	0.5	12.3	4.8	3.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	233	50	41	8	-	-	-
sd	37	15	29	2	-	-	-

IP/P	5	SUGe/SUG	10	EB (meq/kg)	2225
		CF_DI	0.96	CAD (meq/kg)	1793

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	85		DCCP	40	DCCP	-
DCCFAT	-		DCCFATh	-	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	-
DCNFE	94		DCNFE	96	DCPpo	-
DCOM	90		DCOM	71		
			DCNSPh	95	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	85
%RUP	5	5	StaDCP	65	DCCFATh	71
%DRUP	-	0	AppDCP	50	DC(S+S)	
%RUSTA	-	-			DCNFEh	
%DASH	65	65			DCPpo	
DASHmax	129	129				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	588 /kg	NE2015	3.57 MJ/kg	MEpo	-	
VEVI	636 /kg	NE2015	853 kcal/kg	MEpo	-	
FOM-91	428 g/kg	EW2015	0.41 /kg	MEla	-	
FOMr-07	450 g/kg	StaDP	0.6 g/kg	MEla	-	
FOMr2-07	394 g/kg	AppDP	0.4 g/kg	DPpo	-	
FOMr2/FOMr	0.88 /kg					
DVE-91	33 g/kg			Horses		
DVE-07	28 g/kg			MEbr	4.12 MJ/kg	
OEB-91	138 g/kg			MEbr	985 kcal/kg	
OEB-07	145 g/kg			DPpo	0.46 /kg	
OEB2-07	151 g/kg				DCPho	182 g/kg
DVMET-91	0.9 g/kg					
DVLYS-91	2.7 g/kg					
DVMET-07	0.8 g/kg					
DVLYS-07	2.3 g/kg					
SW	0.17 /kg					
VW	0.19 /kg					

Vinasse, beet-CP < 240 g/kg 4004.306/1/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			214	95	-	91	195	-	-
LYS	0.8	-	1.7	95	1.6	79	1.4	-	-
MET	2.0	-	4.3	95	4.1	93	4.0	-	-
CYS	0.4	-	0.9	95	0.8	79	0.7	-	-
THR	0.9	-	1.9	94	1.8	74	1.4	-	-
TRP	0.4	-	0.9	95	0.8	84	0.7	-	-
ILE	1.2	-	2.6	95	2.4	85	2.2	-	-
ARG	0.4	-	0.9	94	0.8	64	0.5	-	-
PHE	0.7	-	1.5	94	1.4	80	1.2	-	-
HIS	0.6	-	1.3	94	1.2	85	1.1	-	-
LEU	1.5	-	3.2	95	3.0	85	2.7	-	-
TYR	0.9	-	1.9	95	1.8	85	1.6	-	-
VAL	1.3	-	2.8	95	2.6	82	2.3	-	-
ALA	2.1	-	4.5	95	4.3	88	3.9	-	-
ASP	3.8	-	8.1	95	7.7	88	7.2	-	-
GLU	26.0	-	55.6	95	52.7	93	52.0	-	-
GLY	1.7	-	3.6	95	3.4	78	2.8	-	-
PRO	1.5	-	3.2	94	3.0	71	2.3	-	-
SER	1.4	-	3.0	94	2.8	80	2.4	-	-
Sum AA	47.6		102	-	96	-	90	-	-

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		0.0	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-	NH3		

Remarks

Vinasse, beet-CP < 240 g/kg:

1. The CP fraction contains a substantial amount of NPN that yields no energy. For the NE2015 calculation the DCCP is therefore set at 40%.

2. The S-i content of this product is variable; for a correct calculation of the CAD value of a batch the S-i content should be analysed.

Vinasse, beet-CP > 240 g/kg 4004.306/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	695	139	283	2	-	-	272	274	
sd	23	17	22	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	34	2	-	-	239	237
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.0	1.8	0.1	0.8	47.6	20.9	23.5	6.7	1.5
sd	1.0	0.4	-	0.4	12.2	2.6	5.5	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	281	67	15	8	-	-	-
sd	44	12	6	2	-	-	-

IP/P	5	SUGe/SUG	10	EB (meq/kg)	1466
		CF_DI	0.96	CAD (meq/kg)	950

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	87		DCCP	40	DCCP	-	
DCCFAT	-		DCCFATh	0	DCCFAT	-	
DCCF	-		DCCF	-	DCNFE	-	
DCNFE	94		DCNFE	96	DCPpo	-	
DCOM	90		DCOM	67			
			DCNSPh	95			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	5	5	StaDCP	65	DCCP	DCCP	87
%DRUP	-	0	AppDCP	57	DCCFATh	DCOM	67
%RUSTA	-	-			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	104	104			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	671 /kg	NE2015	3.88 MJ/kg	MEpo	-	
VEVI	721 /kg	NE2015	927 kcal/kg	MEpo	-	
FOM-91	484 g/kg	EW2015	0.44 /kg	MEIa	-	
FOMr-07	512 g/kg	StaDP	1.2 g/kg	MEIa	-	
FOMr2-07	455 g/kg	AppDP	1.0 g/kg	DPpo	-	
FOMr2/FOMr	0.89 /kg					
DVE-91	38 g/kg			Broilers	Horses	
DVE-07	32 g/kg			MEbr	NEm	4.42 MJ/kg
OEB-91	194 g/kg			MEbr	NEm	1056 kcal/kg
OEB-07	205 g/kg			DPpo	EWpa	0.49 /kg
OEB2-07	209 g/kg				DCPho	246 g/kg
DVMET-91	1.0 g/kg					
DVLYS-91	3.1 g/kg					
DVMET-07	0.9 g/kg					
DVLYS-07	2.7 g/kg					
SW	0.18 /kg					
VW	0.20 /kg					

Vinasse, beet-CP > 240 g/kg 4004.306/2/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sd	g/kg	standardized		apparent		DC	g/kg	
CP			283	95	-	92	260	-	-	
LYS	0.8	-	2.3	95	2.1	83	1.9	-	-	
MET	2.0	-	5.7	95	5.4	94	5.3	-	-	
CYS	0.4	-	1.1	95	1.1	82	0.9	-	-	
THR	0.9	-	2.5	94	2.4	78	2.0	-	-	
TRP	0.4	-	1.1	95	1.1	86	1.0	-	-	
ILE	1.2	-	3.4	95	3.2	87	3.0	-	-	
ARG	0.4	-	1.1	94	1.1	70	0.8	-	-	
PHE	0.7	-	2.0	94	1.9	83	1.6	-	-	
HIS	0.6	-	1.7	95	1.6	87	1.5	-	-	
LEU	1.5	-	4.2	95	4.0	87	3.7	-	-	
TYR	0.9	-	2.5	95	2.4	87	2.2	-	-	
VAL	1.3	-	3.7	95	3.5	85	3.1	-	-	
ALA	2.1	-	5.9	95	5.6	89	5.3	-	-	
ASP	3.8	-	10.7	95	10.2	90	9.6	-	-	
GLU	26.0	-	73.5	95	69.8	94	68.9	-	-	
GLY	1.7	-	4.8	95	4.6	82	3.9	-	-	
PRO	1.5	-	4.2	94	4.0	76	3.2	-	-	
SER	1.4	-	4.0	94	3.7	83	3.3	-	-	
Sum AA	47.6		135	-	128	-	121	-	-	

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sd
CFAT(h)		2.1	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-			

Remarks

Vinasse, beet-CP > 240 g/kg:

1. The CP fraction contains a substantial amount of NPN that yields no energy. For the NE2015 calculation the DCCP is therefore set at 40%.

2. The S-i content of this product is variable; for a correct calculation of the CAD value of a batch the S-i content should be analysed.

Wheat 1010.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	859	14	110	14	18	23	698	694		
sd	8	1	8	1	-	2	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	607	590	-	27	97	35	7	105	8	
sd	19	-	-	3	10	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	2.9	1.9	1.1	3.8	0.1	0.6	0.1	1.0
sd	0.1	0.3	-	0.2	0.5	0.0	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	78	30	30	3	0.7	0.0	18.0
sd	46	9	11	1	0.2	-	40.1

IP/P	65	SUGe/SUG	60	EB (meq/kg)	86
		CF_DI	0.95	CAD (meq/kg)	16

Digestibility coefficients (%)

Ruminants

DCCP	75
DCCFAT	69
DCCF	30
DCNFE	94
DCOM	89

DVE	1991	2007
%RUP	23	24
%DRUP	91	91
%RUSTA	10	9
%DASH	65	65
DASHmax	16	16

Pigs

DCCP	81
DCCFATh	59
DCCF	17
DCNFE	95
DCOM	90
DCNSPh	48
DCiSTA	100
StaDCP	30
AppDCP	24

Roosters/Laying hens

DCCP	81
DCCFAT	60
DCNFE	90
DCPpo	38
DCCP	85
DCCFATh	54
DC(S+S)	98
DCNFEh	87
DCPpo	38

Rabbits

DCCP	77
DCCFAT	87
DCCF	20
DCNFE	89
DCCP	81
DCOM	88

Horses

Nutritional value (in product)

Ruminants

VEM	1023 /kg
VEVI	1131 /kg
FOM-91	652 g/kg
FOMr-07	692 g/kg
FOMr2-07	490 g/kg
FOMr2/FOMr	0.71 /kg
DVE-91	80 g/kg
DVE-07	100 g/kg
OEB-91	-16 g/kg
OEB-07	-47 g/kg
OEB2-07	-50 g/kg
DVMET-91	1.9 g/kg
DVLYS-91	5.1 g/kg
DVMET-07	2.4 g/kg
DVLYS-07	6.7 g/kg
SW	-0.18 /kg
VW	0.25 /kg

Pigs

NE2015	10.56 MJ/kg
NE2015	2524 kcal/kg
EW2015	1.20 /kg
StaDP	0.9 g/kg
AppDP	0.7 g/kg

Roosters/Laying hens

MEpo	12.82 MJ/kg
MEpo	3064 kcal/kg
MEla	12.87 MJ/kg
MEla	3075 kcal/kg
DPpo	1.1 g/kg

Broilers

MEbr	12.46 MJ/kg
MEbr	2978 kcal/kg
DPpo	1.1 g/kg

Rabbits

MErab	12.77 MJ/kg
MErab	3053 kcal/kg
NEm	9.46 MJ/kg
NEm	2261 kcal/kg
EWpa	1.06 /kg
DCPho	89 g/kg

Wheat 1010.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			110	89	-	80	87	-	-
LYS	2.8	0.2	3.1	84	2.6	73	2.2	82	2.5
MET	1.6	0.1	1.8	90	1.6	84	1.5	89	1.6
CYS	2.2	0.2	2.4	90	2.2	82	2.0	85	2.1
THR	2.9	0.2	3.2	86	2.7	70	2.2	82	2.6
TRP	1.2	0.1	1.3	88	1.2	78	1.0	87	1.1
ILE	3.4	0.2	3.7	90	3.4	82	3.1	89	3.3
ARG	4.7	0.3	5.2	90	4.7	84	4.3	83	4.3
PHE	4.5	0.3	4.9	90	4.5	85	4.2	90	4.4
HIS	2.3	0.2	2.5	90	2.3	84	2.1	83	2.1
LEU	6.6	0.2	7.2	90	6.5	84	6.1	89	6.4
TYR	2.8	0.3	3.1	91	2.8	83	2.6	85	2.6
VAL	4.3	0.3	4.7	88	4.2	79	3.7	87	4.1
ALA	3.7	0.3	4.1	83	3.4	73	3.0	82	3.3
ASP	5.3	0.4	5.8	83	4.8	72	4.2	82	4.8
GLU	28.3	2.5	31.1	96	29.8	93	28.8	95	29.5
GLY	4.0	0.2	4.4	87	3.8	70	3.1	84	3.7
PRO	9.7	0.8	10.6	96	10.2	87	9.2	94	10.0
SER	4.6	0.2	5.0	92	4.6	81	4.1	88	4.4
Sum AA	94.9		104	-	95	-	87	-	93

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		14.1	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.1	0.0	ETH	-	-
C16:0	19.0	1.9	PR	-	-
C16:1	1.0	0.1	BU	-	-
C18:0	1.0	0.1	Glycerol	-	-
C18:1	15.0	1.5			
C:18:2	57.0	5.6			
C18:3	5.0	0.5	NH3	-	
>=C20	1.0	0.1			
Sum FA	99.1	9.8			
% FA in CFAT-fraction		70			

Remarks

Wheat:

1. The STaDCP of wheat including endogenous phytase activity is 52%.

Wheat bran 1010.108/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	870	48	155	33	40	106	529	522		
sd	9	5	8	4	-	4	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	165	136	-	58	443	133	31	443	0	
sd	16	-	-	6	-	-	-	-	-	

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.4	9.8	8.3	3.2	12.3	0.2	1.3	0.1	1.4
sd	-	1.1	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	157	107	80	18	0.6	-	0.1
sd	-	-	-	-	-	-	-

IP/P	83	SUGe/SUG	70	EB (meq/kg)	285
		CF_DI	0.96	CAD (meq/kg)	192

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	77		DCCP	64	DCCP	77
DCCFAT	78		DCCFATh	39	DCCFAT	75
DCCF	30		DCCF	17	DCNFE	41
DCNFE	74		DCNFE	64	DCPpo	27
DCOM	69		DCOM	57		
			DCNSPh	37	Broilers	
DVE	1991	2007	DCiSTA	100	DCCP	71
%RUP	21	23	StaDCP	18	DCCFATh	38
%DRUP	77	77	AppDCP	16	DC(S+S)	91
%RUSTA	11	13			DCNFEh	33
%DASH	65	65			DCPpo	27
DASHmax	40	40				
					Horses	
					DCCP	78
					DCOM	59

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	763 /kg	NE2015	5.89 MJ/kg	MEpo	6.49 MJ/kg	MErab	9.43 MJ/kg
VEVI	777 /kg	NE2015	1408 kcal/kg	MEpo	1550 kcal/kg	MErab	2253 kcal/kg
FOM-91	487 g/kg	EW2015	0.67 /kg	MEla	6.57 MJ/kg		
FOMr-07	477 g/kg	StaDP	1.8 g/kg	MEla	1571 kcal/kg		
FOMr2-07	234 g/kg	AppDP	1.6 g/kg	DPpo	2.6 g/kg		
FOMr2/FOMr	0.49 /kg						
DVE-91	54 g/kg			Broilers		Horses	
DVE-07	53 g/kg			MEbr	5.60 MJ/kg	NEm	6.03 MJ/kg
OEB-91	46 g/kg			MEbr	1339 kcal/kg	NEm	1441 kcal/kg
OEB-07	47 g/kg			DPpo	2.6 g/kg	EWpa	0.68 /kg
OEB2-07	40 g/kg					DCPho	121 g/kg
DVMET-91	1.3 g/kg						
DVLYS-91	3.5 g/kg						
DVMET-07	1.3 g/kg						
DVLYS-07	3.5 g/kg						
SW	0.23 /kg						
VW	0.27 /kg						

Wheat bran 1010.108/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			155	68	-	61	95	-	-
LYS	4.0	0.3	6.2	68	4.2	63	3.9	75	4.6
MET	1.6	0.1	2.5	73	1.8	70	1.7	79	2.0
CYS	2.1	0.1	3.2	72	2.3	66	2.1	73	2.4
THR	3.3	0.2	5.1	60	3.1	50	2.5	69	3.5
TRP	1.4	0.1	2.2	75	1.6	69	1.5	74	1.6
ILE	3.2	0.2	5.0	67	3.3	60	3.0	77	3.8
ARG	6.7	0.5	10.4	87	9.0	83	8.7	78	8.1
PHE	4.0	0.3	6.2	60	3.7	55	3.4	76	4.7
HIS	2.7	0.2	4.2	79	3.3	75	3.1	72	3.0
LEU	6.2	0.3	9.6	70	6.7	65	6.3	76	7.3
TYR	2.9	0.3	4.5	68	3.1	63	2.8	69	3.1
VAL	4.7	0.3	7.3	65	4.8	59	4.3	73	5.3
ALA	4.7	0.4	7.3	58	4.2	52	3.8	73	5.3
ASP	7.1	0.5	11.0	66	7.2	60	6.6	74	8.1
GLU	19.4	2.2	30.0	83	25.0	80	24.0	85	25.5
GLY	5.1	0.4	7.9	67	5.3	57	4.5	69	5.4
PRO	6.5	0.8	10.1	86	8.7	77	7.7	74	7.4
SER	4.4	0.3	6.8	72	4.9	64	4.4	72	4.9
Sum AA	90.0		139	-	102	-	94	-	106

Fatty acids

	% FA	g/kg
CFAT(h)		33.2
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.1	0.0
C16:0	19.0	4.4
C16:1	1.0	0.2
C18:0	1.0	0.2
C18:1	15.0	3.5
C:18:2	57.0	13.3
C18:3	5.0	1.2
>=C20	1.0	0.2
Sum FA	99.1	23.1
% FA in CFAT-fraction		70

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Wheat bran:

1. The STaDCP of wheat bran including endogenous phytase activity is 25%.

Wheat feed flour-CF < 35 g/kg 1010.103/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	866	23	154	35	41	24	631	625	
sd	10	5	12	5	-	10	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	472	419	-	46	94	21	3	191	97
sd	77	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.6	4.7	4.0	1.5	5.9	0.1	0.9	0.1	1.4
sd	-	0.7	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	48	69	36	5	0.4	0.1	0.1
sd	12	-	7	2	-	-	-

IP/P	62	SUGe/SUG	70	EB (meq/kg)	130
		CF_DI	0.96	CAD (meq/kg)	38

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	82		DCCP	82	DCCP	77	
DCCFAT	78		DCCFATh	75	DCCFAT	75	
DCCF	30		DCCF	17	DCNFE	20	
DCNFE	93		DCNFE	93	DCPpo	90	
DCOM	89		DCOM	88			
			DCNSPh	67			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	21	23	StaDCP	24	DCCP	84	
%DRUP	80	80	AppDCP	20	DCCFATh	DCOM	88
%RUSTA	10	9			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	22	22			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1054 /kg	NE2015	10.24 MJ/kg	MErab	13.03 MJ/kg	
VEVI	1162 /kg	NE2015	2448 kcal/kg	MEpo	2987 kcal/kg	
FOM-91	636 g/kg	EW2015	1.16 /kg	MEla	12.66 MJ/kg	
FOMr-07	649 g/kg	StaDP	1.1 g/kg	MEla	3026 kcal/kg	
FOMr2-07	449 g/kg	AppDP	1.0 g/kg	DPpo	1.3 g/kg	
FOMr2/FOMr	0.69 /kg					
DVE-91	82 g/kg			Broilers	Horses	
DVE-07	93 g/kg			MEbr	11.07 MJ/kg	
OEB-91	23 g/kg			MEbr	2647 kcal/kg	
OEB-07	4 g/kg			DPpo	1.3 g/kg	
OEB2-07	-3 g/kg				EWpa	1.07 /kg
DVMET-91	1.9 g/kg				DCPho	129 g/kg
DVLYS-91	5.4 g/kg					
DVMET-07	2.2 g/kg					
DVLYS-07	6.3 g/kg					
SW	-0.07 /kg					
VW	0.25 /kg					

Wheat feed flour-CF < 35 g/kg 1010.103/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			154	91	-	84	130	-	-
LYS	4.0	0.3	6.1	89	5.5	83	5.1	82	5.0
MET	1.6	0.1	2.5	92	2.3	88	2.2	88	2.2
CYS	2.1	0.1	3.2	89	2.9	83	2.7	84	2.7
THR	3.3	0.2	5.1	89	4.5	79	4.0	82	4.2
TRP	1.4	0.1	2.2	90	1.9	84	1.8	86	1.9
ILE	3.2	0.2	4.9	93	4.6	86	4.2	89	4.4
ARG	6.7	0.5	10.3	93	9.6	90	9.2	84	8.7
PHE	4.0	0.3	6.1	91	5.6	86	5.3	89	5.5
HIS	2.7	0.2	4.2	92	3.8	88	3.7	84	3.5
LEU	6.2	0.3	9.5	92	8.7	88	8.3	88	8.4
TYR	2.9	0.3	4.5	94	4.2	88	3.9	84	3.7
VAL	4.7	0.3	7.2	91	6.6	85	6.1	86	6.2
ALA	4.7	0.4	7.2	89	6.4	83	6.0	81	5.9
ASP	7.1	0.5	10.9	89	9.7	82	9.0	81	8.8
GLU	19.4	2.2	29.8	96	28.5	92	27.5	95	28.3
GLY	5.1	0.4	7.8	90	7.0	80	6.3	84	6.6
PRO	6.5	0.8	10.0	94	9.4	84	8.4	94	9.4
SER	4.4	0.3	6.8	94	6.3	85	5.8	88	6.0
Sum AA	90.0		138	-	127	-	120	-	121

Fatty acids

	% FA	g/kg
CFAT(h)		34.9
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.1	0.0
C16:0	19.0	4.6
C16:1	1.0	0.2
C18:0	1.0	0.2
C18:1	15.0	3.7
C:18:2	57.0	13.9
C18:3	5.0	1.2
>=C20	1.0	0.2
Sum FA	99.1	24.2
% FA in CFAT-fraction		70

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Wheat feed flour-CF < 35 g/kg:

1. The STaDCP of wheat feed flour including endogenous phytase activity is 50%.

Wheat feed flour-CF > 35 g/kg 1010.103/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	867	29	155	38	44	44	601	595	
sd	9	4	9	4	-	5	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	369	325	-	65	205	61	13	258	53
sd	40	-	-	15	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	6.6	5.6	2.5	9.9	0.1	0.8	0.1	1.4
sd	-	1.1	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	130	91	79	10	-	-	0.1
sd	-	-	-	-	-	-	-

IP/P	73	SUGe/SUG	70	EB (meq/kg)	235
		CF_DI	0.96	CAD (meq/kg)	142

Digestibility coefficients (%)

Ruminants

DCCP	80	
DCCFAT	79	
DCCF	30	
DCNFE	89	
DCOM	84	
DVE	1991	2007
%RUP	21	23
%DRUP	80	80
%RUSTA	10	9
%DASH	65	65
DASHmax	27	27

Pigs

DCCP	78
DCCFATh	69
DCCF	17
DCNFE	87
DCOM	81
DCNSPh	55
DCiSTA	100
StaDCP	23
AppDCP	20

Roosters/Laying hens

DCCP	82
DCCFAT	80
DCNFE	77
DCPpo	27
Broilers	
DCCP	87
DCCFATh	54
DC(S+S)	98
DCNFEh	63
DCPpo	27

Rabbits

DCCP	77
DCCFAT	75
DCCF	20
DCNFE	90
Horses	
DCCP	84
DCOM	81

Nutritional value (in product)

Ruminants

VEM	985 /kg
VEVI	1069 /kg
FOM-91	598 g/kg
FOMr-07	601 g/kg
FOMr2-07	392 g/kg
FOMr2/FOMr	0.65 /kg
DVE-91	75 g/kg
DVE-07	83 g/kg
OEB-91	29 g/kg
OEB-07	16 g/kg
OEB2-07	8 g/kg
DVMET-91	1.7 g/kg
DVLYS-91	4.9 g/kg
DVMET-07	1.9 g/kg
DVLYS-07	5.5 g/kg
SW	0.00 /kg
VW	0.25 /kg

Pigs

NE2015	9.19 MJ/kg
NE2015	2197 kcal/kg
EW2015	1.04 /kg
StaDP	1.5 g/kg
AppDP	1.3 g/kg

Roosters/Laying hens

MEpo	11.03 MJ/kg
MEpo	2637 kcal/kg
MEla	11.21 MJ/kg
MEla	2679 kcal/kg
DPpo	1.8 g/kg
Broilers	
MEbr	9.86 MJ/kg
MEbr	2357 kcal/kg
DPpo	1.8 g/kg

Rabbits

MErab	12.73 MJ/kg
MErab	3043 kcal/kg
Horses	
NEm	8.66 MJ/kg
NEm	2069 kcal/kg
EWpa	0.97 /kg
DCPho	130 g/kg

Wheat feed flour-CF > 35 g/kg 1010.103/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			155	85	-	78	121	-	-
LYS	4.0	0.3	6.2	84	5.2	78	4.8	80	4.9
MET	1.6	0.1	2.5	87	2.2	83	2.1	86	2.1
CYS	2.1	0.1	3.2	84	2.7	78	2.5	81	2.6
THR	3.3	0.2	5.1	82	4.2	72	3.7	79	4.0
TRP	1.4	0.1	2.2	86	1.9	80	1.7	83	1.8
ILE	3.2	0.2	4.9	87	4.3	80	4.0	86	4.3
ARG	6.7	0.5	10.4	91	9.4	88	9.1	82	8.5
PHE	4.0	0.3	6.2	85	5.2	80	5.0	86	5.3
HIS	2.7	0.2	4.2	89	3.7	85	3.6	81	3.4
LEU	6.2	0.3	9.6	87	8.3	83	7.9	85	8.1
TYR	2.9	0.3	4.5	88	3.9	82	3.7	81	3.6
VAL	4.7	0.3	7.3	86	6.2	80	5.8	83	6.0
ALA	4.7	0.4	7.3	82	5.9	76	5.5	79	5.7
ASP	7.1	0.5	11.0	84	9.2	78	8.5	79	8.7
GLU	19.4	2.2	30.0	93	27.8	89	26.8	92	27.6
GLY	5.1	0.4	7.9	84	6.6	74	5.8	81	6.4
PRO	6.5	0.8	10.0	92	9.2	82	8.3	89	8.9
SER	4.4	0.3	6.8	89	6.0	80	5.5	84	5.7
Sum AA	90.0		139	-	122	-	114	-	118

Fatty acids			Fermentation products		
	% FA	g/kg		g/kg	sdc
CFAT(h)		38.0	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.1	0.0	ETH	-	-
C16:0	19.0	5.1	PR	-	-
C16:1	1.0	0.3	BU	-	-
C18:0	1.0	0.3	Glycerol	-	-
C18:1	15.0	4.0			
C:18:2	57.0	15.2			
C18:3	5.0	1.3			
>=C20	1.0	0.3			
Sum FA	99.1	26.4	NH3	-	
% FA in CFAT-fraction		70			

Remarks

Wheat feed flour-CF > 35 g/kg:

1. The STaDCP of wheat feed flour including endogenous phytase activity is 50%.

Wheat feed meal 1010.105/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N		AA pigs				AA poultry		
	mean	sdc	g/kg	standardized		apparent		DC	g/kg
				DC	g/kg	DC	g/kg		
CP			153	78	-	71	109	-	-
LYS	4.0	0.3	6.1	77	4.7	71	4.4	78	4.8
MET	1.6	0.1	2.5	82	2.0	78	1.9	83	2.0
CYS	2.1	0.1	3.2	78	2.5	72	2.3	78	2.5
THR	3.3	0.2	5.1	73	3.7	63	3.2	75	3.8
TRP	1.4	0.1	2.1	81	1.7	75	1.6	80	1.7
ILE	3.2	0.2	4.9	79	3.9	72	3.5	82	4.0
ARG	6.7	0.5	10.3	89	9.1	86	8.8	80	8.2
PHE	4.0	0.3	6.1	77	4.7	72	4.4	82	5.0
HIS	2.7	0.2	4.1	84	3.5	80	3.3	77	3.2
LEU	6.2	0.3	9.5	80	7.6	76	7.2	81	7.7
TYR	2.9	0.3	4.5	81	3.6	75	3.3	76	3.4
VAL	4.7	0.3	7.2	78	5.6	71	5.2	79	5.7
ALA	4.7	0.4	7.2	74	5.3	68	4.9	77	5.6
ASP	7.1	0.5	10.9	77	8.4	70	7.7	77	8.4
GLU	19.4	2.2	29.8	89	26.4	85	25.4	89	26.5
GLY	5.1	0.4	7.8	77	6.0	67	5.2	76	5.9
PRO	6.5	0.8	10.0	89	8.8	79	7.9	83	8.3
SER	4.4	0.3	6.8	82	5.5	73	4.9	79	5.3
Sum AA	90.0		138	-	113	-	105	-	112

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sdc
CFAT(h)		33.8	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.1	0.0	ETH	-	-
C16:0	19.0	4.5	PR	-	-
C16:1	1.0	0.2	BU	-	-
C18:0	1.0	0.2	Glycerol	-	-
C18:1	15.0	3.6			
C:18:2	57.0	13.5			
C18:3	5.0	1.2	NH3	-	
>=C20	1.0	0.2			
Sum FA	99.1	23.5			
% FA in CFAT-fraction		70			

Remarks

Wheat feed meal:

1. The STaDCP of wheat feed meal including endogenous phytase activity is 33%.

Wheat germ feed 1010.114/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	866	40	179	46	53	52	550	543	
sd	11	2	4	2	-	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	283	245	-	65	242	72	16	295	53
sd	16	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	9.1	7.7	2.9	10.3	0.1	0.4	0.1	1.6
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	103	86	10	-	-	-
sd	-	-	-	-	-	-	-

IP/P	81	SUGe/SUG	70	EB (meq/kg)	255
		CF_DI	0.96	CAD (meq/kg)	149

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	83		DCCP	79	DCCP	77
DCCFAT	79		DCCFATh	70	DCCFAT	75
DCCF	30		DCCF	17	DCNFE	67
DCNFE	86		DCNFE	83	DCPpo	27
DCOM	82		DCOM	77		
			DCNSPh	53	Broilers	
			DCiSTA	100	DCCP	72
			StaDCP	22	DCCFATh	38
			AppDCP	20	DC(S+S)	91
					DCNFEh	52
					DCPpo	27
					Horses	
					DCCP	80
					DCOM	75

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	958 /kg	NE2015	8.68 MJ/kg	MEpo	10.27 MJ/kg	MErab	11.60 MJ/kg
VEVI	1030 /kg	NE2015	2074 kcal/kg	MEpo	2454 kcal/kg	MErab	2773 kcal/kg
FOM-91	565 g/kg	EW2015	0.99 /kg	MEla	10.47 MJ/kg		
FOMr-07	562 g/kg	StaDP	2.0 g/kg	MEla	2502 kcal/kg		
FOMr2-07	355 g/kg	AppDP	1.8 g/kg	DPpo	2.5 g/kg		
FOMr2/FOMr	0.63 /kg						
DVE-91	75 g/kg			Broilers		Horses	
DVE-07	78 g/kg			MEbr	7.95 MJ/kg	NEm	7.96 MJ/kg
OEB-91	52 g/kg			MEbr	1901 kcal/kg	NEm	1903 kcal/kg
OEB-07	47 g/kg			DPpo	2.5 g/kg	EWpa	0.89 /kg
OEB2-07	30 g/kg					DCPho	143 g/kg
DVMET-91	1.7 g/kg						
DVLYS-91	4.8 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	5.0 g/kg						
SW	0.07 /kg						
VW	0.25 /kg						

Wheat germ feed 1010.114/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			179	83	-	77	138	-	-
LYS	4.0	0.3	7.1	81	5.8	76	5.4	80	5.7
MET	1.6	0.1	2.9	85	2.4	82	2.3	85	2.4
CYS	2.1	0.1	3.7	82	3.1	77	2.9	80	3.0
THR	3.3	0.2	5.9	79	4.6	70	4.1	77	4.5
TRP	1.4	0.1	2.5	84	2.1	79	2.0	82	2.0
ILE	3.2	0.2	5.7	84	4.8	78	4.5	85	4.9
ARG	6.7	0.5	12.0	91	10.9	88	10.5	82	9.8
PHE	4.0	0.3	7.1	82	5.8	78	5.6	85	6.1
HIS	2.7	0.2	4.8	87	4.2	84	4.0	80	3.9
LEU	6.2	0.3	11.1	84	9.3	80	8.9	84	9.3
TYR	2.9	0.3	5.2	86	4.4	81	4.2	79	4.1
VAL	4.7	0.3	8.4	83	7.0	77	6.5	82	6.9
ALA	4.7	0.4	8.4	79	6.6	74	6.2	79	6.6
ASP	7.1	0.5	12.7	81	10.2	75	9.6	79	10.0
GLU	19.4	2.2	34.6	92	31.8	89	30.8	91	31.5
GLY	5.1	0.4	9.1	82	7.4	73	6.7	79	7.2
PRO	6.5	0.8	11.6	91	10.5	82	9.6	87	10.1
SER	4.4	0.3	7.9	87	6.8	80	6.2	82	6.4
Sum AA	90.0		161	-	138	-	130	-	134

Fatty acids

	% FA	g/kg
CFAT(h)		45.8
<=C10	-	0.0
C12:0	-	0.0
C14:0	0.1	0.0
C16:0	19.0	6.1
C16:1	1.0	0.3
C18:0	1.0	0.3
C18:1	15.0	4.8
C:18:2	57.0	18.3
C18:3	5.0	1.6
>=C20	1.0	0.3
Sum FA	99.1	31.8
% FA in CFAT-fraction		70

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Wheat germ feed:

1. The STaDCP of wheat germ feed including endogenous phytase activity is 32%.

Wheat germs 1010.102/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	872	41	264	85	-	35	448	-	
sd	16	-	16	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	229	195	-	109	169	50	11	183	14
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.5	7.9	4.3	2.4	9.4	0.1	0.9	0.1	2.0
sd	-	0.5	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	83	144	134	9	-	-	0.1
sd	-	-	-	-	-	-	-

IP/P	78	SUGe/SUG	70	EB (meq/kg)	220
		CF_DI	0.96	CAD (meq/kg)	93

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	89		DCCP	86	DCCP	-
DCCFAT	93		DCCFATh	83	DCCFAT	-
DCCF	30		DCCF	17	DCNFE	-
DCNFE	88		DCNFE	96	DCPpo	28
DCOM	87		DCOM	88		
			DCNSPh	75	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	21	23	StaDCP	28	DCCFATh	-
%DRUP	80	80	AppDCP	26	DC(S+S)	-
%RUSTA	11	10			DCNFEh	-
%DASH	50	50			DCPpo	28
DASHmax	27	27				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1125 /kg	NE2015	10.55 MJ/kg	MEpo	-	
VEVI	1234 /kg	NE2015	2521 kcal/kg	MEpo	-	
FOM-91	559 g/kg	EW2015	1.20 /kg	MEla	-	
FOMr-07	562 g/kg	StaDP	2.2 g/kg	MEla	-	
FOMr2-07	381 g/kg	AppDP	2.0 g/kg	DPpo	2.2 g/kg	
FOMr2/FOMr	0.68 /kg					
DVE-91	93 g/kg			Horses		
DVE-07	95 g/kg			MEbr	-	
OEB-91	119 g/kg			MEbr	-	
OEB-07	116 g/kg			DPpo	2.2 g/kg	
OEB2-07	69 g/kg				EWpa	-
DVMET-91	2.1 g/kg				DCPho	-
DVLYS-91	6.5 g/kg					
DVMET-07	2.1 g/kg					
DVLYS-07	6.6 g/kg					
SW	0.05 /kg					
VW	0.25 /kg					

Wheat germs 1010.102/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg	standardized		apparent		DC	g/kg
	mean	sd		DC	g/kg	DC	g/kg		
CP			264	85	-	81	214	-	-
LYS	6.0	0.4	15.9	80	12.7	78	12.3	81	12.8
MET	1.7	0.1	4.5	86	3.9	84	3.8	87	3.9
CYS	1.4	0.2	3.7	86	3.2	81	3.0	82	3.0
THR	3.5	0.1	9.2	83	7.7	77	7.1	80	7.4
TRP	1.1	-	2.9	84	2.4	80	2.3	84	2.4
ILE	3.3	0.1	8.7	87	7.6	83	7.3	87	7.6
ARG	7.3	0.2	19.3	87	16.8	85	16.4	83	16.0
PHE	3.4	0.1	9.0	87	7.8	84	7.5	88	7.9
HIS	2.3	0.1	6.1	87	5.3	84	5.1	82	5.0
LEU	6.0	0.2	15.9	86	13.6	83	13.2	87	13.8
TYR	2.7	-	7.1	88	6.3	84	6.0	82	5.8
VAL	4.9	0.2	12.9	85	11.0	81	10.5	85	11.0
ALA	5.6	0.3	14.8	80	11.8	77	11.4	80	11.8
ASP	7.8	0.5	20.6	80	16.5	77	15.8	80	16.5
GLU	14.2	0.7	37.5	93	34.8	90	33.8	94	35.3
GLY	5.4	0.3	14.3	84	12.0	78	11.2	82	11.7
PRO	4.4	0.2	11.6	93	10.8	84	9.8	92	10.7
SER	3.9	0.2	10.3	89	9.1	83	8.6	86	8.9
Sum AA	84.9		224	-	193	-	185	-	192

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sd
CFAT(h)		84.6	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.1	0.1	ETH	-	-
C16:0	19.0	14.5	PR	-	-
C16:1	1.0	0.8	BU	-	-
C18:0	1.0	0.8	Glycerol	-	-
C18:1	15.0	11.4			
C:18:2	57.0	43.4			
C18:3	5.0	3.8			
>=C20	1.0	0.8			
Sum FA	99.1	75.5	NH3	-	-
% FA in CFAT-fraction		90			

Remarks

Wheat germs:

1. The STaDCP of wheat germs including endogenous phytase activity is 45%.

Wheat gluten feed, dried-ASH < 40 g/kg 1010.205/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	887	36	147	27	38	56	621	610	
sd	6	2	4	2	2	3	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	298	289	-	92	262	77	-	287	25
sd	9	-	-	9	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	6.4	4.1	2.7	11.1	1.6	2.1	-	1.3
sd	0.1	0.5	-	0.3	1.3	0.3	0.7	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	118	80	52	9	1.1	0.0	0.0
sd	19	4	6	2	0.2	0.0	0.0

IP/P	65	SUGe/SUG	80	EB (meq/kg)	293
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	69		DCCP	70	DCCP	-
DCCFAT	69		DCCFATh	57	DCCFAT	-
DCCF	30		DCCF	17	DCNFE	-
DCNFE	87		DCNFE	85	DCPpo	-
DCOM	79		DCOM	77		
			DCNSPh	52		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	30	DCCP	-
%RUP	34	41	AppDCP	27	DCCFATh	-
%DRUP	82	82			DC(S+S)	-
%RUSTA	10	8			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	31	31				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	919 /kg	NE2015	8.63 MJ/kg	MEpo	-	
VEVI	978 /kg	NE2015	2064 kcal/kg	MEpo	-	
FOM-91	558 g/kg	EW2015	0.98 /kg	MEla	-	
FOMr-07	554 g/kg	StaDP	1.9 g/kg	MEla	-	
FOMr2-07	371 g/kg	AppDP	1.7 g/kg	DPpo	-	
FOMr2/FOMr	0.67 /kg					
DVE-91	83 g/kg			Broilers	Horses	
DVE-07	94 g/kg			MEbr	-	
OEB-91	8 g/kg			MEbr	-	
OEB-07	-8 g/kg			DPpo	-	
OEB2-07	-25 g/kg				NEm	7.89 MJ/kg
DVMET-91	1.8 g/kg				NEm	1886 kcal/kg
DVLYS-91	4.6 g/kg				EWpa	0.88 /kg
DVMET-07	2.0 g/kg				DCPho	96 g/kg
DVLYS-07	5.3 g/kg					
SW	0.01 /kg					
VW	0.25 /kg					

Wheat gluten feed, dried-ASH < 40 g/kg 1010.205/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			147	78	-	71	105	-	-
LYS	3.1	0.3	4.6	81	3.7	74	3.4	-	-
MET	1.5	0.1	2.2	83	1.8	78	1.7	-	-
CYS	2.1	0.1	3.0	76	2.3	70	2.1	-	-
THR	3.3	0.1	4.8	76	3.7	65	3.2	-	-
TRP	1.3	0.1	1.9	83	1.6	76	1.4	-	-
ILE	3.2	0.1	4.7	78	3.7	71	3.3	-	-
ARG	6.1	0.3	9.0	79	7.0	75	6.7	-	-
PHE	3.9	0.2	5.7	78	4.5	73	4.2	-	-
HIS	2.6	0.1	3.8	78	2.9	74	2.8	-	-
LEU	6.3	0.2	9.3	78	7.3	74	6.9	-	-
TYR	3.0	0.2	4.4	78	3.4	73	3.2	-	-
VAL	4.9	0.3	7.2	78	5.7	72	5.2	-	-
ALA	4.7	0.1	7.0	78	5.5	72	5.0	-	-
ASP	6.8	0.3	9.9	78	7.8	71	7.1	-	-
GLU	19.5	0.9	28.7	78	22.5	75	21.4	-	-
GLY	4.9	0.2	7.3	78	5.7	67	4.9	-	-
PRO	6.4	0.4	9.4	78	7.4	68	6.4	-	-
SER	4.5	0.2	6.6	78	5.2	70	4.6	-	-
Sum AA	88.0		129	-	102	-	93	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		38.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Wheat gluten feed, dried-ASH 40 - 50 g/kg 1010.205/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	898	47	158	34	43	80	579	569	
sd	10	2	5	-	6	6	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	202	196	-	78	354	104	-	378	24
sd	15	-	-	7	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.1	8.7	5.6	2.7	11.2	2.3	2.1	-	1.4
sd	0.1	0.6	-	0.3	1.3	1.0	0.7	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	81	53	9	1.1	0.0	0.0
sd	19	4	6	2	0.2	0.0	0.0

IP/P	65	SUGe/SUG	80	EB (meq/kg)	327
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	70		DCCP	70	DCCP	-	DCCP	-
DCCFAT	70		DCCFATh	59	DCCFAT	-	DCCFAT	-
DCCF	30		DCCF	17	DCNFE	-	DCCF	-
DCNFE	81		DCNFE	77	DCPpo	-	DCNFE	-
DCOM	74		DCOM	69				
			DCNSPh	48	Broilers		Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-	DCCP	65
%RUP	34	41	StaDCP	30	DCCFATh	-	DCOM	73
%DRUP	82	82	AppDCP	28	DC(S+S)	-		
%RUSTA	10	8			DCNFEh	-		
%DASH	65	65			DCPpo	-		
DASHmax	39	39						

Nutritional value (in product)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	852 /kg	NE2015	7.70 MJ/kg	MEpo	-	MErab	-
VEVI	885 /kg	NE2015	1841 kcal/kg	MEpo	-	MErab	-
FOM-91	511 g/kg	EW2015	0.88 /kg	MEla	-		
FOMr-07	492 g/kg	StaDP	2.6 g/kg	MEla	-		
FOMr2-07	292 g/kg	AppDP	2.4 g/kg	DPpo	-		
FOMr2/FOMr	0.59 /kg			Broilers		Horses	
DVE-91	77 g/kg			MEbr	-	NEm	7.84 MJ/kg
DVE-07	84 g/kg			MEbr	-	NEm	1875 kcal/kg
OEB-91	22 g/kg			DPpo	-	EWpa	0.88 /kg
OEB-07	12 g/kg					DCPho	103 g/kg
OEB2-07	-7 g/kg						
DVMET-91	1.7 g/kg						
DVLYS-91	4.1 g/kg						
DVMET-07	1.8 g/kg						
DVLYS-07	4.5 g/kg						
SW	0.12 /kg						
VW	0.27 /kg						

Wheat gluten feed, dried-ASH 40 - 50 g/kg 1010.205/2/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg	DC	g/kg	
CP			158	78	-	72	114	-	-
LYS	3.1	0.3	5.0	81	4.0	74	3.7	-	-
MET	1.5	0.1	2.4	83	2.0	79	1.9	-	-
CYS	2.1	0.1	3.2	76	2.5	70	2.3	-	-
THR	3.3	0.1	5.2	76	3.9	66	3.4	-	-
TRP	1.3	0.1	2.0	83	1.7	77	1.5	-	-
ILE	3.2	0.1	5.0	78	3.9	72	3.6	-	-
ARG	6.1	0.3	9.6	79	7.6	75	7.2	-	-
PHE	3.9	0.2	6.2	78	4.8	74	4.5	-	-
HIS	2.6	0.1	4.0	78	3.2	74	3.0	-	-
LEU	6.3	0.2	10.0	78	7.8	74	7.4	-	-
TYR	3.0	0.2	4.7	78	3.7	73	3.4	-	-
VAL	4.9	0.3	7.8	78	6.1	72	5.6	-	-
ALA	4.7	0.1	7.5	78	5.9	73	5.4	-	-
ASP	6.8	0.3	10.7	78	8.3	72	7.6	-	-
GLU	19.5	0.9	30.8	78	24.1	75	23.1	-	-
GLY	4.9	0.2	7.8	78	6.1	68	5.3	-	-
PRO	6.4	0.4	10.1	78	7.9	68	6.9	-	-
SER	4.5	0.2	7.1	78	5.6	70	5.0	-	-
Sum AA	88.0		139	-	109	-	101	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		43.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat gluten feed, dried-ASH 50 - 60 g/kg 1010.205/3/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	906	53	160	40	47	69	585	577	
sd	9	2	8	6	6	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	190	184	-	106	324	95	-	359	36
sd	14	-	-	26	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.1	10.0	4.0	2.7	11.4	3.1	2.1	-	1.4
sd	0.1	1.0	-	0.3	1.3	1.0	0.7	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	121	81	54	9	1.1	0.0	0.0
sd	19	4	6	2	0.2	0.0	0.0

IP/P	40	SUGe/SUG	80	EB (meq/kg)	367
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	70		DCCP	70	DCCP	-
DCCFAT	71		DCCFATh	59	DCCFAT	-
DCCF	30		DCCF	17	DCNFE	-
DCNFE	84		DCNFE	80	DCPpo	-
DCOM	76		DCOM	72		
			DCNSPh	52	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	65
%RUP	34	41	StaDCP	55	DCCFATh	73
%DRUP	82	82	AppDCP	53	DC(S+S)	-
%RUSTA	10	8			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	44	44				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	891 /kg	NE2015	8.03 MJ/kg	MEpo	-	
VEVI	936 /kg	NE2015	1920 kcal/kg	MEpo	-	
FOM-91	529 g/kg	EW2015	0.91 /kg	MEIa	-	
FOMr-07	508 g/kg	StaDP	5.5 g/kg	MEIa	-	
FOMr2-07	316 g/kg	AppDP	5.3 g/kg	DPpo	-	
FOMr2/FOMr	0.62 /kg					
DVE-91	81 g/kg			Horses		
DVE-07	88 g/kg			MEbr	7.94 MJ/kg	
OEB-91	20 g/kg			MEbr	1897 kcal/kg	
OEB-07	11 g/kg			DPpo	0.89 /kg	
OEB2-07	-10 g/kg				DCPho	104 g/kg
DVMET-91	1.7 g/kg					
DVLYS-91	4.3 g/kg					
DVMET-07	1.9 g/kg					
DVLYS-07	4.7 g/kg					
SW	0.09 /kg					
VW	0.26 /kg					

Wheat gluten feed, dried-ASH 50 - 60 g/kg 1010.205/3/0

Amino acids

	g/16g N		g/kg	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg
				standardized	apparent	DC	g/kg		
			DC	g/kg	DC	g/kg			
CP			160	78	-	72	115	-	-
LYS	3.1	0.3	5.0	81	4.1	74	3.7	-	-
MET	1.5	0.1	2.4	83	2.0	79	1.9	-	-
CYS	2.1	0.1	3.3	76	2.5	70	2.3	-	-
THR	3.3	0.1	5.2	76	4.0	66	3.5	-	-
TRP	1.3	0.1	2.0	83	1.7	77	1.6	-	-
ILE	3.2	0.1	5.1	78	4.0	72	3.7	-	-
ARG	6.1	0.3	9.7	79	7.6	75	7.3	-	-
PHE	3.9	0.2	6.2	78	4.9	74	4.6	-	-
HIS	2.6	0.1	4.1	78	3.2	74	3.0	-	-
LEU	6.3	0.2	10.1	78	7.9	74	7.5	-	-
TYR	3.0	0.2	4.8	78	3.7	73	3.5	-	-
VAL	4.9	0.3	7.8	78	6.2	72	5.7	-	-
ALA	4.7	0.1	7.6	78	5.9	73	5.5	-	-
ASP	6.8	0.3	10.8	78	8.4	72	7.7	-	-
GLU	19.5	0.9	31.2	78	24.4	75	23.4	-	-
GLY	4.9	0.2	7.9	78	6.2	68	5.4	-	-
PRO	6.4	0.4	10.2	78	8.0	68	7.0	-	-
SER	4.5	0.2	7.2	78	5.6	70	5.1	-	-
Sum AA	88.0		141	-	110	-	102	-	-

Fatty acids

	% FA	g/kg
CFAT(h)		47.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat gluten feed, dried-ASH > 60 g/kg 1010.205/4/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	913	66	155	-	52	63	-	576	
sd	8	5	9	-	-	10	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	189	-	126	295	87	-	328	33
sd	-	-	-	21	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.1	10.9	4.4	2.8	11.4	2.5	2.2	-	1.4
sd	0.1	2.6	-	0.3	1.4	1.2	0.7	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	122	82	54	9	1.1	0.0	0.0
sd	20	4	7	2	0.2	0.0	0.0

IP/P	40	SUGe/SUG	80	EB (meq/kg)	340
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	69	
DCCFAT	71	
DCCF	30	
DCNFE	85	
DCOM	77	
DVE	1991	2007
%RUP	34	41
%DRUP	82	82
%RUSTA	10	8
%DASH	65	65
DASHmax	53	53

Pigs

DCCP	70
DCCFATh	60
DCCF	17
DCNFE	82
DCOM	74
DCNSPh	52
DCiSTA	100
StaDCP	55
AppDCP	53

Roosters/Laying hens

DCCP	-
DCCFAT	-
DCNFE	-
DCPpo	-
Broilers	
DCCP	-
DCCFATh	-
DC(S+S)	-
DCNFEh	-
DCPpo	-

Rabbits

DCCP	-
DCCFAT	-
DCCF	-
DCNFE	-
Horses	
DCCP	65
DCOM	73

Nutritional value (in product)

Ruminants

VEM	905 /kg
VEVI	956 /kg
FOM-91	529 g/kg
FOMr-07	517 g/kg
FOMr2-07	335 g/kg
FOMr2/FOMr	0.65 /kg
DVE-91	79 g/kg
DVE-07	87 g/kg
OEB-91	17 g/kg
OEB-07	6 g/kg
OEB2-07	-15 g/kg
DVMET-91	1.7 g/kg
DVLYS-91	4.3 g/kg
DVMET-07	1.9 g/kg
DVLYS-07	4.7 g/kg
SW	0.06 /kg
VW	0.26 /kg

Pigs

NE2015	8.26 MJ/kg
NE2015	1975 kcal/kg
EW2015	0.94 /kg
StaDP	6.0 g/kg
AppDP	5.8 g/kg

Roosters/Laying hens

MEpo	-
MEpo	-
MEla	-
MEla	-
DPpo	-
Broilers	
MEbr	-
MEbr	-
DPpo	-

Rabbits

MErab	-
MErab	-
Horses	
NEm	7.99 MJ/kg
NEm	1910 kcal/kg
EWpa	0.90 /kg
DCPho	101 g/kg

Wheat gluten feed, dried-ASH > 60 g/kg 1010.205/4/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg	standardized		apparent		DC	g/kg
			DC	g/kg	DC	g/kg			
CP			155	78	-	72	111	-	-
LYS	3.1	0.3	4.9	81	4.0	74	3.6	-	-
MET	1.5	0.1	2.3	83	1.9	78	1.8	-	-
CYS	2.1	0.1	3.2	76	2.4	70	2.2	-	-
THR	3.3	0.1	5.1	76	3.9	66	3.3	-	-
TRP	1.3	0.1	2.0	83	1.6	77	1.5	-	-
ILE	3.2	0.1	4.9	78	3.9	72	3.5	-	-
ARG	6.1	0.3	9.5	79	7.4	75	7.1	-	-
PHE	3.9	0.2	6.1	78	4.7	73	4.5	-	-
HIS	2.6	0.1	4.0	78	3.1	74	2.9	-	-
LEU	6.3	0.2	9.8	78	7.7	74	7.3	-	-
TYR	3.0	0.2	4.6	78	3.6	73	3.4	-	-
VAL	4.9	0.3	7.6	78	6.0	72	5.5	-	-
ALA	4.7	0.1	7.4	78	5.8	72	5.3	-	-
ASP	6.8	0.3	10.5	78	8.2	71	7.5	-	-
GLU	19.5	0.9	30.3	78	23.7	75	22.7	-	-
GLY	4.9	0.2	7.7	78	6.0	68	5.2	-	-
PRO	6.4	0.4	9.9	78	7.8	68	6.8	-	-
SER	4.5	0.2	7.0	78	5.5	70	4.9	-	-
Sum AA	88.0		137	-	107	-	99	-	-

Fatty acids	Fermentation products	
	% FA	g/kg
CFAT(h)		52.4
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products	g/kg	
	g/kg	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat gluten meal 1010.204/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	911	9	781	-	56	5	-	60	
sd	26	1	18	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	29	29	-	28	20	5	2	8	-12
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	1.8	0.9	0.3	1.2	1.0	1.0	0.1	7.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	38	-	35	6	-	-	-
sd	-	-	-	-	-	-	-

IP/P	50	SUGe/SUG	80	EB (meq/kg)	46
		CF_DI	0.97	CAD (meq/kg)	-413

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	96		DCCP	94	DCCP	-	
DCCFAT	80		DCCFATh	63	DCCFAT	-	
DCCF	97		DCCF	90	DCNFE	-	
DCNFE	97		DCNFE	98	DCPpo	-	
DCOM	96		DCOM	92			
			DCNSPh	81			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	33	37	StaDCP	50	DCCP	DCCP	95
%DRUP	80	80	AppDCP	40	DCCFATh	DCOM	90
%RUSTA	10	7			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	12	12			DCPpo		

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1284 /kg	NE2015	10.64 MJ/kg	MEpo	-	
VEVI	1381 /kg	NE2015	2542 kcal/kg	MEpo	-	
FOM-91	544 g/kg	EW2015	1.21 /kg	MEIa	-	
FOMr-07	550 g/kg	StaDP	0.9 g/kg	MEIa	-	
FOMr2-07	240 g/kg	AppDP	0.7 g/kg	DPpo	-	
FOMr2/FOMr	0.44 /kg					
DVE-91	278 g/kg			Broilers	Horses	
DVE-07	269 g/kg			MEbr	NEm	10.19 MJ/kg
OEB-91	412 g/kg			MEbr	NEm	2435 kcal/kg
OEB-07	427 g/kg			DPpo	EWpa	1.14 /kg
OEB2-07	164 g/kg				DCPho	742 g/kg
DVMET-91	5.1 g/kg					
DVLYS-91	7.7 g/kg					
DVMET-07	4.8 g/kg					
DVLYS-07	7.1 g/kg					
SW	0.24 /kg					
VW	0.26 /kg					

Wheat gluten meal 1010.204/0/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible	
	mean	sdc	AA pigs				AA poultry	
			standardized		apparent		DC	g/kg
		g/kg	DC	g/kg	DC	g/kg	DC	g/kg
CP		781	100	-	98	768	-	-
LYS	1.7	0.2	13.3	99	13.1	96	12.8	-
MET	1.6	0.1	12.5	99	12.4	98	12.3	-
CYS	2.2	0.1	17.2	99	17.0	98	16.8	-
THR	2.5	0.1	19.5	99	19.3	96	18.8	-
TRP	0.9	-	7.0	99	6.9	97	6.8	-
ILE	3.7	0.3	28.9	100	28.9	99	28.5	-
ARG	3.6	0.2	28.1	100	28.0	99	27.7	-
PHE	5.3	0.3	41.4	98	40.4	97	40.1	-
HIS	2.1	0.1	16.4	100	16.3	99	16.2	-
LEU	7.0	0.2	54.7	99	54.3	99	53.9	-
TYR	3.4	0.2	26.5	99	26.2	98	25.9	-
VAL	4.0	0.2	31.2	100	31.2	98	30.7	-
ALA	2.7	0.2	21.1	99	21.0	97	20.5	-
ASP	3.4	0.2	26.5	99	26.2	96	25.5	-
GLU	34.3	4.0	267.8	100	267.5	99	266.4	-
GLY	3.4	0.1	26.5	100	26.5	97	25.7	-
PRO	12.6	0.7	98.4	100	98.3	99	97.3	-
SER	4.8	0.2	37.5	100	37.5	98	36.9	-
Sum AA	99.2		775	-	771	-	763	-

Fatty acids

	% FA	g/kg
CFAT(h)		56.5
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat middlings 1010.107/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	874	41	154	35	44	85	558	549	
sd	8	7	7	3	4	6	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	218	184	-	63	363	106	26	398	35
sd	30	-	-	8	34	9	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	8.8	7.5	3.8	13.3	0.2	0.9	0.2	1.4
sd	0.2	1.3	-	0.4	1.3	0.1	0.3	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	160	117	86	10	0.7	-	0.1
sd	29	20	10	1	-	-	-

IP/P	81	SUGe/SUG	70	EB (meq/kg)	325
		CF_DI	0.97	CAD (meq/kg)	227

Digestibility coefficients (%)

Ruminants

DCCP	78
DCCFAT	78
DCCF	30
DCNFE	80
DCOM	74

DVE	1991	2007
%RUP	21	23
%DRUP	80	80
%RUSTA	11	10
%DASH	65	65
DASHmax	35	35

Pigs

DCCP	68
DCCFATh	53
DCCF	17
DCNFE	73
DCOM	65
DCNSPh	43
DCiSTA	100
StaDCP	20
AppDCP	18

Roosters/Laying hens

DCCP	77
DCCFAT	64
DCNFE	50
DCPpo	27
DCCP	71
DCCFATh	38
DC(S+S)	91
DCNFEh	41
DCPpo	27

Rabbits

DCCP	77
DCCFAT	75
DCCF	20
DCNFE	70
DCCP	80
DCOM	65

Horses

Nutritional value (in product)

Ruminants

VEM	843 /kg
VEVI	879 /kg
FOM-91	531 g/kg
FOMr-07	529 g/kg
FOMr2-07	302 g/kg
FOMr2/FOMr	0.57 /kg
DVE-91	62 g/kg
DVE-07	65 g/kg
OEB-91	39 g/kg
OEB-07	35 g/kg
OEB2-07	27 g/kg
DVMET-91	1.5 g/kg
DVLYS-91	4.1 g/kg
DVMET-07	1.6 g/kg
DVLYS-07	4.3 g/kg
SW	0.15 /kg
VW	0.26 /kg

Pigs

NE2015	7.06 MJ/kg
NE2015	1686 kcal/kg
EW2015	0.80 /kg
StaDP	1.8 g/kg
AppDP	1.6 g/kg

Roosters/Laying hens

MEpo	8.10 MJ/kg
MEpo	1936 kcal/kg
MEla	8.23 MJ/kg
MEla	1967 kcal/kg
DPpo	2.4 g/kg

Broilers

MEbr	6.52 MJ/kg
MEbr	1557 kcal/kg
DPpo	2.4 g/kg

Rabbits

MErab	10.21 MJ/kg
MErab	2440 kcal/kg
NEm	6.77 MJ/kg
NEm	1617 kcal/kg
EWpa	0.76 /kg
DCPho	123 g/kg

Wheat middlings 1010.107/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg	standardized		apparent		DC	g/kg
	mean	sd		DC	g/kg	DC	g/kg		
CP			154	77	-	70	109	-	-
LYS	4.0	0.3	6.2	78	4.8	73	4.5	77	4.7
MET	1.6	0.1	2.5	82	2.0	78	1.9	81	2.0
CYS	2.1	0.1	3.2	76	2.5	71	2.3	76	2.5
THR	3.3	0.2	5.1	73	3.7	62	3.2	72	3.7
TRP	1.4	0.1	2.2	81	1.8	76	1.6	77	1.7
ILE	3.2	0.2	4.9	79	3.9	72	3.6	80	3.9
ARG	6.7	0.5	10.3	91	9.4	87	9.0	79	8.2
PHE	4.0	0.3	6.2	84	5.2	79	4.9	79	4.9
HIS	2.7	0.2	4.2	84	3.5	80	3.3	75	3.1
LEU	6.2	0.3	9.6	80	7.6	75	7.2	79	7.5
TYR	2.9	0.3	4.5	83	3.7	77	3.5	73	3.3
VAL	4.7	0.3	7.2	81	5.8	74	5.4	76	5.5
ALA	4.7	0.4	7.2	77	5.6	71	5.1	75	5.4
ASP	7.1	0.5	10.9	79	8.6	73	8.0	76	8.3
GLU	19.4	2.2	29.9	90	27.0	87	26.0	87	26.0
GLY	5.1	0.4	7.9	75	5.9	65	5.1	73	5.7
PRO	6.5	0.8	10.0	89	8.9	79	7.9	79	7.9
SER	4.4	0.3	6.8	83	5.6	75	5.1	76	5.2
Sum AA	90.0		139	-	115	-	108	-	109

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sd
CFAT(h)		35.1	FP	-	-
<=C10	-	0.0	LA	-	-
C12:0	-	0.0	AC	-	-
C14:0	0.2	0.0	ETH	-	-
C16:0	19.0	4.7	PR	-	-
C16:1	1.0	0.2	BU	-	-
C18:0	1.0	0.2	Glycerol	-	-
C18:1	15.0	3.7			
C:18:2	57.0	14.0			
C18:3	5.0	1.2	NH3	-	-
>=C20	1.0	0.2			
Sum FA	99.2	24.4			
% FA in CFAT-fraction		70			

Remarks

Wheat middlings:

1. The STaDCP of wheat middlings including endogenous phytase activity is 30%.

Whey powder 8009.000/0/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	976	80	130	-	9	-	-	758	
sd	9	3	6	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	698	-	-	-	95	95
sd	-	-	-	17	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.4	6.2	-	1.2	23.1	6.8	22.8	0.7	1.1
sd	0.6	0.5	-	0.2	2.3	0.6	10.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	9	1	8	2	-	-	-
sd	4	0	8	2	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	246
		CF_DI	0.95	CAD (meq/kg)	136

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	77		DCCP	80	DCCP	-
DCCFAT	62		DCCFATh	34	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	70
DCNFE	97		DCNFE	100	DCPpo	80
DCOM	94		DCOM	96		
			DCNSPh	100		
			DCiSTA	-	Broilers	Horses
DVE	1991	2007	StaDCP	85	DCCP	-
%RUP	21	22	AppDCP	82	DCCFATh	-
%DRUP	90	90			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	80
DASHmax	63	63				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1108 /kg	NE2015	11.13 MJ/kg	MEpo	11.59 MJ/kg	MErab	-
VEVI	1241 /kg	NE2015	2661 kcal/kg	MEpo	2769 kcal/kg	MErab	-
FOM-91	805 g/kg	EW2015	1.27 /kg	MEla	11.63 MJ/kg		
FOMr-07	838 g/kg	StaDP	5.3 g/kg	MEla	2779 kcal/kg		
FOMr2-07	734 g/kg	AppDP	5.1 g/kg	DPpo	5.0 g/kg		
FOMr2/FOMr	0.88 /kg						
DVE-91	98 g/kg			Broilers		Horses	
DVE-07	111 g/kg			MEbr	-	NEm	-
OEB-91	-21 g/kg			MEbr	-	NEm	-
OEB-07	-43 g/kg			DPpo	5.0 g/kg	EWpa	-
OEB2-07	-76 g/kg					DCPho	-
DVMET-91	2.3 g/kg						
DVLYS-91	7.6 g/kg						
DVMET-07	2.6 g/kg						
DVLYS-07	8.7 g/kg						
SW	-0.47 /kg						
VW	0.28 /kg						

Whey powder 8009.000/0/0

Amino acids

Ileal digestible

Standardized ileal digestible

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg	standardized		apparent		DC	g/kg
	mean	sd		DC	g/kg	DC	g/kg		
CP			130	90	-	81	105	-	-
LYS	7.5	0.5	9.7	92	9.0	88	8.6	94	9.2
MET	1.5	0.2	1.9	92	1.8	86	1.7	97	1.9
CYS	1.9	0.2	2.5	92	2.3	84	2.1	86	2.1
THR	5.4	0.8	7.0	90	6.3	82	5.8	88	6.2
TRP	1.4	0.1	1.8	88	1.6	80	1.5	90	1.6
ILE	5.1	0.4	6.6	90	6.0	84	5.6	90	6.0
ARG	2.4	0.3	3.1	90	2.8	78	2.4	89	2.8
PHE	3.3	0.4	4.3	90	3.8	82	3.5	90	3.9
HIS	1.8	0.2	2.3	90	2.1	82	1.9	89	2.1
LEU	8.9	0.4	11.6	90	10.4	86	9.9	90	10.4
TYR	2.4	0.3	3.1	90	2.8	81	2.5	90	2.8
VAL	4.9	0.3	6.4	90	5.7	82	5.2	90	5.7
ALA	4.3	0.2	5.6	90	5.0	81	4.5	93	5.2
ASP	9.1	0.5	11.8	90	10.6	83	9.8	89	10.5
GLU	15.5	0.6	20.1	90	18.0	84	16.9	88	17.7
GLY	2.0	0.2	2.6	89	2.3	56	1.4	90	2.3
PRO	5.5	0.5	7.1	90	6.4	75	5.3	86	6.1
SER	4.4	0.3	5.7	90	5.1	78	4.5	88	5.0
Sum AA	87.3		113	-	102	-	93	-	102

Fatty acids

Fermentation products

	% FA	g/kg		g/kg	sd
CFAT(h)		8.8	FP	-	-
<=C10	-	-	LA	-	-
C12:0	-	-	AC	-	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction	-	-			

Remarks

Whey powder:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.
3. For the digestibility of the NFE fraction in poultry complete fermentation of lactose (present in limited amounts in the diet) is assumed.

Whey powder, low lactose-ASH < 210 g/kg 8009.626/1/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	956	177	252	-	53	-	-	475	
sd	6	12	32	-	17	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	467	-	-	-	31	31
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	17.6	14.7	-	2.8	45.3	16.5	29.4	-	2.1
sd	9.4	2.4	-	-	7.3	3.1	3.8	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	9	2	6	2	-	-	-
sd	6	1	5	2	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	1046
		CF_DI	0.95	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	89		DCCP	88	DCCP	-
DCCFAT	86		DCCFATh	81	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	70
DCNFE	97		DCNFE	100	DCPpo	80
DCOM	94		DCOM	95		
			DCNSPh	100		
			DCiSTA	-	Broilers	Horses
DVE	1991	2007	StaDCP	85	DCCP	-
%RUP	21	22	AppDCP	84	DCCFATh	-
%DRUP	90	90			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	80
DASHmax	132	132				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	1061 /kg	NE2015	10.37 MJ/kg	MEpo	11.58 MJ/kg	MErab	-
VEVI	1179 /kg	NE2015	2480 kcal/kg	MEpo	2768 kcal/kg	MErab	-
FOM-91	623 g/kg	EW2015	1.18 /kg	MEla	11.84 MJ/kg		
FOMr-07	663 g/kg	StaDP	12.5 g/kg	MEla	2830 kcal/kg		
FOMr2-07	543 g/kg	AppDP	12.3 g/kg	DPpo	11.8 g/kg		
FOMr2/FOMr	0.82 /kg						
DVE-91	104 g/kg			Broilers		Horses	
DVE-07	110 g/kg			MEbr	-	NEm	-
OEB-91	100 g/kg			MEbr	-	NEm	-
OEB-07	90 g/kg			DPpo	11.8 g/kg	EWpa	-
OEB2-07	7 g/kg					DCPho	-
DVMET-91	2.2 g/kg						
DVLYS-91	8.1 g/kg						
DVMET-07	2.4 g/kg						
DVLYS-07	8.5 g/kg						
SW	-0.22 /kg						
VW	0.27 /kg						

Whey powder, low lactose-ASH < 210 g/kg 8009.626/1/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			252	92	-	88	221	-	-
LYS	7.5	0.5	18.9	94	17.7	92	17.4	95	18.0
MET	1.5	0.2	3.8	94	3.5	91	3.4	97	3.7
CYS	1.9	0.2	4.8	94	4.5	90	4.3	87	4.2
THR	5.4	0.8	13.6	93	12.6	89	12.1	89	12.1
TRP	1.4	0.1	3.5	92	3.2	88	3.1	92	3.2
ILE	5.1	0.4	12.9	92	11.8	89	11.5	91	11.7
ARG	2.4	0.3	6.1	92	5.6	86	5.2	90	5.4
PHE	3.3	0.4	8.3	92	7.7	88	7.3	91	7.6
HIS	1.8	0.2	4.5	92	4.2	88	4.0	90	4.1
LEU	8.9	0.4	22.4	92	20.7	90	20.2	91	20.4
TYR	2.4	0.3	6.1	92	5.6	87	5.3	91	5.5
VAL	4.9	0.3	12.4	92	11.4	88	10.9	91	11.2
ALA	4.3	0.2	10.8	92	10.0	88	9.5	94	10.2
ASP	9.1	0.5	22.9	92	21.1	89	20.4	90	20.6
GLU	15.5	0.6	39.1	92	35.9	89	34.8	89	34.8
GLY	2.0	0.2	5.0	92	4.6	75	3.8	91	4.6
PRO	5.5	0.5	13.9	92	12.7	84	11.7	87	12.1
SER	4.4	0.3	11.1	92	10.2	86	9.6	89	9.9
Sum AA	87.3		220	-	203	-	194	-	199

Fatty acids

	% FA	g/kg
CFAT(h)		53.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Whey powder, low lactose-ASH < 210 g/kg:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.
3. For the digestibility of the NFE fraction in poultry complete fermentation of lactose (present in limited amounts in the diet) is assumed.

Whey powder, low lactose-ASH > 210 g/kg 8009.626/2/0

Weende analysis and carbohydrates (g/kg)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	962	230	217	-	41	-	-	474	
sd	8	12	16	-	22	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	444	-	-	-	52	52
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	33.8	19.6	-	3.1	48.7	19.3	29.4	-	1.8
sd	9.9	2.7	-	-	1.6	3.6	1.2	-	-

Trace elements (mg/kg)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	61	12	32	3	-	-	-
sd	8	2	8	2	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	1259
		CF_DI	0.95	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	87		DCCP	87	DCCP	-
DCCFAT	84		DCCFATh	78	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	70
DCNFE	97		DCNFE	100	DCPpo	80
DCOM	93		DCOM	95		
			DCNSPh	100	Horses	
DVE	1991	2007	DCiSTA	-	DCCP	-
%RUP	21	22	StaDCP	85	DCCFATh	-
%DRUP	90	90	AppDCP	84	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	80
DASHmax	171	171				

Nutritional value (in product)

Ruminants		Pigs	Roosters/Laying hens	Rabbits			
VEM	972 /kg	NE2015	9.51 MJ/kg	MEpo	10.60 MJ/kg	MErab	-
VEVI	1079 /kg	NE2015	2273 kcal/kg	MEpo	2533 kcal/kg	MErab	-
FOM-91	596 g/kg	EW2015	1.08 /kg	MEla	10.80 MJ/kg		
FOMr-07	631 g/kg	StaDP	16.7 g/kg	MEla	2581 kcal/kg		
FOMr2-07	516 g/kg	AppDP	16.5 g/kg	DPpo	15.7 g/kg		
FOMr2/FOMr	0.82 /kg						
DVE-91	93 g/kg			Broilers		Horses	
DVE-07	99 g/kg			MEbr	-	NEm	-
OEB-91	77 g/kg			MEbr	-	NEm	-
OEB-07	66 g/kg			DPpo	15.7 g/kg	EWpa	-
OEB2-07	-3 g/kg					DCPho	-
DVMET-91	2.0 g/kg						
DVLYS-91	7.2 g/kg						
DVMET-07	2.2 g/kg						
DVLYS-07	7.7 g/kg						
SW	-0.19 /kg						
VW	0.28 /kg						

Whey powder, low lactose-ASH > 210 g/kg 8009.626/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg	AA pigs		AA poultry		Standardized ileal digestible	
				standardized	apparent	DC	g/kg	DC	g/kg
CP			217	92	-	87	188	-	-
LYS	7.5	0.5	16.2	93	15.1	91	14.8	95	15.4
MET	1.5	0.2	3.2	93	3.0	90	2.9	97	3.2
CYS	1.9	0.2	4.1	94	3.9	89	3.7	87	3.6
THR	5.4	0.8	11.7	93	10.8	88	10.3	89	10.4
TRP	1.4	0.1	3.0	91	2.8	87	2.6	92	2.8
ILE	5.1	0.4	11.0	92	10.2	89	9.8	91	10.1
ARG	2.4	0.3	5.2	92	4.8	85	4.4	90	4.7
PHE	3.3	0.4	7.1	92	6.6	87	6.2	91	6.5
HIS	1.8	0.2	3.9	92	3.6	87	3.4	90	3.5
LEU	8.9	0.4	19.3	92	17.7	90	17.3	91	17.5
TYR	2.4	0.3	5.2	92	4.8	86	4.5	91	4.7
VAL	4.9	0.3	10.6	92	9.8	87	9.2	91	9.7
ALA	4.3	0.2	9.3	92	8.6	87	8.1	94	8.8
ASP	9.1	0.5	19.7	92	18.1	88	17.3	90	17.7
GLU	15.5	0.6	33.6	92	30.8	88	29.7	89	29.9
GLY	2.0	0.2	4.3	92	4.0	72	3.1	91	3.9
PRO	5.5	0.5	11.9	92	10.9	83	9.9	87	10.4
SER	4.4	0.3	9.5	92	8.7	85	8.1	89	8.5
Sum AA	87.3		189	-	174	-	165	-	171

Fatty acids

	% FA	g/kg
CFAT(h)		40.9
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Remarks

Whey powder, low lactose-ASH > 210 g/kg:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.
3. For the digestibility of the NFE fraction in poultry complete fermentation of lactose (present in limited amounts in the diet) is assumed.

High moisture industrial co-products

Brewer's grains, Meura filter process 1005.324/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	257	39	258	-	103	180	-	420	
sd	15	2	14	-	6	15	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	37	16	25	24	506	-	-	506	0
sd	6	-	-	19	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.6	5.7	3.7	2.2	0.6	0.1	0.3	1.8	2.4
sd	-	0.4	-	-	0.2	0.1	0.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	183	53	90	12	-	-	-
sd	55	4	10	7	-	-	-

IP/P	65	SUGe/SUG	50	EB (meq/kg)	10
		CF_DI	0.96	CAD (meq/kg)	-249

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	80		DCCP	77	DCCP	-
DCCFAT	90		DCCFATh	72	DCCFAT	-
DCCF	44		DCCF	24	DCNFE	-
DCNFE	56		DCNFE	62	DCPpo	-
DCOM	64		DCOM	60		
			DCNSPh	42		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	65	DCCP	-
%RUP	49	58	AppDCP	61	DCCFATh	-
%DRUP	93	93			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	26	26				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	948 /kg	NE2015	8.28 MJ/kg	MEpo	-
VEVI	953 /kg	NE2015	1980 kcal/kg	MEpo	-
FOM-91	368 g/kg	EW2015	0.94 /kg	MEla	-
FOMr-07	376 g/kg	StaDP	3.7 g/kg	MEla	-
FOMr2-07	129 g/kg	AppDP	3.5 g/kg	DPpo	-
FOMr2/FOMr	0.34 /kg				
DVE-91	137 g/kg			Broilers	Horses
DVE-07	146 g/kg			MEbr	-
OEB-91	63 g/kg			MEbr	-
OEB-07	55 g/kg			DPpo	-
OEB2-07	13 g/kg				EWpa
DVMET-91	3.0 g/kg				DCPho
DVLYS-91	6.1 g/kg				
DVMET-07	3.2 g/kg				
DVLYS-07	6.3 g/kg				
SW	1.00 /kg				
VW	0.55 /kg				

Brewer's grains, Meura filter process 1005.324/0/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
				AA pigs				AA poultry	
	mean	sd	g/kg DM	standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			258	74	-	69	179	-	-
LYS	3.8	0.5	9.8	77	7.5	73	7.1	-	-
MET	1.9	0.1	4.9	84	4.1	82	4.0	-	-
CYS	1.9	0.2	4.9	74	3.6	70	3.4	-	-
THR	3.7	0.2	9.5	79	7.5	73	6.9	-	-
TRP	1.2	0.1	3.1	79	2.4	74	2.3	-	-
ILE	4.1	0.2	10.6	85	9.0	81	8.6	-	-
ARG	4.9	0.6	12.6	91	11.5	88	11.1	-	-
PHE	5.2	0.6	13.4	87	11.7	84	11.3	-	-
HIS	2.3	0.2	5.9	81	4.8	78	4.6	-	-
LEU	7.9	1.4	20.4	83	16.9	81	16.4	-	-
TYR	3.2	0.5	8.3	91	7.5	87	7.2	-	-
VAL	5.4	0.4	13.9	82	11.4	78	10.9	-	-
ALA	5.3	0.6	13.7	74	10.1	70	9.6	-	-
ASP	6.9	0.6	17.8	74	13.1	69	12.4	-	-
GLU	18.4	3.0	47.5	74	35.0	71	33.9	-	-
GLY	4.0	0.3	10.3	74	7.6	65	6.7	-	-
PRO	8.9	0.6	23.0	74	17.0	69	15.9	-	-
SER	4.2	0.2	10.8	74	8.0	68	7.3	-	-
Sum AA	93.2		240	-	189	-	180	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		103.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sd
FP	34	-
LA	30	-
AC	2	-
ETH	-	-
PR	-	-
BU	2	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Brewer's grains, Meura filter process:

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.

Brewer's grains, traditional process-DM < 250 g/kg 1005.313/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	222	42	242	-	105	176	-	435	
sd	11	4	15	-	10	18	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	42	18	25	4	534	-	-	534	0
sd	16	-	-	3	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	3.3	6.6	4.3	2.2	0.5	0.2	0.4	1.8	2.2
sd	0.9	0.8	-	0.3	0.3	0.2	0.2	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	183	53	90	12	2.4	-	-
sd	55	4	10	7	-	-	-

IP/P	65	SUGe/SUG	50	EB (meq/kg)	9
		CF_DI	0.96	CAD (meq/kg)	-241

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	80		DCCP	77	DCCP	-
DCCFAT	90		DCCFATh	60	DCCFAT	-
DCCF	44		DCCF	23	DCNFE	-
DCNFE	56		DCNFE	55	DCPpo	-
DCOM	63		DCOM	55		
			DCNSPh	38		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	49	58	StaDCP	65	DCCP	-
%DRUP	93	93	AppDCP	62	DCCFATh	-
%RUSTA	-	-			DC(S+S)	-
%DASH	50	50			DCNFEh	-
DASHmax	28	28			DCPpo	-

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	942 /kg	NE2015	7.47 MJ/kg	MEpo	-
VEVI	948 /kg	NE2015	1784 kcal/kg	MEpo	-
FOM-91	367 g/kg	EW2015	0.85 /kg	MEIa	-
FOMr-07	362 g/kg	StaDP	4.3 g/kg	MEIa	-
FOMr2-07	112 g/kg	AppDP	4.1 g/kg	DPpo	-
FOMr2/FOMr	0.31 /kg				
DVE-91	129 g/kg			Broilers	Horses
DVE-07	135 g/kg			MEbr	-
OEB-91	56 g/kg			MEbr	-
OEB-07	51 g/kg			DPpo	-
OEB2-07	14 g/kg				EWpa
DVMET-91	2.9 g/kg				DCPho
DVLYS-91	5.7 g/kg				
DVMET-07	3.0 g/kg				
DVLYS-07	5.8 g/kg				
SW	1.00 /kg				
VW	0.55 /kg				

Brewer's grains, traditional process-DM < 250 g/kg 1005.313/1/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sd	g/kg DM	standardized		apparent		DC	g/kg DM	
CP			242	74	-	69	167	-	-	
LYS	3.8	0.5	9.2	77	7.1	73	6.7	-	-	
MET	1.9	0.1	4.6	84	3.9	82	3.8	-	-	
CYS	1.9	0.2	4.6	74	3.4	69	3.2	-	-	
THR	3.7	0.2	9.0	79	7.1	72	6.5	-	-	
TRP	1.2	0.1	2.9	79	2.3	74	2.2	-	-	
ILE	4.1	0.2	9.9	85	8.4	81	8.1	-	-	
ARG	4.9	0.6	11.9	91	10.8	88	10.4	-	-	
PHE	5.2	0.6	12.6	87	10.9	84	10.6	-	-	
HIS	2.3	0.2	5.6	81	4.5	78	4.3	-	-	
LEU	7.9	1.4	19.1	83	15.8	80	15.4	-	-	
TYR	3.2	0.5	7.7	91	7.0	87	6.7	-	-	
VAL	5.4	0.4	13.1	82	10.7	78	10.2	-	-	
ALA	5.3	0.6	12.8	74	9.5	70	9.0	-	-	
ASP	6.9	0.6	16.7	74	12.3	69	11.5	-	-	
GLU	18.4	3.0	44.5	74	32.9	71	31.7	-	-	
GLY	4.0	0.3	9.7	74	7.1	65	6.2	-	-	
PRO	8.9	0.6	21.5	74	15.9	69	14.8	-	-	
SER	4.2	0.2	10.2	74	7.5	67	6.8	-	-	
Sum AA	93.2		226	-	177	-	168	-	-	

Fatty acids	g/kg DM		Fermentation products	
	% FA	g/kg DM	g/kg DM	sd
CFAT(h)		105.0	FP	34
<=C10	-	-	LA	30
C12:0	-	-	AC	2
C14:0	-	-	ETH	-
C16:0	-	-	PR	-
C16:1	-	-	BU	2
C18:0	-	-	Glycerol	-
C18:1	-	-		
C:18:2	-	-		
C18:3	-	-	NH3	-
>=C20	-	-		
Sum FA	-	-		
% FA in CFAT-fraction		-		

Remarks

Brewer's grains, traditional process-DM < 250 g/kg:

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.
2. At delivery usually salt is added. The Na-content of the product after salt addition is around 1 g/kg DM and the Cl-content 1.5 g/kg DM.

Brewer's grains, traditional process-DM > 250 g/kg 1005.313/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	266	45	248	-	109	170	-	428	
sd	11	4	23	-	8	20	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	42	18	25	5	520	-	-	520	0
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	4.1	6.6	4.3	2.3	0.6	0.1	0.4	1.8	2.3
sd	1.5	1.3	-	0.5	0.4	0.1	0.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	183	53	90	12	-	-	-
sd	55	4	10	-	-	-	-

IP/P	65	SUGe/SUG	50	EB (meq/kg)	9
		CF_DI	0.96	CAD (meq/kg)	-245

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	80		DCCP	77	DCCP	-
DCCFAT	90		DCCFATh	60	DCCFAT	-
DCCF	44		DCCF	23	DCNFE	-
DCNFE	56		DCNFE	55	DCPpo	-
DCOM	64		DCOM	56		
			DCNSPh	38		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	65	DCCP	-
%RUP	49	58	AppDCP	62	DCCFATh	-
%DRUP	93	93			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	30	30				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	955 /kg	NE2015	7.58 MJ/kg	MEpo	-
VEVI	965 /kg	NE2015	1811 kcal/kg	MEpo	-
FOM-91	363 g/kg	EW2015	0.86 /kg	MEla	-
FOMr-07	361 g/kg	StaDP	4.3 g/kg	MEla	-
FOMr2-07	113 g/kg	AppDP	4.1 g/kg	DPpo	-
FOMr2/FOMr	0.31 /kg				
DVE-91	132 g/kg			Broilers	Horses
DVE-07	139 g/kg			MEbr	-
OEB-91	60 g/kg			MEbr	-
OEB-07	54 g/kg			DPpo	-
OEB2-07	14 g/kg				EWpa
DVMET-91	2.9 g/kg				DCPho
DVLYS-91	5.8 g/kg				
DVMET-07	3.0 g/kg				
DVLYS-07	6.0 g/kg				
SW	1.00 /kg				
VW	0.55 /kg				

Brewer's grains, traditional process-DM > 250 g/kg 1005.313/2/0

Amino acids	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			248	74	-	69	172	-	-
LYS	3.8	0.5	9.4	77	7.2	73	6.9	-	-
MET	1.9	0.1	4.7	84	4.0	82	3.8	-	-
CYS	1.9	0.2	4.7	74	3.5	70	3.3	-	-
THR	3.7	0.2	9.2	79	7.2	72	6.6	-	-
TRP	1.2	0.1	3.0	79	2.4	74	2.2	-	-
ILE	4.1	0.2	10.2	85	8.6	81	8.3	-	-
ARG	4.9	0.6	12.2	91	11.0	88	10.7	-	-
PHE	5.2	0.6	12.9	87	11.2	84	10.9	-	-
HIS	2.3	0.2	5.7	81	4.6	78	4.4	-	-
LEU	7.9	1.4	19.6	83	16.2	80	15.8	-	-
TYR	3.2	0.5	7.9	91	7.2	87	6.9	-	-
VAL	5.4	0.4	13.4	82	11.0	78	10.4	-	-
ALA	5.3	0.6	13.1	74	9.7	70	9.2	-	-
ASP	6.9	0.6	17.1	74	12.6	69	11.8	-	-
GLU	18.4	3.0	45.6	74	33.7	71	32.5	-	-
GLY	4.0	0.3	9.9	74	7.3	65	6.4	-	-
PRO	8.9	0.6	22.1	74	16.3	69	15.2	-	-
SER	4.2	0.2	10.4	74	7.7	67	7.0	-	-
Sum AA	93.2		231	-	181	-	172	-	-

Fatty acids	g/kg DM		Fermentation products		
	% FA	g/kg DM	g/kg DM	sdc	
CFAT(h)		109.0	FP	34	-
<=C10	-	-	LA	30	7
C12:0	-	-	AC	2	1
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	2	6
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-			

Remarks

Brewer's grains, traditional process-DM > 250 g/kg:

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.
2. At delivery usually salt is added. The Na-content of the product after salt addition is around 1 g/kg DM and the Cl-content 1.5 g/kg DM.

Brewer's yeast, liquid-CP low 9001.314/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	153	38	226	-	22	7	-	707	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	31	61	21	-	-	-	238	238
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.3	7.7	-	1.4	11.6	0.3	1.7	0.5	1.4
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	85	12	41	11	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	25	EB (meq/kg)	262
		CF_DI	0.96	CAD (meq/kg)	141

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	79	DCCP	-	
DCCFAT	-	DCCFATh	67	DCCFAT	-	
DCCF	-	DCCF	98	DCNFE	-	
DCNFE	-	DCNFE	95	DCPpo	-	
DCOM	-	DCOM	90			
		DCNSPh	97	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	50	DCCFATh	-
%DRUP	-	-	AppDCP	47	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	13.78 MJ/kg	MEpo	-	
VEVI	-	NE2015	3294 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.57 /kg	MEIa	-	
FOMr-07	-	StaDP	3.9 g/kg	MEIa	-	
FOMr2-07	-	AppDP	3.7 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Brewer's yeast, liquid-CP low 9001.314/2/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg DM	standardized		apparent		DC	g/kg DM
CP			226	85	-	80	180	-	-
LYS	6.7	0.8	15.1	88	13.3	85	12.9	-	-
MET	1.6	0.1	3.6	81	2.9	78	2.8	-	-
CYS	1.1	0.2	2.5	69	1.7	61	1.5	-	-
THR	4.8	0.5	10.8	83	9.0	77	8.4	-	-
TRP	1.2	0.1	2.7	85	2.3	80	2.2	-	-
ILE	4.6	0.4	10.4	84	8.7	80	8.4	-	-
ARG	4.4	0.7	9.9	91	9.0	87	8.7	-	-
PHE	4.2	0.3	9.5	86	8.2	82	7.8	-	-
HIS	2.1	0.2	4.7	84	4.0	80	3.8	-	-
LEU	6.8	0.4	15.4	85	13.0	82	12.6	-	-
TYR	3.3	0.4	7.5	88	6.6	84	6.3	-	-
VAL	5.3	0.4	12.0	84	10.1	80	9.5	-	-
ALA	6.3	0.5	14.2	85	12.1	82	11.6	-	-
ASP	9.0	1.0	20.3	86	17.5	82	16.7	-	-
GLU	12.6	1.3	28.5	89	25.3	85	24.1	-	-
GLY	4.5	0.3	10.2	85	8.6	76	7.7	-	-
PRO	4.1	0.7	9.3	90	8.3	78	7.2	-	-
SER	5.0	0.4	11.3	84	9.5	78	8.8	-	-
Sum AA	87.6		198	-	170	-	161	-	-

Fatty acids	g/kg DM		Fermentation products	
	% FA	g/kg DM	g/kg DM	sd
CFAT(h)		22.0	FP	369
<=C10	-	-	LA	22
C12:0	-	-	AC	6
C14:0	-	-	ETH	341
C16:0	-	-	PR	-
C16:1	-	-	BU	-
C18:0	-	-	Glycerol	-
C18:1	-	-		
C:18:2	-	-		
C18:3	-	-		
>=C20	-	-		
Sum FA	-	-		
% FA in CFAT-fraction	-	-		

Remarks

Brewer's yeast, liquid-CP low:

1. Nutrient concentrations are expressed on a DM basis; ethanol is considered part of the dry matter.
2. In reality analysed DM contents will be lower and nutrient values analysed in DM will be higher due to evaporation of ethanol during the drying process.
3. The NSPh fraction is calculated as $1000 - (\text{ASH} + \text{CP} + \text{CFATh} + \text{STAam} + \text{GOS} + \text{CF_DI} * \text{SUG} + 0.92 * \text{LA} + 0.5 * \text{AC} + \text{ETH})$.
4. Average analysed content (without correction for ETH evaporation) for DM was 101 g/kg and for CP 342 g/kg DM.

Brewer's yeast, liquid-CP average 9001.314/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	164	44	302	-	22	7	-	625	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	31	62	21	-	-	-	160	160
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.3	8.6	-	1.4	12.7	0.3	1.8	0.5	1.9
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	85	12	42	11	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	25	EB (meq/kg)	287
		CF_DI	0.96	CAD (meq/kg)	136

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	-		DCCP	80	DCCP	-
DCCFAT	-		DCCFATh	67	DCCFAT	-
DCCF	-		DCCF	98	DCNFE	-
DCNFE	-		DCNFE	94	DCPpo	-
DCOM	-		DCOM	89		
			DCNSPh	97		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	50	DCCP	-
%RUP	-	-	AppDCP	48	DCCFATh	-
%DRUP	-	-			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	-	NE2015	13.71 MJ/kg	MEpo	-
VEVI	-	NE2015	3276 kcal/kg	MEpo	-
FOM-91	-	EW2015	1.56 /kg	MEIa	-
FOMr-07	-	StaDP	4.3 g/kg	MEIa	-
FOMr2-07	-	AppDP	4.1 g/kg	DPpo	-
FOMr2/FOMr	-				
DVE-91	-			Broilers	Horses
DVE-07	-			MEbr	-
OEB-91	-			MEbr	-
OEB-07	-			DPpo	-
OEB2-07	-				EWpa
DVMET-91	-				DCPho
DVLYS-91	-				
DVMET-07	-				
DVLYS-07	-				
SW	-				
VW	-				

Brewer's yeast, liquid-CP average 9001.314/3/0

Amino acids	Ileal digestible							Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry	
	mean	sd	g/kg DM	standardized		apparent		DC	g/kg DM
CP			302	85	-	81	245	-	-
LYS	6.7	0.8	20.2	88	17.8	86	17.4	-	-
MET	1.6	0.1	4.8	81	3.9	79	3.8	-	-
CYS	1.1	0.2	3.3	69	2.3	63	2.1	-	-
THR	4.8	0.5	14.5	83	12.0	79	11.4	-	-
TRP	1.2	0.1	3.6	85	3.1	81	2.9	-	-
ILE	4.6	0.4	13.9	84	11.7	81	11.3	-	-
ARG	4.4	0.7	13.3	91	12.1	88	11.7	-	-
PHE	4.2	0.3	12.7	86	10.9	83	10.6	-	-
HIS	2.1	0.2	6.3	84	5.3	81	5.1	-	-
LEU	6.8	0.4	20.5	85	17.4	83	17.0	-	-
TYR	3.3	0.4	10.0	88	8.8	85	8.5	-	-
VAL	5.3	0.4	16.0	84	13.4	81	12.9	-	-
ALA	6.3	0.5	19.0	85	16.2	82	15.7	-	-
ASP	9.0	1.0	27.2	86	23.3	83	22.6	-	-
GLU	12.6	1.3	38.1	89	33.8	86	32.6	-	-
GLY	4.5	0.3	13.6	85	11.5	78	10.6	-	-
PRO	4.1	0.7	12.4	90	11.1	81	10.0	-	-
SER	5.0	0.4	15.1	84	12.7	80	12.0	-	-
Sum AA	87.6		265	-	227	-	218	-	-

Fatty acids	g/kg DM		Fermentation products	
	% FA	g/kg DM	g/kg DM	sd
CFAT(h)		22.0	FP	364
<=C10	-	-	LA	22
C12:0	-	-	AC	6
C14:0	-	-	ETH	336
C16:0	-	-	PR	-
C16:1	-	-	BU	-
C18:0	-	-	Glycerol	-
C18:1	-	-		
C:18:2	-	-		
C18:3	-	-		
>=C20	-	-		
Sum FA	-	-		
% FA in CFAT-fraction	-	-		

Remarks

Brewer's yeast, liquid-CP average:

- Nutrient concentrations are expressed on a DM basis; ethanol is considered part of the dry matter.
- In reality analysed DM contents will be lower and nutrient values analysed in DM will be higher due to evaporation of ethanol during the drying process.
- The NSPh fraction is calculated as $1000 - (\text{ASH} + \text{CP} + \text{CFATh} + \text{STAam} + \text{GOS} + \text{CF_DI} * \text{SUG} + 0.92 * \text{LA} + 0.5 * \text{AC} + \text{ETH})$.
- Average analysed content (without correction for ETH evaporation) for DM was 109 g/kg and for CP 455 g/kg DM.

Brewer's yeast, liquid-CP high 9001.314/4/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	173	45	363	-	23	7	-	562	
sd	-	-	-	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	32	62	22	-	-	-	100	100
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.3	9.6	-	1.4	13.4	0.3	1.8	0.5	2.3
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	86	12	42	11	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	25	EB (meq/kg)	305
		CF_DI	0.96	CAD (meq/kg)	130

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	-		DCCP	81	DCCP	-
DCCFAT	-		DCCFATh	68	DCCFAT	-
DCCF	-		DCCF	98	DCNFE	-
DCNFE	-		DCNFE	94	DCPpo	-
DCOM	-		DCOM	88		
			DCNSPh	97		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	-	-	StaDCP	50	DCCP	-
%DRUP	-	-	AppDCP	48	DCCFATh	-
%RUSTA	-	-			DC(S+S)	-
%DASH	-	-			DCNFEh	-
DASHmax	-	-			DCPpo	-

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	-	NE2015	13.69 MJ/kg	MEpo	-
VEVI	-	NE2015	3272 kcal/kg	MEpo	-
FOM-91	-	EW2015	1.56 /kg	MEla	-
FOMr-07	-	StaDP	4.8 g/kg	MEla	-
FOMr2-07	-	AppDP	4.6 g/kg	DPpo	-
FOMr2/FOMr	-				
DVE-91	-			Broilers	Horses
DVE-07	-			MEbr	-
OEB-91	-			MEbr	-
OEB-07	-			DPpo	-
OEB2-07	-				EWpa
DVMET-91	-				DCPho
DVLYS-91	-				
DVMET-07	-				
DVLYS-07	-				
SW	-				
VW	-				

Brewer's yeast, liquid-CP high 9001.314/4/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg DM	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			363	85	-	82	297	-	-
LYS	6.7	0.8	24.3	88	21.4	86	21.0	-	-
MET	1.6	0.1	5.8	81	4.7	79	4.6	-	-
CYS	1.1	0.2	4.0	69	2.8	64	2.5	-	-
THR	4.8	0.5	17.4	83	14.4	79	13.9	-	-
TRP	1.2	0.1	4.4	85	3.7	82	3.6	-	-
ILE	4.6	0.4	16.7	84	14.0	82	13.6	-	-
ARG	4.4	0.7	16.0	91	14.5	88	14.1	-	-
PHE	4.2	0.3	15.2	86	13.1	84	12.8	-	-
HIS	2.1	0.2	7.6	84	6.4	82	6.2	-	-
LEU	6.8	0.4	24.7	85	21.0	83	20.5	-	-
TYR	3.3	0.4	12.0	88	10.5	85	10.2	-	-
VAL	5.3	0.4	19.2	84	16.2	81	15.6	-	-
ALA	6.3	0.5	22.9	85	19.4	83	18.9	-	-
ASP	9.0	1.0	32.7	86	28.1	84	27.3	-	-
GLU	12.6	1.3	45.7	89	40.6	86	39.5	-	-
GLY	4.5	0.3	16.3	85	13.9	79	13.0	-	-
PRO	4.1	0.7	14.9	90	13.4	82	12.3	-	-
SER	5.0	0.4	18.2	84	15.2	80	14.6	-	-
Sum AA	87.6		318	-	273	-	264	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		23.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sd
FP	359	-
LA	23	-
AC	6	-
ETH	330	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Brewer's yeast, liquid-CP high:

1. Nutrient concentrations are expressed on a DM basis; ethanol is considered part of the dry matter.
2. In reality analysed DM contents will be lower and nutrient values analysed in DM will be higher due to evaporation of ethanol during the drying process.
3. The NSP fraction is calculated as $1000 - (\text{ASH} + \text{CP} + \text{CFATh} + \text{STAam} + \text{GOS} + \text{CF_DI} * \text{SUG} + 0.92 * \text{LA} + 0.5 * \text{AC} + \text{ETH})$.
4. Average analysed content (without correction for ETH evaporation) for DM was 116 g/kg and for CP 542 g/kg DM.

Carrot peelings, steam peeled 4006.634/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	53	127	89	-	23	119	-	642		
sd	9	20	11	-	9	26	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	4	-	-	20	-	-	-	692	692	
sd	-	-	-	4	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	5.8	4.6	-	1.9	48.2	3.8	5.8	-	-
sd	1.3	0.8	-	0.3	5.4	1.5	2.2	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	1236
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	61		DCCP	-	DCCP
DCCFAT	89		DCCFATh	-	DCCFAT
DCCF	87		DCCF	-	DCCF
DCNFE	94		DCNFE	-	DCNFE
DCOM	90		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	57	57	StaDCP	-	DCCP
%DRUP	75	75	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	65	65			
DASHmax	97	97			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1075 /kg	NE2015	MEpo	MErab
VEVI	1188 /kg	NE2015	MEpo	MErab
FOM-91	679 g/kg	EW2015	MEla	
FOMr-07	546 g/kg	StaDP	MEla	
FOMr2-07	154 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.28 /kg			
DVE-91	96 g/kg		Broilers	Horses
DVE-07	81 g/kg		MEbr	NEm
OEB-91	-69 g/kg		MEbr	NEm
OEB-07	-46 g/kg		DPpo	EWpa
OEB2-07	-4 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	1.10 /kg			
VW	0.69 /kg			

Carrot peelings, steam peeled 4006.634/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		Standardized ileal digestible	
				DC	g/kg DM	DC	g/kg DM	DC	g/kg DM
CP			89	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		23.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	63	-
LA	50	-
AC	8	-
ETH	5	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Cheese whey, fresh-CP < 175 g/kg DM 8023.000/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	41	107	150	-	34	-	-	709	
sd	6	24	20	-	27	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	536	-	-	-	-10	-10
sd	-	-	-	87	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	11.5	8.4	-	1.6	26.5	8.4	21.9	-	1.3
sd	0.8	3.1	-	-	4.2	1.7	3.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	68	22	6	21	-	-	-
sd	55	14	-	12	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	426
		CF_DI	0.95	CAD (meq/kg)	326

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	80		DCCP	87	DCCP	-
DCCFAT	83		DCCFATh	75	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	-
DCNFE	97		DCNFE	100	DCPpo	-
DCOM	94		DCOM	97		
			DCNSPh	-	Horses	
DVE	1991	2007	DCiSTA	-	DCCP	-
%RUP	5	5	StaDCP	85	DCCFATh	-
%DRUP	-	0	AppDCP	83	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	83	83				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1161 /kg	NE2015	11.99 MJ/kg	MEpo	-	
VEVI	1302 /kg	NE2015	2867 kcal/kg	MEpo	-	
FOM-91	676 g/kg	EW2015	1.36 /kg	MEla	-	
FOMr-07	865 g/kg	StaDP	7.2 g/kg	MEla	-	
FOMr2-07	854 g/kg	AppDP	7.0 g/kg	DPpo	-	
FOMr2/FOMr	0.99 /kg					
DVE-91	58 g/kg			Horses		
DVE-07	70 g/kg			MEbr	-	
OEB-91	40 g/kg			MEbr	-	
OEB-07	21 g/kg			DPpo	-	
OEB2-07	21 g/kg				EWpa	-
DVMET-91	1.5 g/kg				DCPho	-
DVLYS-91	4.6 g/kg					
DVMET-07	1.8 g/kg					
DVLYS-07	5.5 g/kg					
SW	-0.40 /kg					
VW	0.30 /kg					

Cheese whey, fresh-CP < 175 g/kg DM 8023.000/1/0

Amino acids

Ileal digestible

Standardized ileal digestible

AA pigs

AA poultry

	g/16g N			AA pigs				AA poultry	
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM		
CP			150	90	-	82	123	-	-
LYS	6.4	-	9.6	92	8.8	88	8.4	-	-
MET	1.4	-	2.1	91	1.9	86	1.8	-	-
CYS	2.1	-	3.2	92	2.9	85	2.7	-	-
THR	5.6	-	8.4	90	7.5	83	7.0	-	-
TRP	1.4	-	2.1	87	1.8	80	1.7	-	-
ILE	5.4	-	8.1	90	7.3	85	6.9	-	-
ARG	2.3	-	3.5	90	3.1	78	2.7	-	-
PHE	2.8	-	4.2	90	3.8	82	3.4	-	-
HIS	1.6	-	2.4	90	2.2	82	2.0	-	-
LEU	8.8	-	13.2	90	11.9	86	11.4	-	-
TYR	2.4	-	3.6	90	3.2	82	2.9	-	-
VAL	5.1	-	7.7	90	6.9	83	6.3	-	-
ALA	4.2	-	6.3	90	5.7	82	5.2	-	-
ASP	10.2	-	15.3	90	13.7	85	13.0	-	-
GLU	16.4	-	24.6	90	22.0	85	20.9	-	-
GLY	1.8	-	2.7	89	2.4	56	1.5	-	-
PRO	5.3	-	8.0	90	7.1	76	6.0	-	-
SER	4.4	-	6.6	90	5.9	80	5.3	-	-
Sum AA	87.6		131	-	118	-	109	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		34.0	FP	237	-
<=C10	-	-	LA	218	-
C12:0	-	-	AC	19	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Cheese whey, fresh-CP < 175 g/kg DM:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.

Cheese whey, fresh-CP 175 - 275 g/kg DM 8023.000/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	36	115	209	-	54	-	-	622	
sd	5	14	25	-	28	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	460	-	-	-	-25	-25
sd	-	-	-	70	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	12.8	9.6	-	1.6	28.5	10.8	21.8	-	1.8
sd	3.1	2.0	-	-	3.8	2.5	3.7	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	68	22	6	21	-	-	-
sd	55	14	-	12	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	585
		CF_DI	0.95	CAD (meq/kg)	427

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	86		DCCP	89	DCCP	-
DCCFAT	85		DCCFATh	81	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	-
DCNFE	97		DCNFE	100	DCPpo	-
DCOM	94		DCOM	97		
			DCNSPh	-	Horses	
DVE	1991	2007	DCiSTA	-	DCCP	-
%RUP	5	5	StaDCP	85	DCCFATh	-
%DRUP	-	0	AppDCP	83	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	89	89				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1197 /kg	NE2015	12.20 MJ/kg	MEpo	-	
VEVI	1338 /kg	NE2015	2915 kcal/kg	MEpo	-	
FOM-91	645 g/kg	EW2015	1.39 /kg	MEla	-	
FOMr-07	836 g/kg	StaDP	8.2 g/kg	MEla	-	
FOMr2-07	826 g/kg	AppDP	8.0 g/kg	DPpo	-	
FOMr2/FOMr	0.99 /kg					
DVE-91	54 g/kg			Horses		
DVE-07	64 g/kg			MEbr	-	
OEB-91	101 g/kg			MEbr	-	
OEB-07	86 g/kg			DPpo	-	
OEB2-07	85 g/kg				EWpa	-
DVMET-91	1.4 g/kg				DCPho	-
DVLYS-91	4.3 g/kg					
DVMET-07	1.7 g/kg					
DVLYS-07	5.1 g/kg					
SW	-0.20 /kg					
VW	0.30 /kg					

Cheese whey, fresh-CP 175 - 275 g/kg DM 8023.000/2/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N			AA pigs				Standardized ileal digestible	
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM		
CP			209	90	-	84	176	-	-
LYS	6.4	-	13.4	92	12.3	89	11.9	-	-
MET	1.4	-	2.9	91	2.7	87	2.6	-	-
CYS	2.1	-	4.4	92	4.0	87	3.8	-	-
THR	5.6	-	11.7	90	10.5	85	9.9	-	-
TRP	1.4	-	2.9	87	2.5	82	2.4	-	-
ILE	5.4	-	11.3	90	10.1	87	9.8	-	-
ARG	2.3	-	4.8	90	4.3	82	3.9	-	-
PHE	2.8	-	5.9	90	5.2	84	4.9	-	-
HIS	1.6	-	3.3	90	3.0	84	2.8	-	-
LEU	8.8	-	18.4	90	16.5	87	16.1	-	-
TYR	2.4	-	5.0	90	4.5	84	4.2	-	-
VAL	5.1	-	10.7	90	9.6	85	9.1	-	-
ALA	4.2	-	8.8	90	7.9	84	7.4	-	-
ASP	10.2	-	21.3	90	19.1	86	18.4	-	-
GLU	16.4	-	34.3	90	30.7	86	29.6	-	-
GLY	1.8	-	3.8	89	3.4	66	2.5	-	-
PRO	5.3	-	11.1	90	9.9	80	8.8	-	-
SER	4.4	-	9.2	90	8.2	83	7.6	-	-
Sum AA	87.6		183	-	165	-	156	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		54.0	FP	237	-
<=C10	-	-	LA	218	-
C12:0	-	-	AC	19	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Cheese whey, fresh-CP 175 - 275 g/kg DM:

- SUG is represented as glucose units. Lactose = 0.95 * SUG.
- SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.

Cheese whey, fresh-CP > 275 g/kg DM 8023.000/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	31	155	335	-	56	-	-	454	
sd	10	48	52	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	199	-	-	-	55	55
sd	-	-	-	135	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	14.7	13.9	-	1.6	40.3	15.3	26.3	-	2.9
sd	3.9	4.2	-	-	13.9	8.6	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	68	22	6	21	-	-	-
sd	55	14	-	12	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	956
		CF_DI	0.95	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	91		DCCP	91	DCCP	-	DCCP	-
DCCFAT	86		DCCFATh	81	DCCFAT	-	DCCFAT	-
DCCF	-		DCCF	-	DCNFE	-	DCCF	-
DCNFE	97		DCNFE	97	DCPpo	-	DCNFE	-
DCOM	94		DCOM	94				
			DCNSPh	78	Broilers		Horses	
DVE	1991	2007	DCiSTA	-	DCCP	-	DCCP	-
%RUP	5	5	StaDCP	85	DCCFATh	-	DCOM	-
%DRUP	-	0	AppDCP	84	DC(S+S)	-		
%RUSTA	-	-			DCNFEh	-		
%DASH	65	65			DCPpo	-		
DASHmax	117	117						

Nutritional value (in DM)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1172 /kg	NE2015	10.97 MJ/kg	MEpo	-	MErab	-
VEVI	1297 /kg	NE2015	2622 kcal/kg	MEpo	-	MErab	-
FOM-91	602 g/kg	EW2015	1.25 /kg	MEla	-		
FOMr-07	781 g/kg	StaDP	11.8 g/kg	MEla	-		
FOMr2-07	764 g/kg	AppDP	11.6 g/kg	DPpo	-		
FOMr2/FOMr	0.98 /kg						
DVE-91	49 g/kg			Broilers		Horses	
DVE-07	49 g/kg			MEbr	-	NEm	-
OEB-91	226 g/kg			MEbr	-	NEm	-
OEB-07	226 g/kg			DPpo	-	EWpa	-
OEB2-07	224 g/kg					DCPho	-
DVMET-91	1.3 g/kg						
DVLYS-91	3.9 g/kg						
DVMET-07	1.3 g/kg						
DVLYS-07	4.0 g/kg						
SW	-0.10 /kg						
VW	0.30 /kg						

Cheese whey, fresh-CP > 275 g/kg DM 8023.000/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg DM	DC	g/kg DM
CP			335	90	-	86	290	-	-
LYS	6.4	-	21.4	92	19.7	90	19.3	-	-
MET	1.4	-	4.7	91	4.3	89	4.2	-	-
CYS	2.1	-	7.0	92	6.5	89	6.3	-	-
THR	5.6	-	18.8	90	16.9	87	16.3	-	-
TRP	1.4	-	4.7	87	4.1	84	3.9	-	-
ILE	5.4	-	18.1	90	16.3	88	15.9	-	-
ARG	2.3	-	7.7	90	6.9	85	6.5	-	-
PHE	2.8	-	9.4	90	8.4	86	8.1	-	-
HIS	1.6	-	5.4	90	4.8	86	4.6	-	-
LEU	8.8	-	29.5	90	26.5	88	26.0	-	-
TYR	2.4	-	8.0	90	7.2	86	6.9	-	-
VAL	5.1	-	17.1	90	15.4	87	14.8	-	-
ALA	4.2	-	14.1	90	12.7	86	12.2	-	-
ASP	10.2	-	34.2	90	30.7	88	29.9	-	-
GLU	16.4	-	54.9	90	49.3	88	48.2	-	-
GLY	1.8	-	6.0	90	5.4	75	4.5	-	-
PRO	5.3	-	17.8	90	15.9	84	14.8	-	-
SER	4.4	-	14.7	90	13.2	85	12.6	-	-
Sum AA	87.6		293	-	264	-	255	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		56.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	237	-
LA	218	-
AC	19	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Remarks

Cheese whey, fresh-CP > 275 g/kg DM:

1. SUG is represented as glucose units. Lactose = 0.95 * SUG.
2. SUGe/SUG for pigs only applies when lactose containing diets are fed on a regular basis; otherwise SUGe/SUG = 0.

Chicory press pulp, fresh and ensiled 4015.240/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	228	104	86	12	18	233	565	559	
sd	18	18	7	1	3	13	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	49	339	-	21	704	365
sd	-	-	-	4	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	7.6	1.5	-	1.2	9.0	0.8	0.1	0.1	0.6
sd	1.3	0.1	-	0.2	1.3	0.2	0.1	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1217	45	41	10	0.7	-	0.3
sd	330	17	7	1	0.1	-	0.1

IP/P	-	SUGe/SUG	-	EB (meq/kg)	260
		CF_DI	0.96	CAD (meq/kg)	219

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	54		DCCP	-	DCCP
DCCFAT	70		DCCFATh	-	DCCFAT
DCCF	82		DCCF	-	DCCF
DCNFE	90		DCNFE	-	DCNFE
DCOM	84		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	57	57	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	35	35			
DASHmax	44	44			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	975 /kg	NE2015	MEpo	MErab
VEVI	1044 /kg	NE2015	MEpo	MErab
FOM-91	665 g/kg	EW2015	MEla	
FOMr-07	574 g/kg	StaDP	MEla	
FOMr2-07	174 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.30 /kg			
DVE-91	94 g/kg		Broilers	Horses
DVE-07	83 g/kg		MEbr	NEm
OEB-91	-68 g/kg		MEbr	NEm
OEB-07	-53 g/kg		DPpo	EWpa
OEB2-07	-9 g/kg			DCPho
DVMET-91	2.2 g/kg			
DVLYS-91	7.3 g/kg			
DVMET-07	2.0 g/kg			
DVLYS-07	6.5 g/kg			
SW	1.05 /kg			
VW	0.70 /kg			

Chicory press pulp, fresh and ensiled 4015.240/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			86	-	-	-	-	-	-
LYS	7.2	-	6.2	-	-	-	-	-	-
MET	1.8	-	1.5	-	-	-	-	-	-
CYS	1.0	-	0.9	-	-	-	-	-	-
THR	4.5	-	3.9	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	4.3	-	3.7	-	-	-	-	-	-
ARG	5.8	-	5.0	-	-	-	-	-	-
PHE	4.1	-	3.5	-	-	-	-	-	-
HIS	2.4	-	2.1	-	-	-	-	-	-
LEU	7.2	-	6.2	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	5.1	-	4.4	-	-	-	-	-	-
ALA	4.8	-	4.1	-	-	-	-	-	-
ASP	8.5	-	7.3	-	-	-	-	-	-
GLU	9.1	-	7.8	-	-	-	-	-	-
GLY	4.4	-	3.8	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	4.4	-	3.8	-	-	-	-	-	-
Sum AA	74.6		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		12.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	54	-
LA	47	-
AC	7	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Corn cob mix (CCM), silage-without rachis, CF < 40 g/kg DM 1002.517/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	662	16	97	-	48	23	-	816	
sd	35	2	8	-	7	6	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	718	675	-	7	80	24	3	122	42
sd	23	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	3.0	2.7	1.2	4.0	0.1	0.6	0.1	1.0
sd	0.0	0.3	-	0.1	0.1	0.0	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	45	6	26	2	0.4	-	41.0
sd	17	1	3	1	-	-	-

IP/P	90	SUGe/SUG	55	EB (meq/kg)	90
		CF_DI	0.96	CAD (meq/kg)	19

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	58		DCCP	72	DCCP	-
DCCFAT	77		DCCFATh	72	DCCFAT	-
DCCF	40		DCCF	91	DCCF	-
DCNFE	92		DCNFE	30	DCNFE	-
DCOM	87		DCOM			
			DCNSPh			
			DCiSTA			
DVE	1991	2007	StaDCP		Horses	
%RUP	31	33	AppDCP		DCCP	58
%DRUP	75	75			DCOM	87
%RUSTA	32	34				
%DASH	65	65				
DASHmax	18	18				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1208 /kg	NE2015	15.62 MJ/kg	MErab	-
VEVI	1334 /kg	NE2015	3733 kcal/kg	MErab	-
FOM-91	537 g/kg	EW2015	15.82 MJ/kg		
FOMr-07	597 g/kg	StaDP	3781 kcal/kg		
FOMr2-07	313 g/kg	AppDP	0.9 g/kg		
FOMr2/FOMr	0.52 /kg				
DVE-91	66 g/kg				
DVE-07	82 g/kg				
OEB-91	-17 g/kg				
OEB-07	-43 g/kg				
OEB2-07	1 g/kg				
DVMET-91	1.7 g/kg				
DVLYS-91	4.1 g/kg				
DVMET-07	2.1 g/kg				
DVLYS-07	5.4 g/kg				
SW	0.40 /kg				
VW	0.65 /kg				

Corn cob mix (CCM), silage-without rachis, CF < 40 g/kg DM 1002.517/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg DM	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			97	81	-	69	67	-	-
LYS	2.9	0.3	2.8	70	2.0	56	1.6	-	-
MET	2.1	0.2	2.0	88	1.8	82	1.7	-	-
CYS	2.2	0.2	2.1	79	1.7	69	1.5	-	-
THR	3.6	0.2	3.5	79	2.8	62	2.2	-	-
TRP	0.7	0.1	0.7	71	0.5	51	0.3	-	-
ILE	3.4	0.2	3.3	81	2.7	70	2.3	-	-
ARG	4.7	0.4	4.6	81	3.7	72	3.3	-	-
PHE	4.8	0.3	4.7	81	3.8	74	3.4	-	-
HIS	3.0	0.2	2.9	81	2.4	75	2.2	-	-
LEU	12.1	0.7	11.7	81	9.5	77	9.0	-	-
TYR	3.7	0.4	3.6	81	2.9	73	2.6	-	-
VAL	4.8	0.3	4.7	81	3.8	70	3.2	-	-
ALA	7.5	0.4	7.3	81	5.9	74	5.4	-	-
ASP	6.7	0.4	6.5	81	5.2	69	4.5	-	-
GLU	18.1	1.0	17.6	81	14.2	74	13.0	-	-
GLY	3.9	0.3	3.8	81	3.1	57	2.2	-	-
PRO	8.9	0.7	8.6	81	7.0	68	5.9	-	-
SER	4.8	0.2	4.7	81	3.8	67	3.1	-	-
Sum AA	97.9		95	-	76	-	67	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		48.0
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	12.0	5.2
C16:1	0.2	0.1
C18:0	2.0	0.9
C18:1	28.0	12.1
C:18:2	55.0	23.8
C18:3	1.0	0.4
>=C20	1.0	0.4
Sum FA	99.6	43.0
% FA in CFAT-fraction		90

Fermentation products

	g/kg DM	sd
FP	42	-
LA	34	-
AC	8	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Corn cob mix (CCM), silage-partly with rachis, CF 40 - 60 g/kg DM

1002.517/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	632	18	94	-	43	45	-	800		
sd	27	2	7	-	7	5	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	652	613	-	3	143	51	8	194	51	
sd	32	-	-	-	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	3.0	2.7	1.2	4.0	0.1	0.6	0.1	1.0
sd	0.0	0.3	-	0.1	0.1	0.0	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	45	6	26	2	-	-	-
sd	17	1	3	1	-	-	-

IP/P	90	SUGe/SUG	55	EB (meq/kg)	90
		CF_DI	0.96	CAD (meq/kg)	21

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	57		DCCP	75	DCCP	-	
DCCFAT	76		DCCFATh	72	DCCFAT	-	
DCCF	40		DCCF	34	DCNFE	-	
DCNFE	92		DCNFE	95	DCPpo	-	
DCOM	86		DCOM	89			
			DCNSPh	64			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	32	34	StaDCP	60	DCCP	DCCP	57
%DRUP	75	75	AppDCP	53	DCCFATh	DCOM	85
%RUSTA	32	34			DC(S+S)		
%DASH	65	65			DCNFEh		
DASHmax	19	19			DCPpo		

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1176 /kg	NE2015	12.32 MJ/kg	MEpo	-	
VEVI	1292 /kg	NE2015	2945 kcal/kg	MEpo	-	
FOM-91	549 g/kg	EW2015	1.40 /kg	MEla	-	
FOMr-07	569 g/kg	StaDP	1.8 g/kg	MEla	-	
FOMr2-07	289 g/kg	AppDP	1.6 g/kg	DPpo	-	
FOMr2/FOMr	0.51 /kg					
DVE-91	67 g/kg			Broilers	Horses	
DVE-07	78 g/kg			MEbr	-	
OEB-91	-22 g/kg			MEbr	-	
OEB-07	-39 g/kg			DPpo	-	
OEB2-07	3 g/kg				EWpa	1.20 /kg
DVMET-91	1.7 g/kg				DCPho	57 g/kg
DVLYS-91	4.1 g/kg					
DVMET-07	2.0 g/kg					
DVLYS-07	5.0 g/kg					
SW	0.50 /kg					
VW	0.66 /kg					

Corn cob mix (CCM), silage-partly with rachis, CF 40 - 60 g/kg DM

1002.517/2/0

Amino acids	Ileal digestible								Standardized ileal digestible	
	g/16g N			AA pigs				AA poultry		
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM	
				DC	g/kg DM	DC	g/kg DM			
CP			94	78	-	65	62	-	-	
LYS	2.9	0.3	2.7	67	1.8	52	1.4	-	-	
MET	2.1	0.2	2.0	84	1.7	78	1.5	-	-	
CYS	2.2	0.2	2.1	76	1.6	66	1.4	-	-	
THR	3.6	0.2	3.4	75	2.6	58	2.0	-	-	
TRP	0.7	0.1	0.7	68	0.4	47	0.3	-	-	
ILE	3.4	0.2	3.2	78	2.5	66	2.1	-	-	
ARG	4.7	0.4	4.4	78	3.4	69	3.0	-	-	
PHE	4.8	0.3	4.5	78	3.5	70	3.2	-	-	
HIS	3.0	0.2	2.8	78	2.2	71	2.0	-	-	
LEU	12.1	0.7	11.4	78	8.9	74	8.4	-	-	
TYR	3.7	0.4	3.5	78	2.7	69	2.4	-	-	
VAL	4.8	0.3	4.5	78	3.5	66	3.0	-	-	
ALA	7.5	0.4	7.1	78	5.5	71	5.0	-	-	
ASP	6.7	0.4	6.3	77	4.9	65	4.1	-	-	
GLU	18.1	1.0	17.0	77	13.2	71	12.0	-	-	
GLY	3.9	0.3	3.7	77	2.8	53	1.9	-	-	
PRO	8.9	0.7	8.4	78	6.5	64	5.4	-	-	
SER	4.8	0.2	4.5	77	3.5	63	2.8	-	-	
Sum AA	97.9		92	-	71	-	62	-	-	

Fatty acids			Fermentation products		
	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		43.0	FP	42	-
<=C10	-	0.0	LA	34	-
C12:0	0.2	0.1	AC	8	-
C14:0	0.2	0.1	ETH	-	-
C16:0	12.0	4.6	PR	-	-
C16:1	0.2	0.1	BU	-	-
C18:0	2.0	0.8	Glycerol	-	-
C18:1	28.0	10.8			
C:18:2	55.0	21.3			
C18:3	1.0	0.4			
>=C20	1.0	0.4			
Sum FA	99.6	38.5			
% FA in CFAT-fraction		90			

Corn cob mix (CCM), silage-with rachis, CF > 60 g/kg DM 1002.517/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	525	21	97	-	43	72	-	767		
sd	-	4	19	-	-	7	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	625	588	-	3	200	84	13	214	14	
sd	27	-	-	-	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	3.0	2.7	1.2	4.0	0.1	0.6	0.1	1.0
sd	0.0	0.3	-	0.1	0.1	0.0	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	45	6	26	2	-	-	-
sd	17	1	3	1	-	-	-

IP/P	90	SUGe/SUG	55	EB (meq/kg)	90
		CF_DI	0.96	CAD (meq/kg)	19

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	58		DCCP	68	DCCP	-
DCCFAT	76		DCCFATh	72	DCCFAT	-
DCCF	40		DCCF	34	DCNFE	-
DCNFE	92		DCNFE	96	DCPpo	-
DCOM	84		DCOM	87		
			DCNSPh	62	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	58
%RUP	34	35	StaDCP	60	DCCFATh	82
%DRUP	75	75	AppDCP	53	DC(S+S)	-
%RUSTA	32	34			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	22	22				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1146 /kg	NE2015	11.99 MJ/kg	MEpo	-	
VEVI	1250 /kg	NE2015	2866 kcal/kg	MEpo	-	
FOM-91	538 g/kg	EW2015	1.36 /kg	MEla	-	
FOMr-07	548 g/kg	StaDP	1.8 g/kg	MEla	-	
FOMr2-07	281 g/kg	AppDP	1.6 g/kg	DPpo	-	
FOMr2/FOMr	0.51 /kg					
DVE-91	66 g/kg			Horses		
DVE-07	75 g/kg			MEbr	10.27 MJ/kg	
OEB-91	-20 g/kg			MEbr	2456 kcal/kg	
OEB-07	-34 g/kg			DPpo	EWpa	1.15 /kg
OEB2-07	6 g/kg				DCPho	59 g/kg
DVMET-91	1.7 g/kg					
DVLYS-91	4.1 g/kg					
DVMET-07	1.9 g/kg					
DVLYS-07	4.8 g/kg					
SW	0.60 /kg					
VW	0.75 /kg					

Corn cob mix (CCM), silage-with rachis, CF > 60 g/kg DM 1002.517/3/0

Amino acids

	g/16g N		g/kg DM	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			97	75	-	63	61	-	-
LYS	2.9	0.3	2.8	64	1.8	50	1.4	-	-
MET	2.1	0.2	2.0	81	1.6	76	1.5	-	-
CYS	2.2	0.2	2.1	73	1.6	63	1.3	-	-
THR	3.6	0.2	3.5	72	2.5	56	1.9	-	-
TRP	0.7	0.1	0.7	65	0.4	44	0.3	-	-
ILE	3.4	0.2	3.3	75	2.5	63	2.1	-	-
ARG	4.7	0.4	4.6	75	3.4	66	3.0	-	-
PHE	4.8	0.3	4.7	75	3.5	68	3.2	-	-
HIS	3.0	0.2	2.9	75	2.2	68	2.0	-	-
LEU	12.1	0.7	11.7	75	8.8	71	8.3	-	-
TYR	3.7	0.4	3.6	75	2.7	67	2.4	-	-
VAL	4.8	0.3	4.7	75	3.5	63	3.0	-	-
ALA	7.5	0.4	7.3	75	5.4	68	5.0	-	-
ASP	6.7	0.4	6.5	74	4.8	62	4.1	-	-
GLU	18.1	1.0	17.6	74	13.1	68	11.9	-	-
GLY	3.9	0.3	3.8	74	2.8	51	1.9	-	-
PRO	8.9	0.7	8.6	75	6.4	62	5.3	-	-
SER	4.8	0.2	4.7	74	3.5	60	2.8	-	-
Sum AA	97.9		95	-	70	-	61	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		43.0
<=C10	-	0.0
C12:0	0.2	0.1
C14:0	0.2	0.1
C16:0	12.0	4.6
C16:1	0.2	0.1
C18:0	2.0	0.8
C18:1	28.0	10.8
C:18:2	55.0	21.3
C18:3	1.0	0.4
>=C20	1.0	0.4
Sum FA	99.6	38.5
% FA in CFAT-fraction		90

Fermentation products

	g/kg DM	sdc
FP	41	-
LA	34	-
AC	7	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Distiller's solubles, fresh 1000.304/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	73	56	324	-	105	63	-	452	
sd	6	12	29	-	10	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	54	54	-	33	332	212	-	421	89
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	9.2	5.5	3.4	13.3	1.4	-	-	-
sd	-	4.6	-	-	1.1	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	60	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
DCCP	-	DCCP	-	DCCP
DCCFAT	-	DCCFATh	-	DCCFAT
DCCF	-	DCCF	-	DCCF
DCNFE	-	DCNFE	-	DCNFE
DCOM	-	DCOM	-	
		DCNSPh		
		DCiSTA		
		StaDCP		
		AppDCP		
DVE	1991	2007		
%RUP	-	-		
%DRUP	-	-		
%RUSTA	10	-		
%DASH	50	50		
DASHmax	-	-		
			Broilers	Horses
			DCCP	DCCP
			DCCFATh	DCOM
			DC(S+S)	
			DCNFEh	
			DCPpo	

Nutritional value (in DM)

Ruminants	Pigs	Roosters/Laying hens	Rabbits
VEM	NE2015	MEpo	MErab
VEVI	NE2015	MEpo	MErab
FOM-91	EW2015	MEla	
FOMr-07	StaDP	MEla	
FOMr2-07	AppDP	DPpo	
FOMr2/FOMr			
DVE-91		Broilers	Horses
DVE-07		MEbr	NEm
OEB-91		MEbr	NEm
OEB-07		DPpo	EWpa
OEB2-07			DCPho
DVMET-91			
DVLYS-91			
DVMET-07			
DVLYS-07			
SW			
VW			

Distiller's solubles, fresh 1000.304/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		AA poultry	
				standardized	apparent	DC	g/kg DM	DC	g/kg DM
CP			324	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		105.1
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	10	-
LA	8	-
AC	2	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Maize gluten feed, fresh and ensiled-STAew < 200 g/kg DM 1002.240/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	414	57	198	-	38	134	-	573	
sd	10	5	8	-	6	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	122	88	8	17	510	133	13	539	29
sd	24	-	4	12	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	9.9	5.9	4.3	16.3	2.0	2.0	3.3	1.8
sd	0.1	1.0	-	0.4	1.2	0.3	0.2	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	77	22	87	6	-	-	0.1
sd	12	-	-	-	-	-	0.1

IP/P	60	SUGe/SUG	60	EB (meq/kg)	448
		CF_DI	0.97	CAD (meq/kg)	130

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	74		DCCP	78	DCCP	-
DCCFAT	74		DCCFATh	55	DCCFAT	-
DCCF	75		DCCF	42	DCNFE	-
DCNFE	88		DCNFE	60	DCPpo	-
DCOM	83		DCOM	61		
			DCNSPh	43	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	31	34	StaDCP	25	DCCFATh	-
%DRUP	86	86	AppDCP	23	DC(S+S)	-
%RUSTA	33	33			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	36	36				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1064 /kg	NE2015	7.12 MJ/kg	MEpo	-	
VEVI	1137 /kg	NE2015	1701 kcal/kg	MEpo	-	
FOM-91	620 g/kg	EW2015	0.81 /kg	MEla	-	
FOMr-07	516 g/kg	StaDP	2.5 g/kg	MEla	-	
FOMr2-07	217 g/kg	AppDP	2.3 g/kg	DPpo	-	
FOMr2/FOMr	0.42 /kg					
DVE-91	103 g/kg			Broilers		
DVE-07	90 g/kg			MEbr	-	
OEB-91	37 g/kg			MEbr	-	
OEB-07	58 g/kg			DPpo	-	
OEB2-07	71 g/kg				Horses	
DVMET-91	2.2 g/kg				NEm	-
DVLYS-91	5.5 g/kg				NEm	-
DVMET-07	1.9 g/kg				EWpa	-
DVLYS-07	4.5 g/kg				DCPho	-
SW	0.60 /kg					
VW	0.55 /kg					

Maize gluten feed, fresh and ensiled-STAew < 200 g/kg DM 1002.240/1/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

AA pigs

	g/16g N			AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM		
CP			198	70	-	64	127	-	-
LYS	3.0	-	5.9	65	3.8	58	3.5	-	-
MET	1.6	-	3.2	81	2.6	78	2.5	-	-
CYS	2.1	-	4.2	59	2.5	54	2.2	-	-
THR	3.5	-	6.9	72	5.0	63	4.4	-	-
TRP	0.6	-	1.2	66	0.8	54	0.6	-	-
ILE	3.0	-	5.9	80	4.7	74	4.4	-	-
ARG	4.0	-	7.9	85	6.7	80	6.3	-	-
PHE	3.8	-	7.5	84	6.3	79	6.0	-	-
HIS	2.9	-	5.7	76	4.4	73	4.2	-	-
LEU	9.0	-	17.8	85	15.1	82	14.7	-	-
TYR	2.8	-	5.5	84	4.6	79	4.4	-	-
VAL	4.5	-	8.9	77	6.8	71	6.3	-	-
ALA	6.6	-	13.1	84	11.0	80	10.5	-	-
ASP	6.0	-	11.9	72	8.5	65	7.7	-	-
GLU	15.1	-	29.9	82	24.4	78	23.2	-	-
GLY	4.5	-	8.9	62	5.5	52	4.6	-	-
PRO	8.6	-	17.0	78	13.2	71	12.1	-	-
SER	4.2	-	8.3	76	6.3	68	5.6	-	-
Sum AA	85.8		170	-	132	-	123	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		38.0	FP	62	-
<=C10	-	-	LA	58	-
C12:0	-	-	AC	2	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	2	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Maize gluten feed, fresh and ensiled-STAew < 200 g/kg DM:

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.

Maize gluten feed, fresh and ensiled-STAew > 200 g/kg DM 1002.240/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	418	39	166	-	38	86	-	671	
sd	23	5	12	-	-	9	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	343	308	-	12	362	101	7	382	20
sd	62	-	-	9	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	6.8	4.1	2.8	10.6	2.0	1.7	3.3	1.5
sd	0.1	1.2	-	0.5	1.8	0.3	0.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	113	15	48	5	-	-	0.1
sd	51	4	13	0	-	-	0.1

IP/P	60	SUGe/SUG	60	EB (meq/kg)	310
		CF_DI	0.97	CAD (meq/kg)	11

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	71		DCCP	76	DCCP	-
DCCFAT	74		DCCFATh	55	DCCFAT	-
DCCF	75		DCCF	42	DCNFE	-
DCNFE	88		DCNFE	76	DCPpo	-
DCOM	83		DCOM	72		
			DCNSPh	45		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	25	DCCP	-
%RUP	41	43	AppDCP	22	DCCFATh	-
%DRUP	86	86			DC(S+S)	-
%RUSTA	33	33			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	26	26				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1099 /kg	NE2015	9.14 MJ/kg	MEpo	-
VEVI	1186 /kg	NE2015	2185 kcal/kg	MEpo	-
FOM-91	561 g/kg	EW2015	1.04 /kg	MEla	-
FOMr-07	542 g/kg	StaDP	1.7 g/kg	MEla	-
FOMr2-07	215 g/kg	AppDP	1.5 g/kg	DPpo	-
FOMr2/FOMr	0.40 /kg				
DVE-91	105 g/kg			Broilers	Horses
DVE-07	107 g/kg			MEbr	-
OEB-91	7 g/kg			MEbr	-
OEB-07	2 g/kg			DPpo	-
OEB2-07	32 g/kg				EWpa
DVMET-91	2.2 g/kg				DCPho
DVLYS-91	5.3 g/kg				
DVMET-07	2.3 g/kg				
DVLYS-07	5.6 g/kg				
SW	0.60 /kg				
VW	0.55 /kg				

Maize gluten feed, fresh and ensiled-STAew > 200 g/kg DM 1002.240/2/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

AA pigs

	g/16g N			AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM		
CP			166	70	-	63	104	-	-
LYS	3.0	-	5.0	65	3.2	57	2.8	-	-
MET	1.6	-	2.7	81	2.2	77	2.0	-	-
CYS	2.1	-	3.5	59	2.1	53	1.8	-	-
THR	3.5	-	5.8	72	4.2	62	3.6	-	-
TRP	0.6	-	1.0	66	0.7	52	0.5	-	-
ILE	3.0	-	5.0	80	4.0	72	3.6	-	-
ARG	4.0	-	6.6	85	5.6	79	5.2	-	-
PHE	3.8	-	6.3	84	5.3	79	5.0	-	-
HIS	2.9	-	4.8	76	3.6	72	3.5	-	-
LEU	9.0	-	14.9	85	12.7	82	12.2	-	-
TYR	2.8	-	4.6	84	3.9	78	3.6	-	-
VAL	4.5	-	7.5	77	5.7	70	5.2	-	-
ALA	6.6	-	11.0	84	9.2	79	8.7	-	-
ASP	6.0	-	10.0	72	7.1	64	6.4	-	-
GLU	15.1	-	25.1	82	20.5	77	19.3	-	-
GLY	4.5	-	7.5	62	4.6	50	3.7	-	-
PRO	8.6	-	14.3	78	11.1	70	10.0	-	-
SER	4.2	-	7.0	76	5.3	66	4.6	-	-
Sum AA	85.8		142	-	111	-	102	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		38.0	FP	62	-
<=C10	-	-	LA	58	-
C12:0	-	-	AC	2	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	2	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Maize gluten feed, fresh and ensiled-STAew > 200 g/kg DM:

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.

Maize solubles 1002.212/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	473	177	446	-	11	4	-	362		
sd	48	11	48	-	13	5	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	13	3	-	88	-	-	-	90	90	
sd	14	-	-	58	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	31.7	23.8	14.2	52.0	5.6	7.4	9.5	-
sd	0.3	2.3	-	1.4	5.0	2.8	1.0	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	242	81	234	15	-	-	-
sd	39	9	29	6	-	-	-

IP/P	75	SUGe/SUG	-	EB (meq/kg)	1366
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	87		DCCP	-	DCCP
DCCFAT	67		DCCFATh	-	DCCFAT
DCCF	96		DCCF	-	DCCF
DCNFE	96		DCNFE	-	DCNFE
DCOM	91		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	5	5	StaDCP	-	DCCP
%DRUP	-	0	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	65	65			
DASHmax	133	133			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1013 /kg	NE2015	MEpo	MErab
VEVI	1089 /kg	NE2015	MEpo	MErab
FOM-91	609 g/kg	EW2015	MEla	
FOMr-07	787 g/kg	StaDP	MEla	
FOMr2-07	765 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.97 /kg			
DVE-91	48 g/kg		Broilers	Horses
DVE-07	44 g/kg		MEbr	NEm
OEB-91	330 g/kg		MEbr	NEm
OEB-07	337 g/kg		DPpo	EWpa
OEB2-07	333 g/kg			DCPho
DVMET-91	1.3 g/kg			
DVLYS-91	3.9 g/kg			
DVMET-07	1.2 g/kg			
DVLYS-07	3.6 g/kg			
SW	0.10 /kg			
VW	0.30 /kg			

Maize solubles 1002.212/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N		g/kg DM	AA pigs				DC	g/kg DM
	mean	sdc		standardized		apparent			
				DC	g/kg DM	DC	g/kg DM		
CP			446	-	-	-	-	-	-
LYS	3.3	-	14.7	-	-	-	-	-	-
MET	2.2	-	9.8	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	2.9	-	12.9	-	-	-	-	-	-
TRP	0.6	-	2.7	-	-	-	-	-	-
ILE	2.3	-	10.3	-	-	-	-	-	-
ARG	5.4	-	24.1	-	-	-	-	-	-
PHE	2.6	-	11.6	-	-	-	-	-	-
HIS	2.9	-	12.9	-	-	-	-	-	-
LEU	6.6	-	29.4	-	-	-	-	-	-
TYR	2.6	-	11.6	-	-	-	-	-	-
VAL	8.7	-	38.8	-	-	-	-	-	-
ALA	5.1	-	22.7	-	-	-	-	-	-
ASP	5.8	-	25.9	-	-	-	-	-	-
GLU	11.5	-	51.3	-	-	-	-	-	-
GLY	3.7	-	16.5	-	-	-	-	-	-
PRO	7.4	-	33.0	-	-	-	-	-	-
SER	3.4	-	15.2	-	-	-	-	-	-
Sum AA	77.0		-	-	-	-	-	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		11.0	FP	205	-
<=C10	-	-	LA	202	34
C12:0	-	-	AC	3	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Potato cuttings/chips, prefried-CFATh < 120 g/kg DM 4001.637/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	328	32	70	-	96	18	-	783		
sd	25	6	9	-	14	5	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	696	667	-	7	-	-	-	128	128	
sd	-	-	-	8	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.1	2.4	0.4	0.6	12.4	1.3	1.6	-	0.5
sd	0.1	0.6	-	0.1	2.5	1.2	1.7	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	329
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	64	DCCP	-	
DCCFAT	-	DCCFATh	85	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	99	DCPpo	-	
DCOM	-	DCOM	94			
		DCNSPh	88			
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	-	-	StaDCP	60	DCCP	-
%DRUP	-	-	AppDCP	52	DCCFATh	-
%RUSTA	-	-			DC(S+S)	-
%DASH	65	65			DCNFEh	-
DASHmax	-	-			DCPpo	-

Nutritional value (in DM)

Ruminants	Pigs	Roosters/Laying hens	Rabbits				
VEM	-	NE2015	14.03 MJ/kg	MEpo	-	MErab	-
VEVI	-	NE2015	3353 kcal/kg	MEpo	-	MErab	-
FOM-91	-	EW2015	1.59 /kg	MEla	-		
FOMr-07	-	StaDP	1.4 g/kg	MEla	-		
FOMr2-07	-	AppDP	1.2 g/kg	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-			Broilers		Horses	
DVE-07	-			MEbr	-	NEm	-
OEB-91	-			MEbr	-	NEm	-
OEB-07	-			DPpo	-	EWpa	-
OEB2-07	-					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-						
VW	-						

Potato cuttings/chips, prefried-CFATh < 120 g/kg DM 4001.637/1/0

Amino acids

	g/16g N		Ileal digestible				Standardized ileal digestible		
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			70	54	-	38	27	-	-
LYS	5.4	-	3.8	55	2.1	44	1.7	-	-
MET	1.4	-	1.0	55	0.5	44	0.4	-	-
CYS	1.3	-	0.9	55	0.5	32	0.3	-	-
THR	3.9	-	2.7	54	1.5	33	0.9	-	-
TRP	0.9	-	0.6	55	0.3	33	0.2	-	-
ILE	3.7	-	2.6	55	1.4	40	1.1	-	-
ARG	3.1	-	2.2	55	1.2	37	0.8	-	-
PHE	3.9	-	2.7	54	1.5	43	1.2	-	-
HIS	1.7	-	1.2	54	0.6	39	0.5	-	-
LEU	6.1	-	4.3	55	2.3	44	1.9	-	-
TYR	3.3	-	2.3	55	1.3	42	1.0	-	-
VAL	5.2	-	3.7	55	2.0	40	1.5	-	-
ALA	6.0	-	4.2	55	2.3	43	1.8	-	-
ASP	19.1	-	13.4	55	7.4	49	6.6	-	-
GLU	11.6	-	8.2	54	4.4	39	3.2	-	-
GLY	3.6	-	2.5	54	1.4	19	0.5	-	-
PRO	3.4	-	2.4	53	1.3	7	0.2	-	-
SER	3.7	-	2.6	54	1.4	29	0.8	-	-
Sum AA	87.3		61	-	33	-	24	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		96.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Potato cuttings/chips, prefried-CFATh 120 - 180 g/kg DM 4001.637/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	322	29	72	-	152	17	-	730		
sd	27	5	8	-	18	2	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	643	616	-	7	-	-	-	125	125	
sd	34	-	-	8	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.4	2.2	0.3	0.6	11.6	1.5	1.8	-	0.5
sd	0.1	0.3	-	0.1	2.0	1.2	1.4	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	311
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	65	DCCP	-	
DCCFAT	-	DCCFATh	87	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	99	DCPpo	-	
DCOM	-	DCOM	94			
		DCNSPh	88	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	51	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	15.10 MJ/kg	MEpo	-	
VEVI	-	NE2015	3608 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.72 /kg	MEIa	-	
FOMr-07	-	StaDP	1.3 g/kg	MEIa	-	
FOMr2-07	-	AppDP	1.1 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Potato cuttings/chips, prefried-CFATh 120 - 180 g/kg DM 4001.637/2/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			72	54	-	39	28	-	-
LYS	5.4	-	3.9	55	2.1	45	1.7	-	-
MET	1.4	-	1.0	55	0.6	44	0.4	-	-
CYS	1.3	-	0.9	55	0.5	33	0.3	-	-
THR	3.9	-	2.8	54	1.5	33	0.9	-	-
TRP	0.9	-	0.6	55	0.4	33	0.2	-	-
ILE	3.7	-	2.7	55	1.5	41	1.1	-	-
ARG	3.1	-	2.2	55	1.2	37	0.8	-	-
PHE	3.9	-	2.8	54	1.5	43	1.2	-	-
HIS	1.7	-	1.2	54	0.7	39	0.5	-	-
LEU	6.1	-	4.4	55	2.4	44	1.9	-	-
TYR	3.3	-	2.4	55	1.3	42	1.0	-	-
VAL	5.2	-	3.7	55	2.0	41	1.5	-	-
ALA	6.0	-	4.3	55	2.4	43	1.9	-	-
ASP	19.1	-	13.7	55	7.5	49	6.7	-	-
GLU	11.6	-	8.3	54	4.5	40	3.3	-	-
GLY	3.6	-	2.6	54	1.4	19	0.5	-	-
PRO	3.4	-	2.4	53	1.3	8	0.2	-	-
SER	3.7	-	2.7	54	1.4	29	0.8	-	-
Sum AA	87.3		63	-	34	-	25	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		152.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Potato cuttings/chips, prefried-CFATh > 180 g/kg DM 4001.637/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	360	28	64	-	208	16	-	685		
sd	31	6	7	-	24	2	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	595	570	-	7	-	-	-	124	124	
sd	45	-	-	8	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.3	2.1	0.3	0.5	10.1	2.8	3.8	-	0.4
sd	0.1	0.2	-	0.1	1.9	2.9	4.1	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	273
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	63	DCCP	-	
DCCFAT	-	DCCFATh	88	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	99	DCPpo	-	
DCOM	-	DCOM	93			
		DCNSPh	88	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	50	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants	Pigs	Roosters/Laying hens	Rabbits				
VEM	-	NE2015	16.17 MJ/kg	MEpo	-	MErab	-
VEVI	-	NE2015	3864 kcal/kg	MEpo	-	MErab	-
FOM-91	-	EW2015	1.84 /kg	MEla	-		
FOMr-07	-	StaDP	1.3 g/kg	MEla	-		
FOMr2-07	-	AppDP	1.1 g/kg	DPpo	-		
FOMr2/FOMr	-						
DVE-91	-			Broilers		Horses	
DVE-07	-			MEbr	-	NEm	-
OEB-91	-			MEbr	-	NEm	-
OEB-07	-			DPpo	-	EWpa	-
OEB2-07	-					DCPho	-
DVMET-91	-						
DVLYS-91	-						
DVMET-07	-						
DVLYS-07	-						
SW	-						
VW	-						

Potato cuttings/chips, prefried-CFATh > 180 g/kg DM 4001.637/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			64	54	-	37	23	-	-
LYS	5.4	-	3.5	55	1.9	43	1.5	-	-
MET	1.4	-	0.9	55	0.5	43	0.4	-	-
CYS	1.3	-	0.8	55	0.5	30	0.2	-	-
THR	3.9	-	2.5	54	1.4	31	0.8	-	-
TRP	0.9	-	0.6	55	0.3	31	0.2	-	-
ILE	3.7	-	2.4	55	1.3	39	0.9	-	-
ARG	3.1	-	2.0	55	1.1	35	0.7	-	-
PHE	3.9	-	2.5	54	1.4	41	1.0	-	-
HIS	1.7	-	1.1	54	0.6	38	0.4	-	-
LEU	6.1	-	3.9	55	2.1	42	1.7	-	-
TYR	3.3	-	2.1	55	1.2	41	0.9	-	-
VAL	5.2	-	3.3	55	1.8	39	1.3	-	-
ALA	6.0	-	3.8	55	2.1	42	1.6	-	-
ASP	19.1	-	12.2	55	6.7	48	5.9	-	-
GLU	11.6	-	7.4	54	4.0	38	2.8	-	-
GLY	3.6	-	2.3	54	1.2	15	0.3	-	-
PRO	3.4	-	2.2	53	1.2	3	0.1	-	-
SER	3.7	-	2.4	54	1.3	26	0.6	-	-
Sum AA	87.3		56	-	30	-	21	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		208.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	-

Potato cuttings/chips, raw 4001.636/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	212	31	80	2	4	26	861	858		
sd	49	8	9	2	2	8	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	749	717	-	20	75	-	-	100	25	
sd	31	-	-	16	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	1.7	-	0.6	12.9	0.4	1.4	-	0.5
sd	0.2	0.3	-	0.2	3.9	0.3	0.5	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	75	6	14	5	-	-	-
sd	70	3	8	2	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	307
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	40		DCCP	-	DCCP
DCCFAT	-		DCCFATh	-	DCCFAT
DCCF	74		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	88		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	30	30	StaDCP	-	DCCP
%DRUP	86	86	AppDCP	-	DCOM
%RUSTA	43	44		DC(S+S)	-
%DASH	50	50		DCNFEh	-
DASHmax	22	22		DCPpo	-

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1128 /kg	NE2015	MEpo	MErab
VEVI	1247 /kg	NE2015	MEpo	MErab
FOM-91	487 g/kg	EW2015	MEla	
FOMr-07	596 g/kg	StaDP	MEla	
FOMr2-07	261 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.44 /kg			
DVE-91	59 g/kg		Broilers	Horses
DVE-07	84 g/kg		MEbr	NEm
OEB-91	-19 g/kg		MEbr	NEm
OEB-07	-59 g/kg		DPpo	EWpa
OEB2-07	-12 g/kg			DCPho
DVMET-91	1.3 g/kg			
DVLYS-91	4.2 g/kg			
DVMET-07	2.0 g/kg			
DVLYS-07	6.2 g/kg			
SW	0.60 /kg			
VW	0.55 /kg			

Potato cuttings/chips, raw 4001.636/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		Standardized ileal digestible	
				standardized	apparent	DC	g/kg DM	DC	g/kg DM
CP			80	-	-	-	-	-	-
LYS	5.4	-	4.3	-	-	-	-	-	-
MET	1.4	-	1.1	-	-	-	-	-	-
CYS	1.3	-	1.0	-	-	-	-	-	-
THR	3.9	-	3.1	-	-	-	-	-	-
TRP	0.9	-	0.7	-	-	-	-	-	-
ILE	3.7	-	3.0	-	-	-	-	-	-
ARG	3.1	-	2.5	-	-	-	-	-	-
PHE	3.9	-	3.1	-	-	-	-	-	-
HIS	1.7	-	1.4	-	-	-	-	-	-
LEU	6.1	-	4.9	-	-	-	-	-	-
TYR	3.3	-	2.6	-	-	-	-	-	-
VAL	5.2	-	4.2	-	-	-	-	-	-
ALA	6.0	-	4.8	-	-	-	-	-	-
ASP	19.1	-	15.3	-	-	-	-	-	-
GLU	11.6	-	9.3	-	-	-	-	-	-
GLY	3.6	-	2.9	-	-	-	-	-	-
PRO	3.4	-	2.7	-	-	-	-	-	-
SER	3.7	-	3.0	-	-	-	-	-	-
Sum AA	87.3		70	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		2.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	61	-
LA	47	-
AC	14	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Potato fruit-juice concentrated 4001.208/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	548	290	327	-	-	-	383	383	
sd	35	31	26	-	-	-	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	57	-	-	-	328	328
sd	-	-	-	39	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	11.1	1.7	6.4	138.5	3.3	11.3	8.0	1.7
sd	0.2	1.0	-	0.6	12.4	2.9	1.4	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	37	111	47	-	-	-
sd	-	12	-	-	-	-	-

IP/P	15	SUGe/SUG	-	EB (meq/kg)	3369
		CF_DI	0.97	CAD (meq/kg)	2765

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	91		DCCP	-	DCCP
DCCFAT	-		DCCFATh	-	DCCFAT
DCCF	-		DCCF	-	DCCF
DCNFE	95		DCNFE	-	DCNFE
DCOM	93		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	5	5	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	-	-			
%DASH	65	65			
DASHmax	214	214			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	896 /kg	NE2015	MEpo	MErab
VEVI	978 /kg	NE2015	MEpo	MErab
FOM-91	645 g/kg	EW2015	MEla	
FOMr-07	666 g/kg	StaDP	MEla	
FOMr2-07	621 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.93 /kg			
DVE-91	66 g/kg		Broilers	Horses
DVE-07	57 g/kg		MEbr	NEm
OEB-91	212 g/kg		MEbr	NEm
OEB-07	226 g/kg		DPpo	EWpa
OEB2-07	227 g/kg			DCPho
DVMET-91	1.5 g/kg			
DVLYS-91	4.5 g/kg			
DVMET-07	1.3 g/kg			
DVLYS-07	3.9 g/kg			
SW	0.10 /kg			
VW	0.30 /kg			

Potato fruit-juice concentrated 4001.208/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg DM	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP				327	-	-	-	-	-
LYS	2.9	0.6	9.5	-	-	-	-	-	-
MET	0.9	0.2	2.9	-	-	-	-	-	-
CYS	1.2	0.1	3.9	-	-	-	-	-	-
THR	1.6	0.3	5.2	-	-	-	-	-	-
TRP	0.4	0.2	1.3	-	-	-	-	-	-
ILE	1.3	0.2	4.2	-	-	-	-	-	-
ARG	3.7	0.7	12.1	-	-	-	-	-	-
PHE	1.8	0.4	5.9	-	-	-	-	-	-
HIS	0.8	0.3	2.6	-	-	-	-	-	-
LEU	1.9	0.5	6.2	-	-	-	-	-	-
TYR	1.5	0.4	4.9	-	-	-	-	-	-
VAL	2.4	0.3	7.8	-	-	-	-	-	-
ALA	3.6	0.8	11.8	-	-	-	-	-	-
ASP	26.7	3.3	87.2	-	-	-	-	-	-
GLU	16.3	1.2	53.3	-	-	-	-	-	-
GLY	1.7	0.3	5.6	-	-	-	-	-	-
PRO	2.8	0.6	9.1	-	-	-	-	-	-
SER	2.0	0.3	6.5	-	-	-	-	-	-
Sum AA	73.5		240	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		0.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Potato peelings, steamed-STAam < 350 g/kg DM 4001.638/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	110	81	156	-	13	75	-	675	
sd	18	13	16	-	4	13	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	295	282	76	33	133	103	31	230	97
sd	67	-	32	17	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.1	2.6	0.4	1.3	30.6	0.9	5.5	-	1.0
sd	0.7	0.4	-	0.2	4.5	1.1	2.8	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	533	26	28	11	0.5	0.3	-
sd	367	13	12	4	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	667
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	72		DCCP	74	DCCP	-
DCCFAT	71		DCCFATh	52	DCCFAT	-
DCCF	74		DCCF	70	DCNFE	-
DCNFE	93		DCNFE	96	DCPpo	-
DCOM	88		DCOM	89		
			DCNSPh	78		
DVE	1991	2007	DCiSTA	100	Broilers	Horses
%RUP	28	30	StaDCP	35	DCCP	-
%DRUP	85	85	AppDCP	27	DCCFATh	-
%RUSTA	11	10			DC(S+S)	-
%DASH	50	50			DCNFEh	-
DASHmax	49	49			DCPpo	-

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1082 /kg	NE2015	10.72 MJ/kg	MEpo	-
VEVI	1183 /kg	NE2015	2561 kcal/kg	MEpo	-
FOM-91	639 g/kg	EW2015	1.22 /kg	MEIa	-
FOMr-07	786 g/kg	StaDP	0.9 g/kg	MEIa	-
FOMr2-07	584 g/kg	AppDP	0.7 g/kg	DPpo	-
FOMr2/FOMr	0.74 /kg				
DVE-91	91 g/kg			Broilers	Horses
DVE-07	116 g/kg			MEbr	-
OEB-91	11 g/kg			MEbr	-
OEB-07	-29 g/kg			DPpo	-
OEB2-07	-25 g/kg				EWpa
DVMET-91	2.0 g/kg				DCPho
DVLYS-91	6.3 g/kg				
DVMET-07	2.6 g/kg				
DVLYS-07	8.3 g/kg				
SW	0.55 /kg				
VW	0.45 /kg				

Potato peelings, steamed-STAam < 350 g/kg DM 4001.638/1/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N			AA pigs				Standardized ileal digestible AA poultry	
	g/16g N		g/kg DM	standardized		apparent		DC	g/kg DM
	mean	sd		DC	g/kg DM	DC	g/kg DM		
CP			156	61	-	53	83	-	-
LYS	5.5	0.6	8.6	65	5.6	61	5.2	-	-
MET	1.4	0.2	2.2	68	1.5	63	1.4	-	-
CYS	1.2	0.2	1.9	54	1.0	43	0.8	-	-
THR	3.8	0.3	5.9	64	3.8	54	3.2	-	-
TRP	1.0	0.1	1.6	53	0.8	44	0.7	-	-
ILE	3.6	0.3	5.6	61	3.4	54	3.0	-	-
ARG	3.4	0.5	5.3	61	3.2	53	2.8	-	-
PHE	4.0	0.4	6.2	60	3.8	55	3.4	-	-
HIS	1.7	0.1	2.6	60	1.6	54	1.4	-	-
LEU	6.2	0.5	9.7	61	5.9	56	5.4	-	-
TYR	3.6	0.2	5.6	61	3.4	55	3.1	-	-
VAL	4.8	0.4	7.5	61	4.5	54	4.0	-	-
ALA	6.0	1.3	9.3	61	5.7	55	5.2	-	-
ASP	17.0	2.9	26.5	61	16.1	58	15.3	-	-
GLU	11.1	1.4	17.3	60	10.4	53	9.2	-	-
GLY	3.6	0.2	5.6	60	3.4	44	2.5	-	-
PRO	3.5	0.4	5.5	60	3.3	40	2.2	-	-
SER	4.0	0.6	6.2	60	3.8	50	3.1	-	-
Sum AA	85.4		133	-	81	-	72	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sd
CFAT(h)		13.3	FP	161	-
<=C10	-	-	LA	127	34
C12:0	-	-	AC	23	10
C14:0	-	-	ETH	8	4
C16:0	-	-	PR	1	2
C16:1	-	-	BU	2	2
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-	NH3	-	-
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Potato peelings, steamed-STAam < 350 g/kg DM:

1. DCiSTA value is valid for all batches that are not mixed with by-products containing native starch.

Potato peelings, steamed-STAam 350 - 475 g/kg DM 4001.638/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	132	68	135	-	11	53	-	733	
sd	11	10	13	-	3	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	434	415	49	21	103	73	16	205	102
sd	34	-	14	15	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.4	2.5	0.4	1.1	27.4	1.1	3.8	-	0.8
sd	0.4	0.5	-	0.2	3.2	0.7	1.4	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	533	26	28	11	0.5	0.3	-
sd	367	13	12	4	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	642
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	67		DCCP	73	DCCP	-
DCCFAT	67		DCCFATh	44	DCCFAT	-
DCCF	74		DCCF	70	DCNFE	-
DCNFE	93		DCNFE	96	DCPpo	-
DCOM	88		DCOM	91		
			DCNSPh	78	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	28	30	StaDCP	35	DCCFATh	-
%DRUP	85	85	AppDCP	27	DC(S+S)	-
%RUSTA	11	10			DCNFEh	-
%DASH	50	50			DCPpo	-
DASHmax	42	42				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1099 /kg	NE2015	11.17 MJ/kg	MEpo	-	
VEVI	1207 /kg	NE2015	2669 kcal/kg	MEpo	-	
FOM-91	666 g/kg	EW2015	1.27 /kg	MEla	-	
FOMr-07	802 g/kg	StaDP	0.9 g/kg	MEla	-	
FOMr2-07	583 g/kg	AppDP	0.7 g/kg	DPpo	-	
FOMr2/FOMr	0.73 /kg					
DVE-91	89 g/kg			Horses		
DVE-07	120 g/kg			MEbr	-	
OEB-91	-7 g/kg			MEbr	-	
OEB-07	-56 g/kg			DPpo	-	
OEB2-07	-45 g/kg				EWpa	-
DVMET-91	2.0 g/kg				DCPho	-
DVLYS-91	6.3 g/kg					
DVMET-07	2.7 g/kg					
DVLYS-07	8.7 g/kg					
SW	0.50 /kg					
VW	0.45 /kg					

Potato peelings, steamed-STAam 350 - 475 g/kg DM 4001.638/2/0

Amino acids

Ileal digestible

Standardized ileal digestible

AA pigs

AA poultry

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg DM	standardized		apparent		DC	g/kg DM
	mean	sd		DC	g/kg DM	DC	g/kg DM		
CP			135	61	-	52	70	-	-
LYS	5.5	0.6	7.4	65	4.9	60	4.5	-	-
MET	1.4	0.2	1.9	68	1.3	62	1.2	-	-
CYS	1.2	0.2	1.6	54	0.9	41	0.7	-	-
THR	3.8	0.3	5.1	64	3.3	53	2.7	-	-
TRP	1.0	0.1	1.4	53	0.7	42	0.6	-	-
ILE	3.6	0.3	4.9	61	3.0	53	2.6	-	-
ARG	3.4	0.5	4.6	61	2.8	52	2.4	-	-
PHE	4.0	0.4	5.4	60	3.3	54	2.9	-	-
HIS	1.7	0.1	2.3	60	1.4	53	1.2	-	-
LEU	6.2	0.5	8.4	61	5.1	55	4.6	-	-
TYR	3.6	0.2	4.9	61	3.0	55	2.7	-	-
VAL	4.8	0.4	6.5	61	3.9	52	3.4	-	-
ALA	6.0	1.3	8.1	61	4.9	55	4.4	-	-
ASP	17.0	2.9	23.0	61	13.9	57	13.2	-	-
GLU	11.1	1.4	15.0	60	9.0	52	7.9	-	-
GLY	3.6	0.2	4.9	60	2.9	42	2.0	-	-
PRO	3.5	0.4	4.7	60	2.8	37	1.7	-	-
SER	4.0	0.6	5.4	60	3.3	48	2.6	-	-
Sum AA	85.4		116	-	70	-	61	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sd
CFAT(h)		10.9	FP	121	-
<=C10	-	-	LA	94	28
C12:0	-	-	AC	16	6
C14:0	-	-	ETH	8	5
C16:0	-	-	PR	1	2
C16:1	-	-	BU	2	2
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Potato peelings, steamed-STAam 350 - 475 g/kg DM:

1. DCiSTA value is valid for all batches that are not mixed with by-products containing native starch.

Potato peelings, steamed-STAam 475 - 600 g/kg DM 4001.638/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	142	56	115	-	9	39	-	782		
sd	13	6	9	-	2	7	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	558	535	28	11	84	53	7	178	94	
sd	40	-	15	7	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	2.5	0.4	1.0	24.6	0.5	2.9	-	0.7
sd	0.3	0.3	-	0.1	2.9	0.3	0.8	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	533	26	28	11	0.5	0.3	-
sd	367	13	12	4	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	570
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	60		DCCP	71	DCCP	-	
DCCFAT	61		DCCFATh	33	DCCFAT	-	
DCCF	74		DCCF	70	DCNFE	-	
DCNFE	93		DCNFE	97	DCPpo	-	
DCOM	88		DCOM	92			
			DCNSPh	78			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	28	30	StaDCP	35	DCCP	DCCP	-
%DRUP	85	85	AppDCP	27	DCCFATh	DCOM	-
%RUSTA	11	10			DC(S+S)		
%DASH	50	50			DCNFEh		
DASHmax	36	36			DCPpo		

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1112 /kg	NE2015	11.62 MJ/kg	MEpo	-	
VEVI	1225 /kg	NE2015	2778 kcal/kg	MEpo	-	
FOM-91	689 g/kg	EW2015	1.32 /kg	MEla	-	
FOMr-07	816 g/kg	StaDP	0.9 g/kg	MEla	-	
FOMr2-07	583 g/kg	AppDP	0.7 g/kg	DPpo	-	
FOMr2/FOMr	0.71 /kg					
DVE-91	86 g/kg			Broilers	Horses	
DVE-07	122 g/kg			MEbr	NEm	-
OEB-91	-24 g/kg			MEbr	NEm	-
OEB-07	-82 g/kg			DPpo	EWpa	-
OEB2-07	-63 g/kg				DCPho	-
DVMET-91	1.9 g/kg					
DVLYS-91	6.1 g/kg					
DVMET-07	2.9 g/kg					
DVLYS-07	9.0 g/kg					
SW	0.45 /kg					
VW	0.45 /kg					

Potato peelings, steamed-STAam 475 - 600 g/kg DM 4001.638/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg DM	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg DM
CP			115	60	-	50	58	-	-
LYS	5.5	0.6	6.3	65	4.1	59	3.7	-	-
MET	1.4	0.2	1.6	68	1.1	61	1.0	-	-
CYS	1.2	0.2	1.4	54	0.7	39	0.5	-	-
THR	3.8	0.3	4.4	64	2.8	51	2.2	-	-
TRP	1.0	0.1	1.1	53	0.6	40	0.5	-	-
ILE	3.6	0.3	4.1	61	2.5	52	2.1	-	-
ARG	3.4	0.5	3.9	60	2.4	50	2.0	-	-
PHE	4.0	0.4	4.6	60	2.8	53	2.4	-	-
HIS	1.7	0.1	1.9	60	1.2	51	1.0	-	-
LEU	6.2	0.5	7.1	60	4.3	54	3.8	-	-
TYR	3.6	0.2	4.1	61	2.5	53	2.2	-	-
VAL	4.8	0.4	5.5	61	3.3	51	2.8	-	-
ALA	6.0	1.3	6.9	61	4.2	54	3.7	-	-
ASP	17.0	2.9	19.5	61	11.8	57	11.0	-	-
GLU	11.1	1.4	12.7	60	7.6	51	6.5	-	-
GLY	3.6	0.2	4.1	60	2.5	38	1.6	-	-
PRO	3.5	0.4	4.0	60	2.4	32	1.3	-	-
SER	4.0	0.6	4.6	60	2.8	46	2.1	-	-
Sum AA	85.4		98	-	60	-	50	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		8.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sd
FP	89	-
LA	67	34
AC	11	5
ETH	8	5
PR	1	2
BU	2	2
Glycerol	-	-
	% of CP	
NH3	-	

Remarks

Potato peelings, steamed-STAam 475 - 600 g/kg DM:

1. DCiSTA value is valid for all batches that are not mixed with by-products containing native starch.

Potato peelings, steamed-STAam > 600 g/kg DM 4001.638/4/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	150	52	102	-	9	32	-	805	
sd	12	5	8	-	3	4	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	639	612	11	10	74	44	2	157	83
sd	43	-	8	5	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.0	2.5	0.4	0.9	23.6	0.4	2.5	-	0.6
sd	0.3	0.2	-	0.1	1.1	0.2	0.6	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	533	26	28	11	0.5	0.3	-
sd	367	13	12	4	-	-	-

IP/P	15	SUGe/SUG	5	EB (meq/kg)	551
		CF_DI	0.96	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs		Roosters/Laying hens		Rabbits	
DCCP	54		DCCP	70	DCCP	-	DCCP	-
DCCFAT	61		DCCFATh	31	DCCFAT	-	DCCFAT	-
DCCF	74		DCCF	70	DCNFE	-	DCCF	-
DCNFE	93		DCNFE	97	DCPpo	-	DCNFE	-
DCOM	88		DCOM	93				
			DCNSPh	79	Broilers		Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-	DCCP	-
%RUP	28	30	StaDCP	35	DCCFATh	-	DCOM	-
%DRUP	85	85	AppDCP	27	DC(S+S)	-		
%RUSTA	11	10			DCNFEh	-		
%DASH	50	50			DCPpo	-		
DASHmax	34	34						

Nutritional value (in DM)

Ruminants		Pigs		Roosters/Laying hens		Rabbits	
VEM	1117 /kg	NE2015	11.88 MJ/kg	MEpo	-	MErab	-
VEVI	1232 /kg	NE2015	2840 kcal/kg	MEpo	-	MErab	-
FOM-91	700 g/kg	EW2015	1.35 /kg	MEla	-		
FOMr-07	820 g/kg	StaDP	0.9 g/kg	MEla	-		
FOMr2-07	578 g/kg	AppDP	0.7 g/kg	DPpo	-		
FOMr2/FOMr	0.71 /kg						
DVE-91	84 g/kg			Broilers		Horses	
DVE-07	124 g/kg			MEbr	-	NEm	-
OEB-91	-35 g/kg			MEbr	-	NEm	-
OEB-07	-98 g/kg			DPpo	-	EWpa	-
OEB2-07	-75 g/kg					DCPho	-
DVMET-91	1.9 g/kg						
DVLYS-91	6.0 g/kg						
DVMET-07	2.9 g/kg						
DVLYS-07	9.2 g/kg						
SW	0.40 /kg						
VW	0.45 /kg						

Potato peelings, steamed-STAam > 600 g/kg DM 4001.638/4/0

Amino acids

Ileal digestible

Standardized ileal digestible

AA pigs

AA poultry

	g/16g N			AA pigs				AA poultry	
	g/16g N		g/kg DM	standardized		apparent		DC	g/kg DM
	mean	sd		DC	g/kg DM	DC	g/kg DM		
CP			102	60	-	49	50	-	-
LYS	5.5	0.6	5.6	65	3.7	58	3.3	-	-
MET	1.4	0.2	1.4	68	1.0	60	0.9	-	-
CYS	1.2	0.2	1.2	54	0.7	37	0.5	-	-
THR	3.8	0.3	3.9	64	2.5	49	1.9	-	-
TRP	1.0	0.1	1.0	53	0.5	39	0.4	-	-
ILE	3.6	0.3	3.7	61	2.2	50	1.8	-	-
ARG	3.4	0.5	3.5	60	2.1	49	1.7	-	-
PHE	4.0	0.4	4.1	60	2.5	52	2.1	-	-
HIS	1.7	0.1	1.7	60	1.0	50	0.9	-	-
LEU	6.2	0.5	6.3	60	3.8	53	3.3	-	-
TYR	3.6	0.2	3.7	60	2.2	53	1.9	-	-
VAL	4.8	0.4	4.9	61	3.0	50	2.4	-	-
ALA	6.0	1.3	6.1	61	3.7	53	3.2	-	-
ASP	17.0	2.9	17.3	61	10.5	56	9.7	-	-
GLU	11.1	1.4	11.3	60	6.8	50	5.6	-	-
GLY	3.6	0.2	3.7	60	2.2	36	1.3	-	-
PRO	3.5	0.4	3.6	60	2.1	29	1.0	-	-
SER	4.0	0.6	4.1	60	2.4	44	1.8	-	-
Sum AA	85.4		87	-	53	-	44	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sd
CFAT(h)		8.5	FP	64	-
<=C10	-	-	LA	45	19
C12:0	-	-	AC	7	4
C14:0	-	-	ETH	8	5
C16:0	-	-	PR	1	2
C16:1	-	-	BU	2	2
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Potato peelings, steamed-STAam > 600 g/kg DM:

1. DCiSTA value is valid for all batches that are not mixed with by-products containing native starch.

Potato pulp, pressed, 4001.227/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	150	62	109	2	7	194	633	628	
sd	14	24	47	0	-	19	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	225	12	11	321	157	47	539	218
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.2	1.7	0.3	1.3	29.0	0.8	2.7	19.3	0.8
sd	0.6	0.8	-	0.5	10.9	0.8	1.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	41	12	18	5	-	-	-
sd	22	4	11	2	-	-	-

IP/P	15	SUGe/SUG	-	EB (meq/kg)	702
		CF_DI	0.97	CAD (meq/kg)	-554

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	57		DCCP	-	DCCP
DCCFAT	-		DCCFATh	-	DCCFAT
DCCF	74		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	85		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	70	70	StaDCP	-	DCCP
%DRUP	77	77	AppDCP	-	DCOM
%RUSTA	43	61		DC(S+S)	
%DASH	50	50		DCNFEh	
DASHmax	39	39		DCPpo	

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1019 /kg	NE2015	MEpo	MErab
VEVI	1095 /kg	NE2015	MEpo	MErab
FOM-91	595 g/kg	EW2015	MEla	
FOMr-07	509 g/kg	StaDP	MEla	
FOMr2-07	158 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.31 /kg			
DVE-91	109 g/kg		Broilers	Horses
DVE-07	102 g/kg		MEbr	NEm
OEB-91	-65 g/kg		MEbr	NEm
OEB-07	-57 g/kg		DPpo	EWpa
OEB2-07	-13 g/kg			DCPho
DVMET-91	2.1 g/kg			
DVLYS-91	7.7 g/kg			
DVMET-07	2.0 g/kg			
DVLYS-07	7.3 g/kg			
SW	0.80 /kg			
VW	0.55 /kg			

Potato pulp, pressed, 4001.227/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N			AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM		
CP			109	-	-	-	-	-	-
LYS	6.2	-	6.8	-	-	-	-	-	-
MET	1.3	-	1.4	-	-	-	-	-	-
CYS	1.8	-	2.0	-	-	-	-	-	-
THR	3.7	-	4.0	-	-	-	-	-	-
TRP	1.5	-	1.6	-	-	-	-	-	-
ILE	3.5	-	3.8	-	-	-	-	-	-
ARG	4.2	-	4.6	-	-	-	-	-	-
PHE	3.7	-	4.0	-	-	-	-	-	-
HIS	2.1	-	2.3	-	-	-	-	-	-
LEU	6.1	-	6.6	-	-	-	-	-	-
TYR	3.8	-	4.1	-	-	-	-	-	-
VAL	5.3	-	5.8	-	-	-	-	-	-
ALA	3.2	-	3.5	-	-	-	-	-	-
ASP	9.6	-	10.5	-	-	-	-	-	-
GLU	8.7	-	9.5	-	-	-	-	-	-
GLY	3.7	-	4.0	-	-	-	-	-	-
PRO	4.0	-	4.4	-	-	-	-	-	-
SER	3.8	-	4.1	-	-	-	-	-	-
Sum AA	76.2		83	-	-	-	-	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		2.1	FP	51	-
<=C10	-	-	LA	36	-
C12:0	-	-	AC	15	-
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction		-			

Remarks

Potato pulp, pressed, :

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.
2. For this product analysis of starch should be based on STAam. STAew is an artefact.
3. The S-i content of this product is variable; for a correct calculation of the CAD value of a batch the S-i content should be analysed.

Potato pulp, pressed, Dutch origin 4001.226/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	161	43	81	2	7	206	667	662	
sd	13	10	9	0	-	22	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	191	12	11	341	166	50	577	236
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.4	0.9	0.1	0.7	18.0	0.5	1.5	0.4	0.6
sd	0.6	0.3	-	0.1	5.5	0.3	0.7	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	30	7	9	4	-	-	-
sd	10	2	3	2	-	-	-

IP/P	15	SUGe/SUG	-	EB (meq/kg)	438
		CF_DI	0.97	CAD (meq/kg)	375

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	41		DCCP	-	DCCP
DCCFAT	-		DCCFATh	-	DCCFAT
DCCF	74		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	84		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	70	70	StaDCP	-	DCCP
%DRUP	77	77	AppDCP	-	DCOM
%RUSTA	43	61		DC(S+S)	-
%DASH	50	50		DCNFEh	-
DASHmax	29	29		DCPpo	-

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1031 /kg	NE2015	MEpo	MErab
VEVI	1108 /kg	NE2015	MEpo	MErab
FOM-91	611 g/kg	EW2015	MEla	
FOMr-07	566 g/kg	StaDP	MEla	
FOMr2-07	213 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.38 /kg			
DVE-91	94 g/kg		Broilers	Horses
DVE-07	91 g/kg		MEbr	NEm
OEB-91	-74 g/kg		MEbr	NEm
OEB-07	-69 g/kg		DPpo	EWpa
OEB2-07	-20 g/kg			DCPho
DVMET-91	1.9 g/kg			
DVLYS-91	6.8 g/kg			
DVMET-07	1.9 g/kg			
DVLYS-07	6.6 g/kg			
SW	0.80 /kg			
VW	0.55 /kg			

Potato pulp, pressed, Dutch origin 4001.226/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		Standardized ileal digestible	
				DC	g/kg DM	DC	g/kg DM	DC	g/kg DM
CP			81	-	-	-	-	-	-
LYS	6.2	-	5.0	-	-	-	-	-	-
MET	1.3	-	1.1	-	-	-	-	-	-
CYS	1.8	-	1.5	-	-	-	-	-	-
THR	3.7	-	3.0	-	-	-	-	-	-
TRP	1.5	-	1.2	-	-	-	-	-	-
ILE	3.5	-	2.8	-	-	-	-	-	-
ARG	4.2	-	3.4	-	-	-	-	-	-
PHE	3.7	-	3.0	-	-	-	-	-	-
HIS	2.1	-	1.7	-	-	-	-	-	-
LEU	6.1	-	5.0	-	-	-	-	-	-
TYR	3.8	-	3.1	-	-	-	-	-	-
VAL	5.3	-	4.3	-	-	-	-	-	-
ALA	3.2	-	2.6	-	-	-	-	-	-
ASP	9.6	-	7.8	-	-	-	-	-	-
GLU	8.7	-	7.1	-	-	-	-	-	-
GLY	3.7	-	3.0	-	-	-	-	-	-
PRO	4.0	-	3.2	-	-	-	-	-	-
SER	3.8	-	3.1	-	-	-	-	-	-
Sum AA	76.2		62	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		2.2
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	110	-
LA	66	19
AC	44	21
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Remarks

Potato pulp, pressed, Dutch origin:

1. This product has a high fermentation rate. Therefore no distinction is made between 'fresh' and 'ensiled'.
2. For this product analysis of starch should be based on STAam. STAew is an artefact.

Potato starch, gelatinised-STAam < 400 g/kg DM 4001.231/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	133	71	169	-	21	37	-	702		
sd	21	40	33	-	7	9	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	360	337	128	23	-	-	-	212	212	
sd	41	-	-	15	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.9	4.1	0.6	1.0	8.0	0.8	1.3	-	1.2
sd	1.2	1.1	-	-	2.1	0.4	0.6	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1057	-	45	15	-	-	-
sd	-	-	22	7	-	-	-

IP/P	15	SUGe/SUG	25	EB (meq/kg)	202
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	75	DCCP	-	
DCCFAT	-	DCCFATh	66	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	97	DCPpo	-	
DCOM	-	DCOM	91			
		DCNSPh	83	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	55	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	11.08 MJ/kg	MEpo	-	
VEVI	-	NE2015	2648 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.26 /kg	MEIa	-	
FOMr-07	-	StaDP	2.5 g/kg	MEIa	-	
FOMr2-07	-	AppDP	2.3 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Potato starch, gelatinised-STAam < 400 g/kg DM 4001.231/1/0

Amino acids

	g/16g N		g/kg DM	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
			DC	g/kg DM	DC	g/kg DM			
CP			169	-	-	-	-	-	-
LYS	6.6	0.9	11.2	-	-	-	-	-	-
MET	1.8	0.4	3.0	-	-	-	-	-	-
CYS	1.2	0.2	2.0	-	-	-	-	-	-
THR	4.7	0.7	7.9	-	-	-	-	-	-
TRP	1.1	-	1.9	-	-	-	-	-	-
ILE	4.1	-	6.9	-	-	-	-	-	-
ARG	4.0	-	6.8	-	-	-	-	-	-
PHE	4.5	-	7.6	-	-	-	-	-	-
HIS	1.8	-	3.0	-	-	-	-	-	-
LEU	7.2	-	12.2	-	-	-	-	-	-
TYR	4.3	-	7.3	-	-	-	-	-	-
VAL	5.7	-	9.6	-	-	-	-	-	-
ALA	5.7	-	9.6	-	-	-	-	-	-
ASP	10.3	-	17.4	-	-	-	-	-	-
GLU	9.9	-	16.7	-	-	-	-	-	-
GLY	4.5	-	7.6	-	-	-	-	-	-
PRO	5.2	-	8.8	-	-	-	-	-	-
SER	5.0	-	8.5	-	-	-	-	-	-
Sum AA	87.6		148	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		21.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	46	-
LA	38	14
AC	5	3
ETH	-	-
PR	1	2
BU	2	2
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, gelatinised-STAam 400 - 525 g/kg DM 4001.231/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	132	51	155	-	25	39	-	731		
sd	14	18	34	-	12	11	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	499	467	80	23	-	-	-	160	160	
sd	36	-	-	15	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.5	3.0	0.5	0.7	6.9	0.8	1.3	-	1.1
sd	1.4	1.0	-	0.3	2.8	0.4	0.6	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1057	-	45	15	-	-	-
sd	-	-	22	7	-	-	-

IP/P	15	SUGe/SUG	25	EB (meq/kg)	174
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	74	DCCP	-	
DCCFAT	-	DCCFATh	70	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	98	DCPpo	-	
DCOM	-	DCOM	92			
		DCNSPh	84	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	53	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	11.82 MJ/kg	MEpo	-	
VEVI	-	NE2015	2824 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.34 /kg	MEla	-	
FOMr-07	-	StaDP	1.8 g/kg	MEla	-	
FOMr2-07	-	AppDP	1.6 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	NEm	-
OEB-91	-			MEbr	NEm	-
OEB-07	-			DPpo	EWpa	-
OEB2-07	-				DCPho	-
DVMET-91	-					
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Potato starch, gelatinised-STAam 400 - 525 g/kg DM 4001.231/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			155	-	-	-	-	-	-
LYS	6.6	0.9	10.2	-	-	-	-	-	-
MET	1.8	0.4	2.8	-	-	-	-	-	-
CYS	1.2	0.2	1.9	-	-	-	-	-	-
THR	4.7	0.7	7.3	-	-	-	-	-	-
TRP	1.1	-	1.7	-	-	-	-	-	-
ILE	4.1	-	6.4	-	-	-	-	-	-
ARG	4.0	-	6.2	-	-	-	-	-	-
PHE	4.5	-	7.0	-	-	-	-	-	-
HIS	1.8	-	2.8	-	-	-	-	-	-
LEU	7.2	-	11.2	-	-	-	-	-	-
TYR	4.3	-	6.7	-	-	-	-	-	-
VAL	5.7	-	8.8	-	-	-	-	-	-
ALA	5.7	-	8.8	-	-	-	-	-	-
ASP	10.3	-	16.0	-	-	-	-	-	-
GLU	9.9	-	15.3	-	-	-	-	-	-
GLY	4.5	-	7.0	-	-	-	-	-	-
PRO	5.2	-	8.1	-	-	-	-	-	-
SER	5.0	-	7.8	-	-	-	-	-	-
Sum AA	87.6		136	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		25.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	46	-
LA	38	14
AC	5	3
ETH	-	-
PR	1	2
BU	2	2
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, gelatinised-STAam 525 - 625 g/kg DM 4001.231/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	134	39	117	-	14	33	-	797		
sd	15	11	18	-	6	9	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	613	574	40	23	-	-	-	155	155	
sd	31	-	-	15	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.5	2.7	0.4	0.7	6.9	0.8	1.3	-	0.8
sd	1.1	0.6	-	0.2	-	0.4	0.6	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1057	-	45	15	-	-	-
sd	-	-	22	7	-	-	-

IP/P	15	SUGe/SUG	25	EB (meq/kg)	174
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	72	DCCP	-	
DCCFAT	-	DCCFATh	54	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	98	DCPpo	-	
DCOM	-	DCOM	93			
		DCNSPh	84	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	53	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	11.99 MJ/kg	MEpo	-	
VEVI	-	NE2015	2865 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.36 /kg	MEIa	-	
FOMr-07	-	StaDP	1.6 g/kg	MEIa	-	
FOMr2-07	-	AppDP	1.4 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Potato starch, gelatinised-STAam 525 - 625 g/kg DM 4001.231/3/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM	DC	g/kg DM
CP			117	-	-	-	-	-	-
LYS	6.6	0.9	7.7	-	-	-	-	-	-
MET	1.8	0.4	2.1	-	-	-	-	-	-
CYS	1.2	0.2	1.4	-	-	-	-	-	-
THR	4.7	0.7	5.5	-	-	-	-	-	-
TRP	1.1	-	1.3	-	-	-	-	-	-
ILE	4.1	-	4.8	-	-	-	-	-	-
ARG	4.0	-	4.7	-	-	-	-	-	-
PHE	4.5	-	5.3	-	-	-	-	-	-
HIS	1.8	-	2.1	-	-	-	-	-	-
LEU	7.2	-	8.4	-	-	-	-	-	-
TYR	4.3	-	5.0	-	-	-	-	-	-
VAL	5.7	-	6.7	-	-	-	-	-	-
ALA	5.7	-	6.7	-	-	-	-	-	-
ASP	10.3	-	12.1	-	-	-	-	-	-
GLU	9.9	-	11.6	-	-	-	-	-	-
GLY	4.5	-	5.3	-	-	-	-	-	-
PRO	5.2	-	6.1	-	-	-	-	-	-
SER	5.0	-	5.9	-	-	-	-	-	-
Sum AA	87.6		102	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		13.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	46	-
LA	38	14
AC	5	3
ETH	-	-
PR	1	2
BU	2	2
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, gelatinised-STAam > 625 g/kg DM 4001.231/4/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	132	22	67	-	13	22	-	876		
sd	13	5	14	-	5	5	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	705	660	40	23	-	-	-	137	137	
sd	35	-	-	15	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.3	1.9	0.3	0.4	3.7	0.8	1.3	-	0.5
sd	0.2	0.2	-	-	2.5	0.4	0.6	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1057	-	45	15	-	-	-
sd	-	-	22	7	-	-	-

IP/P	15	SUGe/SUG	25	EB (meq/kg)	92
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	64	DCCP	-	
DCCFAT	-	DCCFATh	52	DCCFAT	-	
DCCF	-	DCCF	70	DCNFE	-	
DCNFE	-	DCNFE	98	DCPpo	-	
DCOM	-	DCOM	95			
		DCNSPh	84	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	49	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	12.56 MJ/kg	MEpo	-	
VEVI	-	NE2015	3001 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.43 /kg	MEla	-	
FOMr-07	-	StaDP	1.1 g/kg	MEla	-	
FOMr2-07	-	AppDP	0.9 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Potato starch, gelatinised-STAam > 625 g/kg DM 4001.231/4/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			67	-	-	-	-	-	-
LYS	6.6	0.9	4.4	-	-	-	-	-	-
MET	1.8	0.4	1.2	-	-	-	-	-	-
CYS	1.2	0.2	0.8	-	-	-	-	-	-
THR	4.7	0.7	3.1	-	-	-	-	-	-
TRP	1.1	-	0.7	-	-	-	-	-	-
ILE	4.1	-	2.7	-	-	-	-	-	-
ARG	4.0	-	2.7	-	-	-	-	-	-
PHE	4.5	-	3.0	-	-	-	-	-	-
HIS	1.8	-	1.2	-	-	-	-	-	-
LEU	7.2	-	4.8	-	-	-	-	-	-
TYR	4.3	-	2.9	-	-	-	-	-	-
VAL	5.7	-	3.8	-	-	-	-	-	-
ALA	5.7	-	3.8	-	-	-	-	-	-
ASP	10.3	-	6.9	-	-	-	-	-	-
GLU	9.9	-	6.6	-	-	-	-	-	-
GLY	4.5	-	3.0	-	-	-	-	-	-
PRO	5.2	-	3.5	-	-	-	-	-	-
SER	5.0	-	3.4	-	-	-	-	-	-
Sum AA	87.6		59	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		13.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	46	-
LA	38	14
AC	5	3
ETH	-	-
PR	1	2
BU	2	2
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, untreated, liquid-STAm < 600 g/kg DM 4001.222/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	201	66	112	5	16	43	774	762		
sd	28	33	23	5	6	11	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	555	519	21	23	72	35	10	207	135	
sd	55	-	-	17	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	2.2	2.6	0.4	0.6	4.7	0.9	1.4	-	-
sd	0.8	0.8	-	0.2	1.2	0.6	1.0	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1272	22	31	11	-	-	-
sd	771	16	12	4	-	-	-

IP/P	15	SUGe/SUG	-	EB (meq/kg)	120
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	59		DCCP	-	DCCP
DCCFAT	40		DCCFATh	-	DCCFAT
DCCF	74		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	88		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	22	22	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	31	32			
%DASH	50	50			
DASHmax	41	41			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1090 /kg	NE2015	MEpo	MErab
VEVI	1199 /kg	NE2015	MEpo	MErab
FOM-91	602 g/kg	EW2015	MEla	
FOMr-07	648 g/kg	StaDP	MEla	
FOMr2-07	327 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.50 /kg			
DVE-91	70 g/kg		Broilers	Horses
DVE-07	85 g/kg		MEbr	NEm
OEB-91	-5 g/kg		MEbr	NEm
OEB-07	-31 g/kg		DPpo	EWpa
OEB2-07	14 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	0.10 /kg			
VW	0.30 /kg			

Potato starch, untreated, liquid-STAam < 600 g/kg DM 4001.222/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			112	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		5.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	61	-
LA	40	12
AC	18	10
ETH	-	-
PR	-	-
BU	2	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, untreated, liquid-STAam 600 - 750 g/kg DM 4001.222/2/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			75	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		3.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	61	-
LA	40	12
AC	18	10
ETH	-	-
PR	-	-
BU	2	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, untreated, liquid-STAm > 750 g/kg DM 4001.222/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	329	18	46	3	9	21	912	906	
sd	55	6	15	-	3	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	834	780	21	17	35	17	5	68	33
sd	18	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	1.7	0.3	0.2	2.1	0.4	0.5	-	-
sd	0.2	0.3	-	0.1	0.6	0.2	0.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	697	12	17	6	-	-	-
sd	423	9	7	2	-	-	-

IP/P	15	SUGe/SUG	-	EB (meq/kg)	57
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	99		DCCP	-	DCCP
DCCFAT	90		DCCFATh	-	DCCFAT
DCCF	73		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	93		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	22	22	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	31	32			
%DASH	50	50			
DASHmax	15	15			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1233 /kg	NE2015	MEpo	MErab
VEVI	1390 /kg	NE2015	MEpo	MErab
FOM-91	624 g/kg	EW2015	MEla	
FOMr-07	698 g/kg	StaDP	MEla	
FOMr2-07	349 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.50 /kg			
DVE-91	63 g/kg		Broilers	Horses
DVE-07	92 g/kg		MEbr	NEm
OEB-91	-59 g/kg		MEbr	NEm
OEB-07	-104 g/kg		DPpo	EWpa
OEB2-07	-31 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	-0.10 /kg			
VW	0.30 /kg			

Potato starch, untreated, liquid-STAam > 750 g/kg DM 4001.222/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			46	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		2.6
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	61	-
LA	40	12
AC	18	10
ETH	-	-
PR	-	-
BU	2	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Potato starch, untreated, solid 4001.223/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	451	19	22	-	4	14	-	941		
sd	34	12	11	-	2	7	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	922	863	-	2	-	-	-	78	78	
sd	27	-	-	-	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	1.1	0.2	0.2	2.3	0.3	0.2	-	-
sd	0.4	0.2	-	0.1	0.8	0.1	0.1	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	250	-	-	-	-	-	-
sd	113	-	-	-	-	-	-

IP/P	15	SUGe/SUG	-	EB (meq/kg)	64
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits
DCCP	99		DCCP	-	DCCP
DCCFAT	90		DCCFATh	-	DCCFAT
DCCF	73		DCCF	-	DCCF
DCNFE	93		DCNFE	-	DCNFE
DCOM	93		DCOM	-	
			DCNSPh	-	
DVE	1991	2007	DCiSTA	-	Horses
%RUP	22	22	StaDCP	-	DCCP
%DRUP	85	85	AppDCP	-	DCOM
%RUSTA	31	32			
%DASH	50	50			
DASHmax	15	15			

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits
VEM	1235 /kg	NE2015	MEpo	MErab
VEVI	1396 /kg	NE2015	MEpo	MErab
FOM-91	623 g/kg	EW2015	MEla	
FOMr-07	666 g/kg	StaDP	MEla	
FOMr2-07	288 g/kg	AppDP	DPpo	
FOMr2/FOMr	0.43 /kg			
DVE-91	58 g/kg		Broilers	Horses
DVE-07	88 g/kg		MEbr	NEm
OEB-91	-77 g/kg		MEbr	NEm
OEB-07	-124 g/kg		DPpo	EWpa
OEB2-07	-42 g/kg			DCPho
DVMET-91	-			
DVLYS-91	-			
DVMET-07	-			
DVLYS-07	-			
SW	0.10 /kg			
VW	0.30 /kg			

Potato starch, untreated, solid 4001.223/0/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			22	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		3.8
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	18	-
LA	10	3
AC	8	3
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Sugarbeet pulp, pressed, ensiled 4004.244/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	249	74	84	6	12	195	640	635	
sd	17	14	5	1	4	6	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	9	-	36	494	237	10	752	258
sd	-	-	-	17	46	12	2	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	9.5	0.9	0.2	2.1	3.9	0.4	0.2	0.5	0.6
sd	1.2	0.1	-	0.2	0.7	0.1	0.2	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	719	72	35	5	0.4	0.1	0.2
sd	332	21	12	1	0.1	0.1	0.1

IP/P	20	SUGe/SUG	100	EB (meq/kg)	112
		CF_DI	0.97	CAD (meq/kg)	40

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits		
DCCP	61		DCCP	47	DCCP	-	
DCCFAT	51		DCCFATh	48	DCCFAT	-	
DCCF	88		DCCF	87	DCNFE	-	
DCNFE	92		DCNFE	91	DCPpo	-	
DCOM	88		DCOM	86			
			DCNSPh	89			
DVE	1991	2007	DCiSTA	100	Broilers	Horses	
%RUP	58	61	StaDCP	60	DCCP	DCCP	45
%DRUP	85	85	AppDCP	38	DCCFATh	DCOM	81
%RUSTA	-	-			DC(S+S)		
%DASH	35	35			DCNFEh		
DASHmax	32	32			DCPpo		

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1060 /kg	NE2015	10.95 MJ/kg	MEpo	-	
VEVI	1154 /kg	NE2015	2617 kcal/kg	MEpo	-	
FOM-91	735 g/kg	EW2015	1.24 /kg	MEla	-	
FOMr-07	600 g/kg	StaDP	0.5 g/kg	MEla	-	
FOMr2-07	166 g/kg	AppDP	0.3 g/kg	DPpo	-	
FOMr2/FOMr	0.28 /kg					
DVE-91	104 g/kg			Broilers	Horses	
DVE-07	93 g/kg			MEbr	NEm	8.57 MJ/kg
OEB-91	-80 g/kg			MEbr	NEm	2048 kcal/kg
OEB-07	-64 g/kg			DPpo	EWpa	0.96 /kg
OEB2-07	-14 g/kg				DCPho	38 g/kg
DVMET-91	2.4 g/kg					
DVLYS-91	8.0 g/kg					
DVMET-07	2.2 g/kg					
DVLYS-07	7.1 g/kg					
SW	1.05 /kg					
VW	0.70 /kg					

Sugarbeet pulp, pressed, ensiled 4004.244/0/0

Amino acids

Ileal digestible

Standardized ileal digestible AA poultry

	g/16g N			AA pigs				Standardized ileal digestible AA poultry	
	mean	sdc	g/kg DM	standardized		apparent		DC	g/kg DM
				DC	g/kg DM	DC	g/kg DM		
CP			84	36	-	23	19	-	-
LYS	7.0	0.3	5.9	80	4.8	74	4.4	-	-
MET	1.8	0.2	1.5	80	1.2	73	1.1	-	-
CYS	1.4	0.1	1.2	41	0.5	24	0.3	-	-
THR	4.6	0.2	3.8	49	1.9	34	1.3	-	-
TRP	1.0	0.0	0.8	54	0.5	37	0.3	-	-
ILE	3.8	0.3	3.2	36	1.2	25	0.8	-	-
ARG	4.5	0.2	3.8	36	1.4	26	1.0	-	-
PHE	3.8	0.2	3.2	36	1.2	26	0.8	-	-
HIS	3.4	0.5	2.8	36	1.0	30	0.8	-	-
LEU	6.2	0.3	5.3	36	1.9	27	1.4	-	-
TYR	5.1	0.4	4.3	36	1.6	30	1.3	-	-
VAL	5.8	0.3	4.9	37	1.8	26	1.2	-	-
ALA	4.7	0.3	3.9	36	1.4	24	0.9	-	-
ASP	7.7	0.3	6.5	36	2.3	24	1.6	-	-
GLU	9.3	0.5	7.9	36	2.8	21	1.6	-	-
GLY	4.2	0.2	3.5	36	1.3	11	0.4	-	-
PRO	4.3	0.2	3.6	36	1.3	6	0.2	-	-
SER	4.8	0.2	4.0	36	1.5	20	0.8	-	-
Sum AA	83.4		70	-	29	-	20	-	-

Fatty acids

Fermentation products

	% FA	g/kg DM		g/kg DM	sdc
CFAT(h)		6.4	FP	49	-
<=C10	-	-	LA	37	11
C12:0	-	-	AC	12	11
C14:0	-	-	ETH	-	-
C16:0	-	-	PR	-	-
C16:1	-	-	BU	-	-
C18:0	-	-	Glycerol	-	-
C18:1	-	-			
C:18:2	-	-			
C18:3	-	-			
>=C20	-	-			
Sum FA	-	-			
% FA in CFAT-fraction					

Remarks

Sugarbeet pulp, pressed, ensiled:

1. The NE2015 and EW2015 have been calculated including an addition for reduced activity.

Wheat starch-STAam < 200 g/kg DM 1010.234/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	237	26	128	-	34	22	-	790	
sd	24	6	26	-	4	12	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	173	168	168	276	78	-	-	146	68
sd	31	-	52	49	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.9	3.2	-	1.4	6.8	1.9	2.5	-	1.3
sd	0.2	0.4	-	-	1.0	0.5	1.3	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	367	48	49	5	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	186
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	90	DCCP	-	
DCCFAT	-	DCCFATh	75	DCCFAT	-	
DCCF	-	DCCF	69	DCNFE	-	
DCNFE	-	DCNFE	95	DCPpo	-	
DCOM	-	DCOM	93			
		DCNSPh	68	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	54	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	12.52 MJ/kg	MEpo	-	
VEVI	-	NE2015	2992 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.42 /kg	MEIa	-	
FOMr-07	-	StaDP	1.9 g/kg	MEIa	-	
FOMr2-07	-	AppDP	1.7 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Wheat starch-STAm < 200 g/kg DM 1010.234/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	g/16g N		g/kg DM	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			128	95	-	86	110	-	-
LYS	4.2	0.4	5.4	100	5.4	93	5.0	-	-
MET	1.7	0.3	2.2	96	2.1	91	2.0	-	-
CYS	2.3	0.3	2.9	98	2.9	91	2.7	-	-
THR	3.4	0.4	4.4	99	4.3	86	3.7	-	-
TRP	1.1	0.2	1.4	100	1.4	90	1.3	-	-
ILE	3.0	-	3.8	95	3.7	86	3.3	-	-
ARG	5.4	-	6.9	95	6.6	90	6.2	-	-
PHE	4.0	-	5.1	95	4.9	89	4.5	-	-
HIS	2.4	-	3.1	95	2.9	89	2.7	-	-
LEU	6.0	-	7.7	95	7.3	89	6.8	-	-
TYR	3.5	-	4.5	95	4.3	89	4.0	-	-
VAL	5.3	-	6.8	95	6.5	87	5.9	-	-
ALA	5.8	-	7.4	95	7.1	89	6.6	-	-
ASP	7.1	-	9.1	95	8.6	86	7.8	-	-
GLU	18.5	-	23.7	95	22.5	90	21.3	-	-
GLY	4.6	-	5.9	95	5.6	80	4.7	-	-
PRO	6.4	-	8.2	95	7.8	82	6.7	-	-
SER	4.0	-	5.1	95	4.9	82	4.2	-	-
Sum AA	88.7		114	-	109	-	99	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		34.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	83	-
LA	59	22
AC	16	9
ETH	7	2
PR	1	2
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat starch-STAam 200 - 400 g/kg DM 1010.234/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	237	25	119	-	34	22	-	800	
sd	31	4	16	-	6	12	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	315	306	123	180	78	-	-	156	78
sd	52	-	43	42	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	3.2	-	1.2	6.8	1.9	2.2	-	1.2
sd	0.1	0.5	-	-	1.5	0.5	0.6	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	311	39	42	5	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	195
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	89	DCCP	-	
DCCFAT	-	DCCFATh	75	DCCFAT	-	
DCCF	-	DCCF	69	DCNFE	-	
DCNFE	-	DCNFE	95	DCPpo	-	
DCOM	-	DCOM	93			
		DCNSPh	70	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	54	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	12.61 MJ/kg	MEpo	-	
VEVI	-	NE2015	3013 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.43 /kg	MEIa	-	
FOMr-07	-	StaDP	1.9 g/kg	MEIa	-	
FOMr2-07	-	AppDP	1.7 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	NEm	-
OEB-91	-			MEbr	NEm	-
OEB-07	-			DPpo	EWpa	-
OEB2-07	-				DCPho	-
DVMET-91	-					
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Wheat starch-STAm 200 - 400 g/kg DM 1010.234/2/0

Amino acids

	g/16g N		g/kg DM	Ileal digestible				Standardized ileal digestible	
	mean	sdc		AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			119	95	-	85	102	-	-
LYS	4.2	0.4	5.0	100	5.0	92	4.6	-	-
MET	1.7	0.3	2.0	96	1.9	90	1.8	-	-
CYS	2.3	0.3	2.7	98	2.7	90	2.5	-	-
THR	3.4	0.4	4.0	99	4.0	85	3.4	-	-
TRP	1.1	0.2	1.3	100	1.3	89	1.2	-	-
ILE	3.0	-	3.6	95	3.4	85	3.0	-	-
ARG	5.4	-	6.4	95	6.1	89	5.7	-	-
PHE	4.0	-	4.8	95	4.5	88	4.2	-	-
HIS	2.4	-	2.9	95	2.7	89	2.5	-	-
LEU	6.0	-	7.1	95	6.8	89	6.3	-	-
TYR	3.5	-	4.2	95	4.0	88	3.7	-	-
VAL	5.3	-	6.3	95	6.0	87	5.5	-	-
ALA	5.8	-	6.9	95	6.6	88	6.1	-	-
ASP	7.1	-	8.4	95	8.0	86	7.2	-	-
GLU	18.5	-	22.0	95	20.9	90	19.8	-	-
GLY	4.6	-	5.5	95	5.2	79	4.3	-	-
PRO	6.4	-	7.6	95	7.2	81	6.1	-	-
SER	4.0	-	4.8	95	4.5	81	3.9	-	-
Sum AA	88.7		106	-	101	-	92	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		34.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	83	-
LA	59	22
AC	16	9
ETH	7	2
PR	1	2
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat starch-STAam 400 - 600 g/kg DM 1010.234/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	221	23	110	-	31	22	-	814	
sd	46	7	19	-	6	12	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	489	475	41	117	78	-	-	144	66
sd	49	-	23	68	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.8	3.0	-	0.9	5.6	1.9	1.6	-	1.1
sd	0.1	0.6	-	0.3	1.5	1.2	0.9	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	243	29	34	5	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	181
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	88	DCCP	-	
DCCFAT	-	DCCFATh	74	DCCFAT	-	
DCCF	-	DCCF	69	DCNFE	-	
DCNFE	-	DCNFE	95	DCPpo	-	
DCOM	-	DCOM	93			
		DCNSPh	67	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	53	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	12.71 MJ/kg	MEpo	-	
VEVI	-	NE2015	3039 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.44 /kg	MEIa	-	
FOMr-07	-	StaDP	1.8 g/kg	MEIa	-	
FOMr2-07	-	AppDP	1.6 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	NEm	-
OEB-91	-			MEbr	NEm	-
OEB-07	-			DPpo	EWpa	-
OEB2-07	-				DCPho	-
DVMET-91	-					
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Wheat starch-STAm 400 - 600 g/kg DM 1010.234/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs				AA poultry	
				standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			110	95	-	85	93	-	-
LYS	4.2	0.4	4.6	100	4.6	91	4.2	-	-
MET	1.7	0.3	1.9	96	1.8	90	1.7	-	-
CYS	2.3	0.3	2.5	98	2.5	89	2.3	-	-
THR	3.4	0.4	3.7	99	3.7	84	3.1	-	-
TRP	1.1	0.2	1.2	100	1.2	88	1.1	-	-
ILE	3.0	-	3.3	95	3.1	84	2.8	-	-
ARG	5.4	-	5.9	95	5.7	89	5.3	-	-
PHE	4.0	-	4.4	95	4.2	88	3.9	-	-
HIS	2.4	-	2.6	95	2.5	88	2.3	-	-
LEU	6.0	-	6.6	95	6.3	88	5.8	-	-
TYR	3.5	-	3.9	95	3.7	88	3.4	-	-
VAL	5.3	-	5.8	95	5.6	86	5.0	-	-
ALA	5.8	-	6.4	95	6.1	88	5.6	-	-
ASP	7.1	-	7.8	95	7.4	85	6.6	-	-
GLU	18.5	-	20.4	95	19.3	89	18.2	-	-
GLY	4.6	-	5.1	95	4.8	77	3.9	-	-
PRO	6.4	-	7.0	95	6.7	79	5.6	-	-
SER	4.0	-	4.4	95	4.2	80	3.5	-	-
Sum AA	88.7		98	-	93	-	84	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		31.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	83	-
LA	59	22
AC	16	9
ETH	7	2
PR	1	2
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat starch-STAam > 600 g/kg DM 1010.234/4/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	214	14	68	-	21	22	-	875	
sd	57	8	18	-	3	12	-	-	

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	689	669	18	28	78	-	-	120	42
sd	41	-	9	16	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	0.7	1.8	-	0.6	2.2	1.4	1.1	-	0.7
sd	0.2	0.4	-	0.2	1.0	0.8	0.4	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	164	14	23	5	-	-	-
sd	186	6	-	-	-	-	-

IP/P	-	SUGe/SUG	89	EB (meq/kg)	86
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	80	DCCP	-	
DCCFAT	-	DCCFATh	66	DCCFAT	-	
DCCF	-	DCCF	69	DCNFE	-	
DCNFE	-	DCNFE	95	DCPpo	-	
DCOM	-	DCOM	93			
		DCNSPh	60	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	49	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	12.94 MJ/kg	MEpo	-	
VEVI	-	NE2015	3092 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.47 /kg	MEla	-	
FOMr-07	-	StaDP	1.1 g/kg	MEla	-	
FOMr2-07	-	AppDP	0.9 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Wheat starch-STAm > 600 g/kg DM 1010.234/4/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg DM	AA pigs				AA poultry	
	mean	sd		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			68	95	-	78	53	-	-
LYS	4.2	0.4	2.9	100	2.8	86	2.5	-	-
MET	1.7	0.3	1.2	96	1.1	86	1.0	-	-
CYS	2.3	0.3	1.6	98	1.5	84	1.3	-	-
THR	3.4	0.4	2.3	99	2.3	74	1.7	-	-
TRP	1.1	0.2	0.7	100	0.7	81	0.6	-	-
ILE	3.0	-	2.0	95	1.9	77	1.6	-	-
ARG	5.4	-	3.7	95	3.5	85	3.1	-	-
PHE	4.0	-	2.7	95	2.6	83	2.3	-	-
HIS	2.4	-	1.6	95	1.6	84	1.4	-	-
LEU	6.0	-	4.1	95	3.9	84	3.4	-	-
TYR	3.5	-	2.4	95	2.3	83	2.0	-	-
VAL	5.3	-	3.6	95	3.4	81	2.9	-	-
ALA	5.8	-	3.9	95	3.8	83	3.3	-	-
ASP	7.1	-	4.8	95	4.6	79	3.8	-	-
GLU	18.5	-	12.6	95	12.0	86	10.8	-	-
GLY	4.6	-	3.1	95	3.0	66	2.1	-	-
PRO	6.4	-	4.4	95	4.1	70	3.0	-	-
SER	4.0	-	2.7	95	2.6	71	1.9	-	-
Sum AA	88.7		60	-	58	-	49	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		21.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sd
FP	83	-
LA	59	19
AC	16	9
ETH	7	2
PR	1	2
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat starch, French origin-CF < 30 g/kg DM 1010.236/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	279	42	188	-	36	19	-	715	
sd	22	7	32	-	9	6	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	155	150	102	188	82	25	8	235	153
sd	65	-	19	80	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.7	4.9	-	-	11.2	4.8	4.5	1.6	-
sd	0.2	1.2	-	-	1.3	2.9	0.8	0.3	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	369
		CF_DI	0.97	CAD (meq/kg)	280

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
DCCP	-	DCCP	74	DCCP	-	
DCCFAT	-	DCCFATh	76	DCCFAT	-	
DCCF	-	DCCF	94	DCNFE	-	
DCNFE	-	DCNFE	97	DCPpo	-	
DCOM	-	DCOM	92			
		DCNSPh	90	Broilers	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	-	-	StaDCP	60	DCCFATh	-
%DRUP	-	-	AppDCP	56	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	-	-			DCPpo	-
DASHmax	-	-				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	-	NE2015	12.19 MJ/kg	MEpo	-	
VEVI	-	NE2015	2914 kcal/kg	MEpo	-	
FOM-91	-	EW2015	1.39 /kg	MEIa	-	
FOMr-07	-	StaDP	2.9 g/kg	MEIa	-	
FOMr2-07	-	AppDP	2.7 g/kg	DPpo	-	
FOMr2/FOMr	-					
DVE-91	-			Broilers	Horses	
DVE-07	-			MEbr	-	
OEB-91	-			MEbr	-	
OEB-07	-			DPpo	-	
OEB2-07	-				EWpa	-
DVMET-91	-				DCPho	-
DVLYS-91	-					
DVMET-07	-					
DVLYS-07	-					
SW	-					
VW	-					

Wheat starch, French origin-CF < 30 g/kg DM 1010.236/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			188	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		35.7
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	107	-
LA	66	18
AC	7	6
ETH	34	46
PR	-	-
BU	-	-
Glycerol	-	-
	<u>% of CP</u>	
NH3	-	-

Wheat starch, French origin-CF > 35 g/kg DM 1010.236/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh		
mean	-	-	-	-	-	-	-	-		
sd	-	-	-	-	-	-	-	-		
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP	
mean	-	-	-	-	-	-	-	1000	1000	
sd	-	-	-	-	-	-	-	-	-	

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	-	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
DCCP	-	DCCP	-	DCCP	-
DCCFAT	-	DCCFATh	-	DCCFAT	-
DCCF	-	DCCF	-	DCCF	-
DCNFE	-	DCNFE	-	DCNFE	-
DCOM	-	DCOM	88		
		DCNSPh	90		
DVE	1991	2007	DCiSTA	Broilers	Horses
%RUP	-	-	StaDCP	DCCP	-
%DRUP	-	-	AppDCP	DCCFATh	-
%RUSTA	-	-		DC(S+S)	-
%DASH	-	-		DCNFEh	-
DASHmax	-	-		DCPpo	-

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	-	NE2015	8.46 MJ/kg	MEpo	-
VEVI	-	NE2015	2022 kcal/kg	MEpo	-
FOM-91	-	EW2015	0.96 /kg	MEIa	-
FOMr-07	-	StaDP	-	MEIa	-
FOMr2-07	-	AppDP	-	DPpo	-
FOMr2/FOMr	-				
DVE-91	-			Broilers	Horses
DVE-07	-			MEbr	-
OEB-91	-			MEbr	-
OEB-07	-			DPpo	-
OEB2-07	-				EWpa
DVMET-91	-				DCPho
DVLYS-91	-				
DVMET-07	-				
DVLYS-07	-				
SW	-				
VW	-				

Wheat starch, French origin-CF > 35 g/kg DM 1010.236/2/0

Amino acids

	g/16g N			Ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		Standardized ileal digestible	
				standardized	apparent	DC	g/kg DM	DC	g/kg DM
CP	-	-	-	-	-	-	-	-	-
LYS	-	-	-	-	-	-	-	-	-
MET	-	-	-	-	-	-	-	-	-
CYS	-	-	-	-	-	-	-	-	-
THR	-	-	-	-	-	-	-	-	-
TRP	-	-	-	-	-	-	-	-	-
ILE	-	-	-	-	-	-	-	-	-
ARG	-	-	-	-	-	-	-	-	-
PHE	-	-	-	-	-	-	-	-	-
HIS	-	-	-	-	-	-	-	-	-
LEU	-	-	-	-	-	-	-	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	-	-	-	-	-	-	-	-	-
ALA	-	-	-	-	-	-	-	-	-
ASP	-	-	-	-	-	-	-	-	-
GLU	-	-	-	-	-	-	-	-	-
GLY	-	-	-	-	-	-	-	-	-
PRO	-	-	-	-	-	-	-	-	-
SER	-	-	-	-	-	-	-	-	-
Sum AA	-	-	-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)	-	0.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C:18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-

Fermentation products

	g/kg DM	sdc
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Wheat yeast concentrate-CP < 275 g/kg DM 1010.689/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	264	65	262	-	59	27	-	587	
sd	16	21	11	-	10	11	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	29	16	31	130	118	53	13	301	183
sd	8	-	27	28	59	11	2	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.8	8.3	-	2.0	14.4	8.8	5.7	10.7	2.2
sd	0.3	1.3	-	0.4	2.3	6.3	1.4	10.9	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	104	68	58	9	-	-	-
sd	32	18	25	4	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	591
		CF_DI	0.96	CAD (meq/kg)	-212

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	78		DCCP	78	DCCP	-
DCCFAT	86		DCCFATh	82	DCCFAT	-
DCCF	70		DCCF	-	DCNFE	-
DCNFE	93		DCNFE	89	DCPpo	-
DCOM	87		DCOM	83		
			DCNSPh	70	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	37	37	StaDCP	-	DCCFATh	-
%DRUP	90	88	AppDCP	-	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	53	53				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1187 /kg	NE2015	10.48 MJ/kg	MEpo	-	
VEVI	1298 /kg	NE2015	2505 kcal/kg	MEpo	-	
FOM-91	587 g/kg	EW2015	1.19 /kg	MEla	-	
FOMr-07	618 g/kg	StaDP	-	MEla	-	
FOMr2-07	395 g/kg	AppDP	-	DPpo	-	
FOMr2/FOMr	0.64 /kg					
DVE-91	142 g/kg			Horses		
DVE-07	127 g/kg			MEbr	-	
OEB-91	66 g/kg			MEbr	-	
OEB-07	83 g/kg			DPpo	-	
OEB2-07	51 g/kg				EWpa	-
DVMET-91	2.9 g/kg				DCPho	-
DVLYS-91	7.8 g/kg					
DVMET-07	2.6 g/kg					
DVLYS-07	7.0 g/kg					
SW	0.13 /kg					
VW	0.30 /kg					

Wheat yeast concentrate-CP < 275 g/kg DM 1010.689/1/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg DM	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			262	79	-	75	195	-	-
LYS	4.2	0.5	11.0	80	8.8	76	8.4	-	-
MET	1.6	0.2	4.2	82	3.4	80	3.3	-	-
CYS	1.8	0.2	4.7	64	3.0	60	2.8	-	-
THR	3.5	0.2	9.2	75	6.9	69	6.3	-	-
TRP	1.1	0.1	2.9	77	2.2	72	2.1	-	-
ILE	3.4	0.2	8.9	81	7.3	77	6.9	-	-
ARG	4.9	0.4	12.8	89	11.4	86	11.0	-	-
PHE	3.8	0.4	10.0	83	8.3	80	8.0	-	-
HIS	2.2	0.3	5.8	82	4.7	79	4.6	-	-
LEU	6.2	0.5	16.2	82	13.3	79	12.9	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	4.6	0.5	12.1	83	10.0	78	9.4	-	-
ALA	4.8	0.4	12.6	81	10.2	77	9.7	-	-
ASP	6.4	0.5	16.8	69	11.6	65	10.9	-	-
GLU	18.4	3.7	48.2	84	40.6	82	39.4	-	-
GLY	4.2	0.3	11.0	85	9.4	77	8.5	-	-
PRO	6.1	1.0	16.0	90	14.3	83	13.2	-	-
SER	4.3	0.2	11.3	77	8.7	72	8.1	-	-
Sum AA	81.5		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		59.0
<=C10	0.2	-
C12:0	0.3	-
C14:0	0.2	-
C16:0	23.9	-
C16:1	0.4	-
C18:0	1.8	-
C18:1	12.7	-
C:18:2	53.2	-
C18:3	3.8	-
>=C20	1.6	-
Sum FA	98.1	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	66	-
LA	57	27
AC	3	2
ETH	1	1
PR	5	3
BU	-	-
Glycerol	85.0	47.2
	<u>% of CP</u>	
NH3	-	-

Wheat yeast concentrate-CP 275 - 325 g/kg DM 1010.689/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	265	68	293	-	67	20	-	553	
sd	22	17	11	-	16	9	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	35	16	19	126	88	39	8	276	188
sd	17	-	9	37	23	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.7	8.2	-	2.8	15.6	5.3	5.2	10.7	2.4
sd	0.4	1.6	-	0.7	2.6	4.1	2.1	10.9	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	104	68	58	9	-	-	-
sd	32	18	25	4	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	483
		CF_DI	0.96	CAD (meq/kg)	-335

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	79		DCCP	78	DCCP	-
DCCFAT	86		DCCFATh	83	DCCFAT	-
DCCF	70		DCCF	-	DCNFE	-
DCNFE	94		DCNFE	92	DCPpo	-
DCOM	88		DCOM	85		
			DCNSPh	77		
			DCiSTA	100	Broilers	Horses
DVE	1991	2007	StaDCP	-	DCCP	-
%RUP	37	37	AppDCP	-	DCCFATh	-
%DRUP	90	89			DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	55	55				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits	
VEM	1207 /kg	NE2015	10.82 MJ/kg	MEpo	-
VEVI	1321 /kg	NE2015	2586 kcal/kg	MEpo	-
FOM-91	568 g/kg	EW2015	1.23 /kg	MEla	-
FOMr-07	608 g/kg	StaDP	-	MEla	-
FOMr2-07	389 g/kg	AppDP	-	DPpo	-
FOMr2/FOMr	0.64 /kg				
DVE-91	152 g/kg			Broilers	Horses
DVE-07	136 g/kg			MEbr	-
OEB-91	87 g/kg			MEbr	-
OEB-07	106 g/kg			DPpo	-
OEB2-07	63 g/kg				EWpa
DVMET-91	3.0 g/kg				DCPho
DVLYS-91	8.1 g/kg				
DVMET-07	2.7 g/kg				
DVLYS-07	7.3 g/kg				
SW	0.11 /kg				
VW	0.30 /kg				

Wheat yeast concentrate-CP 275 - 325 g/kg DM 1010.689/2/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
			g/kg DM	AA pigs				AA poultry	
	mean	sdc		standardized		apparent		DC	g/kg DM
			DC	g/kg DM	DC	g/kg DM	DC	g/kg DM	
CP			293	79	-	75	220	-	-
LYS	4.2	0.5	12.3	80	9.8	76	9.4	-	-
MET	1.6	0.2	4.7	82	3.9	80	3.7	-	-
CYS	1.8	0.2	5.3	64	3.4	60	3.2	-	-
THR	3.5	0.2	10.3	75	7.7	70	7.1	-	-
TRP	1.1	0.1	3.2	77	2.5	72	2.3	-	-
ILE	3.4	0.2	10.0	81	8.1	78	7.7	-	-
ARG	4.9	0.4	14.4	89	12.7	86	12.3	-	-
PHE	3.8	0.4	11.1	83	9.3	80	9.0	-	-
HIS	2.2	0.3	6.4	82	5.3	80	5.1	-	-
LEU	6.2	0.5	18.2	82	14.9	79	14.4	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	4.6	0.5	13.5	83	11.1	79	10.6	-	-
ALA	4.8	0.4	14.1	81	11.4	78	10.9	-	-
ASP	6.4	0.5	18.8	69	13.0	65	12.2	-	-
GLU	18.4	3.7	53.9	84	45.4	82	44.2	-	-
GLY	4.2	0.3	12.3	85	10.5	78	9.6	-	-
PRO	6.1	1.0	17.9	90	16.0	84	14.9	-	-
SER	4.3	0.2	12.6	77	9.7	72	9.1	-	-
Sum AA	81.5		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		67.0
<=C10	0.2	-
C12:0	0.3	-
C14:0	0.2	-
C16:0	23.9	-
C16:1	0.4	-
C18:0	1.8	-
C18:1	12.7	-
C:18:2	53.2	-
C18:3	3.8	-
>=C20	1.6	-
Sum FA	98.1	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	66	-
LA	57	27
AC	3	2
ETH	1	1
PR	5	3
BU	-	-
Glycerol	85.0	47.2
	% of CP	
NH3	-	-

Wheat yeast concentrate-CP > 325 g/kg DM 1010.689/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CP	CFAT	CFATh	CF	NFE	NFEh	
mean	268	72	375	-	63	12	-	478	
sd	16	8	21	-	18	8	-	-	
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	35	16	18	129	58	25	5	191	133
sd	21	-	9	50	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S-i	S-o
mean	1.4	12.1	-	4.3	19.0	1.1	2.7	10.7	3.1
sd	0.3	1.4	-	0.5	3.0	1.5	1.0	10.9	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	104	68	58	9	-	-	-
sd	32	18	25	4	-	-	-

IP/P	-	SUGe/SUG	100	EB (meq/kg)	458
		CF_DI	0.96	CAD (meq/kg)	-402

Digestibility coefficients (%)

Ruminants			Pigs	Roosters/Laying hens	Rabbits	
DCCP	81		DCCP	79	DCCP	-
DCCFAT	86		DCCFATh	83	DCCFAT	-
DCCF	70		DCCF	-	DCNFE	-
DCNFE	95		DCNFE	96	DCPpo	-
DCOM	89		DCOM	87		
			DCNSPh	84	Horses	
DVE	1991	2007	DCiSTA	100	DCCP	-
%RUP	37	37	StaDCP	-	DCCFATh	-
%DRUP	90	91	AppDCP	-	DC(S+S)	-
%RUSTA	-	-			DCNFEh	-
%DASH	65	65			DCPpo	-
DASHmax	58	58				

Nutritional value (in DM)

Ruminants		Pigs	Roosters/Laying hens	Rabbits		
VEM	1207 /kg	NE2015	11.00 MJ/kg	MEpo	-	
VEVI	1314 /kg	NE2015	2629 kcal/kg	MEpo	-	
FOM-91	545 g/kg	EW2015	1.25 /kg	MEla	-	
FOMr-07	617 g/kg	StaDP	-	MEla	-	
FOMr2-07	416 g/kg	AppDP	-	DPpo	-	
FOMr2/FOMr	0.67 /kg					
DVE-91	181 g/kg			Horses		
DVE-07	166 g/kg			MEbr	-	
OEB-91	139 g/kg			MEbr	-	
OEB-07	160 g/kg			DPpo	-	
OEB2-07	91 g/kg				EWpa	-
DVMET-91	3.5 g/kg				DCPho	-
DVLYS-91	9.3 g/kg					
DVMET-07	3.2 g/kg					
DVLYS-07	8.5 g/kg					
SW	0.08 /kg					
VW	0.30 /kg					

Wheat yeast concentrate-CP > 325 g/kg DM 1010.689/3/0

Amino acids

	g/16g N			ileal digestible				Standardized ileal digestible	
	mean	sdc	g/kg DM	AA pigs		AA poultry		DC	g/kg DM
				standardized	apparent	DC	g/kg DM		
CP			375	79	-	76	284	-	-
LYS	4.2	0.5	15.8	80	12.5	77	12.1	-	-
MET	1.6	0.2	6.0	82	4.9	80	4.8	-	-
CYS	1.8	0.2	6.8	64	4.3	61	4.1	-	-
THR	3.5	0.2	13.1	75	9.9	71	9.3	-	-
TRP	1.1	0.1	4.1	77	3.2	73	3.0	-	-
ILE	3.4	0.2	12.8	81	10.4	78	10.0	-	-
ARG	4.9	0.4	18.4	89	16.3	87	15.9	-	-
PHE	3.8	0.4	14.3	83	11.9	81	11.6	-	-
HIS	2.2	0.3	8.3	82	6.8	80	6.6	-	-
LEU	6.2	0.5	23.3	82	19.1	80	18.6	-	-
TYR	-	-	-	-	-	-	-	-	-
VAL	4.6	0.5	17.3	83	14.2	80	13.7	-	-
ALA	4.8	0.4	18.0	81	14.6	79	14.1	-	-
ASP	6.4	0.5	24.0	69	16.7	66	15.9	-	-
GLU	18.4	3.7	69.0	84	58.1	83	56.9	-	-
GLY	4.2	0.3	15.8	85	13.4	80	12.5	-	-
PRO	6.1	1.0	22.9	90	20.5	85	19.4	-	-
SER	4.3	0.2	16.1	77	12.5	73	11.8	-	-
Sum AA	81.5		-	-	-	-	-	-	-

Fatty acids

	% FA	g/kg DM
CFAT(h)		63.0
<=C10	0.2	-
C12:0	0.3	-
C14:0	0.2	-
C16:0	23.9	-
C16:1	0.4	-
C18:0	1.8	-
C18:1	12.7	-
C:18:2	53.2	-
C18:3	3.8	-
>=C20	1.6	-
Sum FA	98.1	-
% FA in CFAT-fraction		-

Fermentation products

	g/kg DM	sdc
FP	66	-
LA	57	27
AC	3	2
ETH	1	1
PR	5	3
BU	-	-
Glycerol	85.0	47.2
	<u>% of CP</u>	
NH3	-	-

Roughages and related products

Apples, fresh 6020.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	157	23	26	26	19	-	65	868	-
sd	14	2	-	7	-	-	13	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	40	36	-	642	-	-	-	277	277
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	0.6	0.7	-	0.4	8.1	0.2	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	19.0	
DCCP	-		CP		26	<=C10	-	-
DCCFAT	77		LYS	-	-	C12:0	-	-
DCCF	56		MET	-	-	C14:0	-	-
DCNFE	94		CYS	-	-	C16:0	-	-
DCOM	88		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	10	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	23	23	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		1130 /kg	PRO	-	-	FP	-	-
VEVI		1251 /kg	SER	-	-	LA	-	-
FOM-91		823 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		836 g/kg				ETH	-	-
FOMr2-07		658 g/kg				PR	-	-
FOMr2/FOMr		0.79 /kg				BU	-	-
DVE-91		82 g/kg	Horses			Glycerol	-	-
DVE-07		95 g/kg	DCCP	-	-			
OEB-91		-114 g/kg	DCOM	-	-	% of CP		
OEB-07		-135 g/kg	NEm	-	-	NH3	-	-
OEB2-07		-111 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.60 /kg						
VW		0.55 /kg						

Barley straw 1005.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	884	72	43	43	26	-	423	437	-
sd	29	27	-	11	-	-	39	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	860	860
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	3.4	0.9	-	0.9	15.1	0.4	-	1.1
sd	1.3	0.5	-	0.4	5.9	0.4	-	0.3

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	117	27	22	3	0.9	0.0	0.1
sd	83	15	11	1	0.5	0.0	0.1

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)

Ruminants

DCCP	17
DCCFAT	62
DCCF	55
DCNFE	43
DCOM	48

DVE 1991 2007

%RUP	68	68
%DRUP	70	70
%RUSTA	-	-
%DASH	35	35
DASHmax	31	31

Nutritional value (in DM)

Ruminants

VEM	521 /kg
VEVI	450 /kg
FOM-91	389 g/kg
FOMr-07	263 g/kg
FOMr2-07	26 g/kg
FOMr2/FOMr	0.10 /kg
DVE-91	20 g/kg
DVE-07	0 g/kg
OEB-91	-48 g/kg
OEB-07	-18 g/kg
OEB2-07	8 g/kg
DVMET-91	-
DVLYS-91	-
DVMET-07	-
DVLYS-07	-
SW	4.30 /kg
VW	1.66 /kg

Amino acids

	g/16g N		g/kg DM
	mean	sd	
CP			43
LYS	-	-	-
MET	-	-	-
CYS	-	-	-
THR	-	-	-
TRP	-	-	-
ILE	-	-	-
ARG	-	-	-
PHE	-	-	-
HIS	-	-	-
LEU	-	-	-
TYR	-	-	-
VAL	-	-	-
ALA	-	-	-
ASP	-	-	-
GLU	-	-	-
GLY	-	-	-
PRO	-	-	-
SER	-	-	-
Sum AA	-	-	-

Horses

DCCP	19 %
DCOM	37 %
NEm	3.19 MJ/kg
NEm	762 kcal/kg
EWpa	0.36 /kg
DCPho	8 g/kg

Fatty acids

	% FA	g/kg DM
CFAT(h)		26.0
<=C10	-	-
C12:0	-	-
C14:0	-	-
C16:0	-	-
C16:1	-	-
C18:0	-	-
C18:1	-	-
C18:2	-	-
C18:3	-	-
>=C20	-	-
Sum FA	-	-
% FA in CFAT-fraction	-	-
	g/kg DM	sd
FP	-	-
LA	-	-
AC	-	-
ETH	-	-
PR	-	-
BU	-	-
Glycerol	-	-
	% of CP	
NH3	-	

Bean straw (Phaseolus) 2001.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	863	113	107	107	15	-	380	385	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	765	765
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	13.7	1.7	-	1.8	15.4	1.0	4.5	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	311
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N		g/kg DM	% FA	g/kg DM	
Ruminants			mean	sd		CFAT(h)	15.0	
DCCP	62		CP		107	<=C10	-	-
DCCFAT	38		LYS	-	-	C12:0	-	-
DCCF	50		MET	-	-	C14:0	-	-
DCNFE	72		CYS	-	-	C16:0	-	-
DCOM	61		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	68	68	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	67	67	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU		g/kg DM	sd		
Ruminants			mean	sd		FP	-	
VEM		641 /kg	GLY	-	-	LA	-	-
VEVI		602 /kg	PRO	-	-	AC	-	-
FOM-91		451 g/kg	SER	-	-	ETH	-	-
FOMr-07		256 g/kg	Sum AA	-	-	PR	-	-
FOMr2-07		41 g/kg				BU	-	-
FOMr2/FOMr		0.16 /kg				Glycerol	-	-
DVE-91		72 g/kg	Horses			% of CP		
DVE-07		42 g/kg	DCCP	-	-	NH3	-	-
OEB-91		-41 g/kg	DCOM	-	-			
OEB-07		4 g/kg	NEm	-	-			
OEB2-07		23 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		4.30 /kg						
VW		1.66 /kg						

Bean straw (Vicia) 2002.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	840	73	80	80	15	-	470	362	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	832	832
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	13.7	1.7	-	1.8	15.4	1.0	4.5	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	311
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N			% FA	g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	15.0
DCCP	46		CP		80	<=C10	-
DCCFAT	53		LYS	-	-	C12:0	-
DCCF	42		MET	-	-	C14:0	-
DCNFE	65		CYS	-	-	C16:0	-
DCOM	52		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	68	68	ARG	-	-	C18:2	-
%DRUP	75	75	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	45	45	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		554 /kg	PRO	-	-	FP	-
VEVI		487 /kg	SER	-	-	LA	-
FOM-91		408 g/kg	Sum AA	-	-	AC	-
FOMr-07		267 g/kg				ETH	-
FOMr2-07		35 g/kg				PR	-
FOMr2/FOMr		0.13 /kg				BU	-
DVE-91		48 g/kg	Horses			Glycerol	-
DVE-07		24 g/kg	DCCP	-	-		
OEB-91		-41 g/kg	DCOM	-	-	% of CP	
OEB-07		-6 g/kg	NEm	-	-	NH3	-
OEB2-07		17 g/kg	NEm	-	-		
DVMET-91		-	EWpa	-	-		
DVLYS-91		-	DCPho	-	-		
DVMET-07		-					
DVLYS-07		-					
SW		4.30 /kg					
VW		1.66 /kg					

Beetroot 4010.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	136	78	91	91	20	-	74	737	-
sd	33	23	-	34	-	-	20	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	475	-	-	-	353	353
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	3.6	-	-	34.5	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	20.0	
Ruminants			CP		91	<=C10	-	-
DCCP	58		LYS	-	-	C12:0	-	-
DCCFAT	58		MET	-	-	C14:0	-	-
DCCF	67		CYS	-	-	C16:0	-	-
DCNFE	96		THR	-	-	C16:1	-	-
DCOM	89		TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	60	60	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	48	48	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		1080 /kg	PRO	-	-	FP	-	-
VEVI		1189 /kg	SER	-	-	LA	-	-
FOM-91		749 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		721 g/kg				ETH	-	-
FOMr2-07		492 g/kg				PR	-	-
FOMr2/FOMr		0.68 /kg				BU	-	-
DVE-91		96 g/kg	Horses			Glycerol	-	-
DVE-07		102 g/kg	DCCP	-	-			
OEB-91		-79 g/kg	DCOM	-	-	% of CP		
OEB-07		-88 g/kg	NEm	-	-	NH3	-	-
OEB2-07		-75 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		1.00 /kg						
VW		0.69 /kg						

Cabbage (Brussels sprouts) 6023.102/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	162	84	227	227	27	-	139	523	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	200	-	-	-	469	469
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	6.6	-	-	27.8	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N			% FA	g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	27.0
DCCP	87		CP		227	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	88		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	29	31	ARG	-	-	C18:2	-
%DRUP	65	65	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	65	65	LEU	-	-	Sum FA	-
DASHmax	67	67	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		1072 /kg	PRO	-	-	FP	-
VEVI		1156 /kg	SER	-	-	LA	-
FOMr-91		712 g/kg	Sum AA	-	-	AC	-
FOMr-07		614 g/kg				ETH	-
FOMr2-07		281 g/kg				PR	-
FOMr2/FOMr		0.46 /kg				BU	-
DVE-91		105 g/kg	Horses			Glycerol	-
DVE-07		91 g/kg	DCCP	-			
OEB-91		46 g/kg	DCOM	-		% of CP	
OEB-07		68 g/kg	NEm	-		NH3	-
OEB2-07		16 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.29 /kg					
VW		0.90 /kg					

Cabbage (Brussels sprouts, stem and leaves) 6023.101/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	180	110	187	187	35	-	180	488	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	668	668
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	3.7	-	-	26.3	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)		35.0
DCCP	85		CP		187	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	84		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	35	36	ARG	-	-	C18:2	-	-
%DRUP	65	65	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	85	85	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
Nutritional value (in DM)			ASP	-	-			
Ruminants			GLU	-	-			
VEM		1007 /kg	GLY	-	-		g/kg DM	sd
VEVI		1074 /kg	PRO	-	-	FP	-	-
FOM-91		645 g/kg	SER	-	-	LA	-	-
FOMr-07		485 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		89 g/kg				ETH	-	-
FOMr2/FOMr		0.18 /kg				PR	-	-
DVE-91		93 g/kg	Horses			BU	-	-
DVE-07		70 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		18 g/kg	DCOM	-	-			
OEB-07		54 g/kg	NEm	-	-	% of CP		
OEB2-07		35 g/kg	NEm	-	-	NH3	-	-
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		1.82 /kg						
VW		0.90 /kg						

Cabbage (cauliflower) 6023.103/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	72	138	295	295	22	-	111	434	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	150	-	-	-	400	400
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	6.0	-	-	42.5	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)		
Ruminants						22.0		
DCCP	91		CP		295	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	90		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	25	27	ARG	-	-	C18:2	-	-
%DRUP	65	65	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	81	81	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		1030 /kg	PRO	-	-	FP	-	-
VEVI		1109 /kg	SER	-	-	LA	-	-
FOMr-91		679 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		601 g/kg				ETH	-	-
FOMr2-07		260 g/kg				PR	-	-
FOMr2/FOMr		0.43 /kg				BU	-	-
DVE-91		106 g/kg	Horses			Glycerol	-	-
DVE-07		92 g/kg	DCCP	-	-			
OEB-91		111 g/kg	DCOM	-	-	% of CP		
OEB-07		132 g/kg	NEm	-	-	NH3	-	-
OEB2-07		46 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.92 /kg						
VW		0.90 /kg						

Cabbage (marrowstem) 6023.105/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	120	130	172	172	35	-	180	483	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	663	663
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.5	-	-	23.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		% FA		g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	35.0
DCCP	84		CP		172	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	83		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	36	37	ARG	-	-	C18:2	-
%DRUP	65	65	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	65	65	LEU	-	-	Sum FA	-
DASHmax	99	99	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		981 /kg	PRO	-	-	FP	-
VEVI		1045 /kg	SER	-	-	LA	-
FOM-91		628 g/kg	Sum AA	-	-	AC	-
FOMr-07		464 g/kg				ETH	-
FOMr2-07		82 g/kg				PR	-
FOMr2/FOMr		0.18 /kg				BU	-
DVE-91		88 g/kg	Horses			Glycerol	-
DVE-07		65 g/kg	DCCP	-			
OEB-91		9 g/kg	DCOM	-		% of CP	
OEB-07		45 g/kg	NEm	-		NH3	-
OEB2-07		31 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.82 /kg					
VW		0.90 /kg					

Cabbage (red/white/sav.), fresh 6023.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	105	116	181	181	35	-	163	505	-
sd	23	39	-	32	-	-	37	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	200	-	-	-	475	475
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	3.7	-	-	33.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	35.0
DCCP	85		CP		181	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	85		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	34	36	ARG	-	-	C18:2	-
%DRUP	65	65	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	65	65	LEU	-	-	Sum FA	-
DASHmax	89	89	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		1007 /kg	PRO	-	-	FP	-
VEVI		1079 /kg	SER	-	-	LA	-
FOM-91		656 g/kg	Sum AA	-	-	AC	-
FOMr-07		564 g/kg				ETH	-
FOMr2-07		261 g/kg				PR	-
FOMr2/FOMr		0.46 /kg				BU	-
DVE-91		93 g/kg	Horses			Glycerol	-
DVE-07		80 g/kg	DCCP	-			
OEB-91		14 g/kg	DCOM	-		% of CP	
OEB-07		34 g/kg	NEm	-		NH3	-
OEB2-07		3 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.60 /kg					
VW		0.90 /kg					

Cabbage (turnip cabbage), fresh 4012.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	110	130	134	134	5	-	90	641	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	731	731
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.0	-	-	25.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N			% FA	g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	5.0
DCCP	67		CP		134	<=C10	-
DCCFAT	40		LYS	-	-	C12:0	-
DCCF	75		MET	-	-	C14:0	-
DCNFE	95		CYS	-	-	C16:0	-
DCOM	88		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	58	61	ARG	-	-	C18:2	-
%DRUP	65	65	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	35	35	LEU	-	-	Sum FA	-
DASHmax	54	54	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			Horses				
Ruminants							
VEM		1013 /kg	GLY	-	-	FP	-
VEVI		1107 /kg	PRO	-	-	LA	-
FOM-91		686 g/kg	SER	-	-	AC	-
FOMr-07		541 g/kg	Sum AA	-	-	ETH	-
FOMr2-07		93 g/kg				PR	-
FOMr2/FOMr		0.17 /kg				BU	-
DVE-91		107 g/kg				Glycerol	-
DVE-07		97 g/kg					
OEB-91		-54 g/kg				% of CP	
OEB-07		-39 g/kg				NH3	-
OEB2-07		0 g/kg					
DVMET-91		-					
DVLYS-91		-					
DVMET-07		-					
DVLYS-07		-					
SW		1.00 /kg					
VW		0.69 /kg					

Cabbage (winterrape) 6023.104/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	100	150	201	201	35	-	175	439	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	614	614
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.5	-	-	23.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N			% FA	g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	35.0
DCCP	87		CP		201	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	83		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	34	35	ARG	-	-	C18:2	-
%DRUP	65	65	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	65	65	LEU	-	-	Sum FA	-
DASHmax	114	114	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		958 /kg	PRO	-	-	FP	-
VEVI		1017 /kg	SER	-	-	LA	-
FOM-91		606 g/kg	Sum AA	-	-	AC	-
FOMr-07		471 g/kg				ETH	-
FOMr2-07		92 g/kg				PR	-
FOMr2/FOMr		0.19 /kg				BU	-
DVE-91		89 g/kg	Horses			Glycerol	-
DVE-07		68 g/kg	DCCP	-			
OEB-91		34 g/kg	DCOM	-		% of CP	
OEB-07		67 g/kg	NEm	-		NH3	-
OEB2-07		39 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.76 /kg					
VW		0.90 /kg					

Carrots 4006.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	112	91	82	82	16	-	89	722	-
sd	25	14	-	23	-	-	18	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	70	-	-	344	-	95	-	479	479
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	4.0	3.2	-	1.4	27.8	6.0	5.0	-
sd	0.4	0.7	-	0.4	2.9	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	831
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	16.0	
DCCP	59		CP		82	<=C10	-	-
DCCFAT	54		LYS	-	-	C12:0	-	-
DCCF	87		MET	-	-	C14:0	-	-
DCNFE	94		CYS	-	-	C16:0	-	-
DCOM	90		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	60	60	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	55	55	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants								
VEM		1071 /kg	GLU	-	-			
VEVI		1182 /kg	PRO	-	-	FP	-	-
FOM-91		751 g/kg	SER	-	-	LA	-	-
FOMr-07		678 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		382 g/kg				ETH	-	-
FOMr2/FOMr		0.56 /kg				PR	-	-
DVE-91		93 g/kg	Horses			BU	-	-
DVE-07		94 g/kg	DCCP	78 %		Glycerol	-	-
OEB-91		-83 g/kg	DCOM	98 %				
OEB-07		-84 g/kg	NEm	10.99 MJ/kg		NH3	-	-
OEB2-07		-57 g/kg	NEm	2627 kcal/kg				
DVMET-91		-	EWpa	1.23 /kg				
DVLYS-91		-	DCPho	64 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		1.00 /kg						
VW		0.69 /kg						

Chicory leaves, ensiled 4015.639/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	175	341	115	115	20	-	141	383	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	524	524
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)		20.0
DCCP	34		CP		115	<=C10	-	-
DCCFAT	38		LYS	-	-	C12:0	-	-
DCCF	66		MET	-	-	C14:0	-	-
DCNFE	64		CYS	-	-	C16:0	-	-
DCOM	58		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	22	22	ARG	-	-	C18:2	-	-
%DRUP	60	60	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	135	135	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
Nutritional value (in DM)			ASP	-	-			
Ruminants			GLU	-	-			
VEM		464 /kg	GLY	-	-			
VEVI		434 /kg	PRO	-	-	FP	-	-
FOM-91		339 g/kg	SER	-	-	LA	-	-
FOMr-07		362 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		106 g/kg				ETH	-	-
FOMr2/FOMr		0.29 /kg				PR	-	-
DVE-91		7 g/kg	Horses			BU	-	-
DVE-07		3 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		37 g/kg	DCOM	-	-			
OEB-07		43 g/kg	NEm	-	-	% of CP		
OEB2-07		63 g/kg	NEm	-	-	NH3	-	-
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		1.56 /kg						
VW		1.00 /kg						

Chicory leaves, fresh 4015.642/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	156	202	189	189	36	-	133	440	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	573	573
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants					189	CFAT(h)	36.0	
DCCP	79		CP			<=C10	-	-
DCCFAT	47		LYS	-	-	C12:0	-	-
DCCF	79		MET	-	-	C14:0	-	-
DCNFE	82		CYS	-	-	C16:0	-	-
DCOM	79		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	37	39	ARG	-	-	C18:2	-	-
%DRUP	80	80	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	81	81	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		835 /kg	PRO	-	-	FP	-	-
VEVI		870 /kg	SER	-	-	LA	-	-
FOM-91		523 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		430 g/kg				ETH	-	-
FOMr2-07		82 g/kg				PR	-	-
FOMr2/FOMr		0.19 /kg				BU	-	-
DVE-91		90 g/kg	Horses			Glycerol	-	-
DVE-07		72 g/kg	DCCP	-	-			
OEB-91		32 g/kg	DCOM	-	-	% of CP		
OEB-07		58 g/kg	NEm	-	-	NH3	-	-
OEB2-07		35 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.93 /kg						
VW		0.92 /kg						

Chicory roots, forced, clean 6019.644/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	149	82	51	51	10	-	89	769	-
sd	-	16	-	14	-	-	17	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	210	-	-	-	655	655
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	3.3	2.5	-	0.9	21.8	0.9	-	-
sd	1.4	0.5	-	0.2	2.6	0.9	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	94	4	15	10	-	-	-
sd	103	2	1	3	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)		10.0
DCCP	61		CP		51	<=C10	-	-
DCCFAT	65		LYS	-	-	C12:0	-	-
DCCF	71		MET	-	-	C14:0	-	-
DCNFE	89		CYS	-	-	C16:0	-	-
DCOM	85		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	65	65	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	35	35	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
Nutritional value (in DM)			ASP	-	-			
Ruminants			GLU	-	-			
VEM		1026 /kg	GLY	-	-			
VEVI		1122 /kg	PRO	-	-	FP	-	-
FOM-91		745 g/kg	SER	-	-	LA	-	-
FOMr-07		656 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		272 g/kg				ETH	-	-
FOMr2/FOMr		0.41 /kg				PR	-	-
DVE-91		76 g/kg	Horses			BU	-	-
DVE-07		76 g/kg	DCCP	61 %		Glycerol	-	-
OEB-91		-93 g/kg	DCOM	81 %				
OEB-07		-93 g/kg	NEm	8.35 MJ/kg		NH3	-	-
OEB2-07		-41 g/kg	NEm	1996 kcal/kg				
DVMET-91		-	EWpa	0.94 /kg				
DVLYS-91		-	DCPho	31 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		1.00 /kg						
VW		0.69 /kg						

Chicory roots, not forced 6019.643/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	200	100	65	65	10	-	60	765	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	110	-	-	-	719	719
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.2	-	-	18.4	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	10.0	
DCCP	49		CP		65	<=C10	-	-
DCCFAT	45		LYS	-	-	C12:0	-	-
DCCF	86		MET	-	-	C14:0	-	-
DCNFE	97		CYS	-	-	C16:0	-	-
DCOM	92		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	65	65	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	42	42	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		1110 /kg	PRO	-	-	FP	-	-
VEVI		1239 /kg	SER	-	-	LA	-	-
FOM-91		783 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		610 g/kg				ETH	-	-
FOMr2-07		187 g/kg				PR	-	-
FOMr2/FOMr		0.31 /kg				BU	-	-
DVE-91		92 g/kg	Horses			Glycerol	-	-
DVE-07		82 g/kg	DCCP	50 %				
OEB-91		-94 g/kg	DCOM	84 %				
OEB-07		-79 g/kg	NEm	8.14 MJ/kg		NH3	-	-
OEB2-07		-25 g/kg	NEm	1945 kcal/kg				
DVMET-91		-	EWpa	0.91 /kg				
DVLYS-91		-	DCPho	33 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		0.80 /kg						
VW		0.69 /kg						

Clover red, artificially dried 5003.610/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	899	116	189	189	40	-	239	416	-
sd	27	29	-	47	-	-	55	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	655	655
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	14.6	3.3	-	3.5	22.2	1.8	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N			% FA	g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	40.0
DCCP	62		CP		189	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	68		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	40	48	ARG	-	-	C18:2	-
%DRUP	73	73	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	69	69	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		784 /kg	PRO	-	-	FP	-
VEVI		779 /kg	SER	-	-	LA	-
FOM-91		489 g/kg	Sum AA	-	-	AC	-
FOMr-07		459 g/kg				ETH	-
FOMr2-07		91 g/kg				PR	-
FOMr2/FOMr		0.20 /kg				BU	-
DVE-91		83 g/kg	Horses			Glycerol	-
DVE-07		81 g/kg	DCCP	-			
OEB-91		32 g/kg	DCOM	-		% of CP	
OEB-07		37 g/kg	NEm	-		NH3	-
OEB2-07		38 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		2.95 /kg					
VW		0.36 /kg					

Clover red, ensiled 5003.602/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	364	153	196	196	34	-	270	347	-
sd	95	38	-	52	-	-	87	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	42	-	-	-	513	513
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	10.6	2.9	-	2.9	38.6	0.8	-	-
sd	-	-	-	0.9	15.0	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	174	17	24	11	2.6	0.0	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	34.0	
DCCP	73		CP		196	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	64		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	27	27	ARG	-	-	C18:2	-	-
%DRUP	50	50	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	89	89	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		672 /kg	PRO	-	-	FP	77	-
VEVI		643 /kg	SER	-	-	LA	61	-
FOM-91		413 g/kg	Sum AA	-	-	AC	15	-
FOMr-07		523 g/kg				ETH	-	-
FOMr2-07		256 g/kg				PR	-	-
FOMr2/FOMr		0.49 /kg				BU	-	-
DVE-91		39 g/kg	Horses			Glycerol	-	-
DVE-07		38 g/kg	DCCP	-				
OEB-91		75 g/kg	DCOM	-				
OEB-07		77 g/kg	NEm	-		% of CP		
OEB2-07		85 g/kg	NEm	-		NH3	-	
DVMET-91		-	EWpa	-				
DVLYS-91		-	DCPho	-				
DVMET-07		-						
DVLYS-07		-						
SW		2.86 /kg						
VW		0.93 /kg						

Clover red, fresh 5003.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	130	116	208	208	40	-	218	418	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	47	636	636
sd	-	-	-	-	-	-	11	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		% FA		g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	40.0
DCCP	81		CP		208	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	71		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	41	43	ARG	-	-	C18:2	-
%DRUP	88	88	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	69	69	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU		g/kg DM		sd
Ruminants			GLU	-	-	FP	-
VEM		822 /kg	PRO	-	-	LA	-
VEVI		827 /kg	SER	-	-	AC	-
FOM-91		502 g/kg	Sum AA	-	-	ETH	-
FOMr-07		475 g/kg				PR	-
FOMr2-07		92 g/kg				BU	-
FOMr2/FOMr		0.19 /kg				Glycerol	-
DVE-91		108 g/kg	Horses				
DVE-07		95 g/kg	DCCP	-			
OEB-91		38 g/kg	DCOM	-		% of CP	
OEB-07		55 g/kg	NEm	-		NH3	-
OEB2-07		37 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.60 /kg					
VW		0.98 /kg					

Clover red, hay 5003.606/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	830	100	182	182	35	-	344	339	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	683	683
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	3.1	-	-	27.9	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	35.0
DCCP	61		CP		182	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	59		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	51	51	ARG	-	-	C18:2	-
%DRUP	75	75	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	60	60	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		649 /kg	PRO	-	-	FP	-
VEVI		602 /kg	SER	-	-	LA	-
FOM-91		404 g/kg	Sum AA	-	-	AC	-
FOMr-07		417 g/kg				ETH	-
FOMr2-07		91 g/kg				PR	-
FOMr2/FOMr		0.22 /kg				BU	-
DVE-91		84 g/kg	Horses			Glycerol	-
DVE-07		71 g/kg	DCCP	-			
OEB-91		19 g/kg	DCOM	-		% of CP	
OEB-07		37 g/kg	NEm	-		NH3	-
OEB2-07		50 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		4.35 /kg					
VW		1.40 /kg					

Clover red, straw 5003.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	830	68	100	100	24	-	476	332	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	808	808
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		% FA		g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	24.0
DCCP	44		CP		100	<=C10	-
DCCFAT	33		LYS	-	-	C12:0	-
DCCF	37		MET	-	-	C14:0	-
DCNFE	50		CYS	-	-	C16:0	-
DCOM	42		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	68	68	ARG	-	-	C18:2	-
%DRUP	70	70	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	42	42	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU			g/kg DM	
Ruminants			GLY			FP	sd
VEM		445 /kg	PRO	-	-	LA	-
VEVI		357 /kg	SER	-	-	AC	-
FOM-91		302 g/kg	Sum AA	-	-	ETH	-
FOMr-07		267 g/kg				PR	-
FOMr2-07		40 g/kg				BU	-
FOMr2/FOMr		0.15 /kg				Glycerol	-
DVE-91		39 g/kg	Horses				
DVE-07		25 g/kg	DCCP	-			
OEB-91		-20 g/kg	DCOM	-		% of CP	
OEB-07		1 g/kg	NEm	-		NH3	-
OEB2-07		22 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		4.30 /kg					
VW		1.66 /kg					

Cucumber, fresh 6006.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	58	102	156	156	20	-	136	586	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	391	-	-	-	345	345
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	38.8	6.1	-	10.6	38.5	-	1.9	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	230	106	65	2	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM	% FA	g/kg DM
Ruminants			mean	sd		CFAT(h)	20.0
DCCP	57		CP	156	<=C10	-	-
DCCFAT	40		LYS	-	C12:0	-	-
DCCF	70		MET	-	C14:0	-	-
DCNFE	90		CYS	-	C16:0	-	-
DCOM	80		THR	-	C16:1	-	-
			TRP	-	C18:0	-	-
DVE	1991	2007	ILE	-	C18:1	-	-
%RUP	58	61	ARG	-	C18:2	-	-
%DRUP	75	75	PHE	-	C18:3	-	-
%RUSTA	-	-	HIS	-	>=C20	-	-
%DASH	65	65	LEU	-	Sum FA	-	-
DASHmax	79	79	TYR	-			
			VAL	-	% FA in CFAT-fraction	-	-
			ALA	-			
			ASP	-			
Nutritional value (in DM)							
Ruminants							
VEM		907 /kg	GLY	-	-	g/kg DM	sd
VEVI		953 /kg	PRO	-	-	FP	-
FOM-91		610 g/kg	SER	-	-	LA	-
FOMr-07		662 g/kg	Sum AA	-	-	AC	-
FOMr2-07		420 g/kg				ETH	-
FOMr2/FOMr		0.63 /kg				PR	-
DVE-91		116 g/kg	Horses			BU	-
DVE-07		126 g/kg	DCCP	-		Glycerol	-
OEB-91		-35 g/kg	DCOM	-		% of CP	
OEB-07		-51 g/kg	NEm	-		NH3	-
OEB2-07		-54 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.00 /kg					
VW		0.55 /kg					

Endive, fresh 6010.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	52	164	290	290	22	-	122	402	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	156	-	-	-	373	373
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	5.5	-	1.3	74.6	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	22.0	
Ruminants								
DCCP	85		CP		290	<=C10	-	-
DCCFAT	55		LYS	-	-	C12:0	-	-
DCCF	80		MET	-	-	C14:0	-	-
DCNFE	91		CYS	-	-	C16:0	-	-
DCOM	86		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	26	28	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	124	124	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants								
VEM		954 /kg	GLU	-	-			
VEVI		1015 /kg	PRO	-	-	FP	-	-
FOM-91		621 g/kg	SER	-	-	LA	-	-
FOMr-07		582 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		260 g/kg				ETH	-	-
FOMr2/FOMr		0.45 /kg				PR	-	-
DVE-91		102 g/kg	Horses			BU	-	-
DVE-07		92 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		112 g/kg	DCOM	-	-			
OEB-07		127 g/kg	NEm	-	-	% of CP		
OEB2-07		43 g/kg	NEm	-	-	NH3	-	-
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		1.00 /kg						
VW		0.92 /kg						

Field beans (*Vicia faba*) ensiled 5001.602/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	326	87	178	164	24	-	292	434	-
sd	132	17	-	21	-	-	43	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	146	-	1	454	-	-	486	32
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	15.2	2.7	-	1.5	25.9	0.8	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)		24.0
DCCP	70		CP		164	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	64		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	35	36	ARG	-	-	C18:2	-	-
%DRUP	55	55	PHE	-	-	C18:3	-	-
%RUSTA	14	17	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	53	53	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
Nutritional value (in DM)			ASP	-	-			
Ruminants			GLU	-	-			
VEM		709 /kg	GLY	-	-			
VEVI		681 /kg	PRO	-	-	FP	93	-
FOMr-91		427 g/kg	SER	-	-	LA	75	-
FOMr-07		501 g/kg	Sum AA	-	-	AC	19	-
FOMr2-07		284 g/kg				ETH	-	-
FOMr2/FOMr		0.57 /kg				PR	-	-
DVE-91		51 g/kg	Horses			BU	-	-
DVE-07		47 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		44 g/kg	DCOM	-	-			
OEB-07		52 g/kg	NEm	-	-	% of CP		
OEB2-07		66 g/kg	NEm	-	-	NH3	8	
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		2.52 /kg						
VW		0.90 /kg						

Gherkin, fresh 6018.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	49	84	226	226	21	-	167	502	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	335	-	-	-	346	346
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		% FA		g/kg DM
Ruminants			mean	sd	g/kg DM	CFAT(h)	21.0
DCCP	63		CP		226	<=C10	-
DCCFAT	41		LYS	-	-	C12:0	-
DCCF	70		MET	-	-	C14:0	-
DCNFE	90		CYS	-	-	C16:0	-
DCOM	79		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	58	61	ARG	-	-	C18:2	-
%DRUP	75	75	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	65	65	LEU	-	-	Sum FA	-
DASHmax	67	67	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU		g/kg DM		sd
Ruminants			GLU	-	-	FP	-
VEM		905 /kg	PRO	-	-	LA	-
VEVI		937 /kg	SER	-	-	AC	-
FOM-91		568 g/kg	Sum AA	-	-	ETH	-
FOMr-07		637 g/kg				PR	-
FOMr2-07		376 g/kg				BU	-
FOMr2/FOMr		0.59 /kg				Glycerol	-
DVE-91		146 g/kg	Horses			% of CP	
DVE-07		154 g/kg	DCCP	-		NH3	-
OEB-91		-4 g/kg	DCOM	-			
OEB-07		-18 g/kg	NEm	-			
OEB2-07		-38 g/kg	NEm	-			
DVMET-91		-	EWpa	-			
DVLYS-91		-	DCPho	-			
DVMET-07		-					
DVLYS-07		-					
SW		1.00 /kg					
VW		0.55 /kg					

Grass hay, a) poor quality 5010.701/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	845	89	106	106	28	-	334	443	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	20	6	-	98	668	384	66	676	8
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	3.0	-	2.3	34.1	2.3	12.3	3.0
sd	1.0	0.5	-	0.4	4.2	0.9	-	0.5

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	211	67	8	1	1.6	-	0.1

IP/P	-	SUGe/SUG	-	EB (meq/kg)	626
		CF_DI	0.97	CAD (meq/kg)	439

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	28.0	
Ruminants								
DCCP	52		CP		106	<=C10	-	-
DCCFAT	-		LYS	4.2	0.6	C12:0	-	-
DCCF	-		MET	1.6	0.1	C14:0	-	-
DCNFE	-		CYS	1.1	0.1	C16:0	-	-
DCOM	63		THR	4.0	0.2	C16:1	-	-
			TRP	1.3	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.8	0.2	C18:1	-	-
%RUP	43	43	ARG	4.4	0.4	C18:2	-	-
%DRUP	66	65	PHE	4.8	0.4	C18:3	-	-
%RUSTA	-	-	HIS	1.7	0.3	>=C20	-	-
%DASH	50	50	LEU	7.2	0.4	Sum FA	-	-
DASHmax	54	54	TYR	2.7	0.3			
			VAL	5.0	0.2	% FA in CFAT-fraction	-	-
			ALA	5.9	0.3			
			ASP	8.8	0.7			
Nutritional value (in DM)								
Ruminants								
VEM		698 /kg	GLU	9.9	0.7	10.5		
VEVI		670 /kg	PRO	5.6	0.7	5.9	FP	-
FOM-91		503 g/kg	SER	3.9	0.2	4.1	LA	-
FOMr-07		415 g/kg	Sum AA	80.8		86	AC	-
FOMr2-07		155 g/kg					ETH	-
FOMr2/FOMr		0.37 /kg					PR	-
DVE-91		53 g/kg	Horses				BU	-
DVE-07		37 g/kg	DCCP	52 %			Glycerol	-
OEB-91		-20 g/kg	DCOM	-			% of CP	
OEB-07		4 g/kg	NEm	-			NH3	-
OEB2-07		14 g/kg	NEm	-				
DVMET-91		1.3 g/kg	EWpa	-				
DVLYS-91		3.5 g/kg	DCPho	-				
DVMET-07		1.0 g/kg						
DVLYS-07		2.4 g/kg						
SW		4.21 /kg						
VW		1.45 /kg						

Grass hay, b) average quality 5010.702/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	845	100	132	132	28	-	288	452	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	20	6	-	98	585	297	34	639	54
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	3.4	-	2.3	34.1	2.3	12.3	3.0
sd	1.0	0.5	-	0.4	4.2	0.9	-	0.5

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	211	67	8	1	1.6	-	0.1

IP/P	-	SUGe/SUG	-	EB (meq/kg)	626
		CF_DI	0.97	CAD (meq/kg)	439

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA	g/kg DM		
Ruminants			mean	sd	g/kg DM	CFAT(h)	28.0		
DCCP	60		CP		132	<=C10	-	-	
DCCFAT	-		LYS	4.2	0.6	5.5	C12:0	-	-
DCCF	-		MET	1.6	0.1	2.1	C14:0	-	-
DCNFE	-		CYS	1.1	0.1	1.5	C16:0	-	-
DCOM	68		THR	4.0	0.2	5.3	C16:1	-	-
			TRP	1.3	0.2	1.7	C18:0	-	-
DVE	1991	2007	ILE	3.8	0.2	5.0	C18:1	-	-
%RUP	46	46	ARG	4.4	0.4	5.8	C18:2	-	-
%DRUP	67	67	PHE	4.8	0.4	6.3	C18:3	-	-
%RUSTA	-	-	HIS	1.7	0.3	2.2	>=C20	-	-
%DASH	50	50	LEU	7.2	0.4	9.5	Sum FA	-	-
DASHmax	60	60	TYR	2.7	0.3	3.6			
			VAL	5.0	0.2	6.6	% FA in CFAT-fraction	-	-
			ALA	5.9	0.3	7.8			
			ASP	8.8	0.7	11.6			
Nutritional value (in DM)			GLU	9.9	0.7	13.1			
Ruminants			GLY	4.9	0.3	6.5			
VEM		756 /kg	PRO	5.6	0.7	7.4	FP	-	-
VEVI		746 /kg	SER	3.9	0.2	5.1	LA	-	-
FOMr-91		522 g/kg	Sum AA	80.8		107	AC	-	-
FOMr-07		456 g/kg					ETH	-	-
FOMr2-07		172 g/kg					PR	-	-
FOMr2/FOMr		0.38 /kg					BU	-	-
DVE-91		70 g/kg	Horses				Glycerol	-	-
DVE-07		56 g/kg	DCCP	60 %					
OEB-91		-14 g/kg	DCOM	-					
OEB-07		8 g/kg	NEm	-			NH3	-	-
OEB2-07		20 g/kg	NEm	-					
DVMET-91		1.6 g/kg	EWpa	-					
DVLYS-91		4.3 g/kg	DCPho	-					
DVMET-07		1.3 g/kg							
DVLYS-07		3.4 g/kg							
SW		3.60 /kg							
VW		1.40 /kg							

Grass hay, c) good quality 5010.703/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	845	109	170	170	28	-	244	449	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	20	6	-	98	512	270	-	592	80
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	3.9	-	2.3	34.1	2.3	12.3	3.0
sd	1.0	0.5	-	0.4	4.2	0.9	-	0.5

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	211	67	8	1	1.6	-	0.1

IP/P	-	SUGe/SUG	-	EB (meq/kg)	626
		CF_DI	0.97	CAD (meq/kg)	439

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	28.0	
DCCP	68		CP		170	<=C10	-	
DCCFAT	-		LYS	4.2	0.6	7.1	C12:0	-
DCCF	-		MET	1.6	0.1	2.7	C14:0	-
DCNFE	-		CYS	1.1	0.1	1.9	C16:0	-
DCOM	74		THR	4.0	0.2	6.8	C16:1	-
			TRP	1.3	0.2	2.2	C18:0	-
DVE	1991	2007	ILE	3.8	0.2	6.5	C18:1	-
%RUP	41	41	ARG	4.4	0.4	7.5	C18:2	-
%DRUP	67	72	PHE	4.8	0.4	8.2	C18:3	-
%RUSTA	-	-	HIS	1.7	0.3	2.9	>=C20	-
%DASH	50	50	LEU	7.2	0.4	12.2	Sum FA	-
DASHmax	65	65	TYR	2.7	0.3	4.6		
			VAL	5.0	0.2	8.5	% FA in CFAT-fraction	-
			ALA	5.9	0.3	10.0		
			ASP	8.8	0.7	15.0		
Nutritional value (in DM)								
Ruminants								
VEM		835 /kg	GLY	4.9	0.3	8.3	g/kg DM	sd
VEVI		848 /kg	PRO	5.6	0.7	9.5	FP	-
FOM-91		559 g/kg	SER	3.9	0.2	6.6	LA	-
FOMr-07		499 g/kg	Sum AA	80.8		137	AC	-
FOMr2-07		192 g/kg					ETH	-
FOMr2/FOMr		0.38 /kg					PR	-
DVE-91		84 g/kg	Horses				BU	-
DVE-07		73 g/kg	DCCP	68 %			Glycerol	-
OEB-91		8 g/kg	DCOM	-			% of CP	
OEB-07		31 g/kg	NEm	-			NH3	-
OEB2-07		32 g/kg	NEm	-				
DVMET-91		1.9 g/kg	EWpa	-				
DVLYS-91		5.1 g/kg	DCPho	-				
DVMET-07		1.6 g/kg						
DVLYS-07		4.3 g/kg						
SW		3.02 /kg						
VW		1.35 /kg						

Grass hay, d) horses, fine 5010.704/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	843	81	136	136	28	-	256	499	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	160	-	-	-	601	601
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	3.5	-	2.3	19.6	2.3	12.3	3.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	255
		CF_DI	0.97	CAD (meq/kg)	68

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N		g/kg DM	% FA	g/kg DM	
Ruminants			mean	sd		CFAT(h)	28.0	
DCCP	60		CP		136	<=C10	-	-
DCCFAT	-		LYS	4.2	-	C12:0	-	-
DCCF	-		MET	1.6	-	C14:0	-	-
DCNFE	-		CYS	1.1	-	C16:0	-	-
DCOM	71		THR	4.0	-	C16:1	-	-
			TRP	1.3	-	C18:0	-	-
DVE	1991	2007	ILE	3.8	-	C18:1	-	-
%RUP	-	-	ARG	4.4	-	C18:2	-	-
%DRUP	-	-	PHE	4.8	-	C18:3	-	-
%RUSTA	-	-	HIS	1.7	-	>=C20	-	-
%DASH	-	-	LEU	7.2	-	Sum FA	-	-
DASHmax	-	-	TYR	2.7	-			
			VAL	5.0	-	% FA in CFAT-fraction	-	-
			ALA	5.9	-			
			ASP	8.8	-			
Nutritional value (in DM)			GLU	9.9	-			
Ruminants			GLY	4.9	-			
VEM	-		PRO	5.6	-	FP	-	-
VEVI	-		SER	3.9	-	LA	-	-
FOMr-91	-		Sum AA	80.8		110	AC	-
FOMr-07	-						ETH	-
FOMr2-07	-						PR	-
FOMr2/FOMr	-						BU	-
DVE-91	-		Horses				Glycerol	-
DVE-07	-		DCCP	60 %				
OEB-91	-		DCOM	65 %				
OEB-07	-		NEm	6.61 MJ/kg			NH3	-
OEB2-07	-		NEm	1580 kcal/kg				
DVMET-91	-		EWpa	0.74 /kg				
DVLYS-91	-		DCPho	80 g/kg				
DVMET-07	-							
DVLYS-07	-							
SW	-							
VW	-							

Grass hay, e) horses, middle 5010.705/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	835	75	95	95	28	-	308	494	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	120	-	-	-	686	686
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	2.8	-	2.3	18.5	2.3	12.3	3.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	227
		CF_DI	0.97	CAD (meq/kg)	40

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)		28.0
DCCP	46		CP		95	<=C10	-	-
DCCFAT	-		LYS	4.2	-	C12:0	-	-
DCCF	-		MET	1.6	-	C14:0	-	-
DCNFE	-		CYS	1.1	-	C16:0	-	-
DCOM	65		THR	4.0	-	C16:1	-	-
			TRP	1.3	-	C18:0	-	-
DVE	1991	2007	ILE	3.8	-	C18:1	-	-
%RUP	-	-	ARG	4.4	-	C18:2	-	-
%DRUP	-	-	PHE	4.8	-	C18:3	-	-
%RUSTA	-	-	HIS	1.7	-	>=C20	-	-
%DASH	-	-	LEU	7.2	-	Sum FA	-	-
DASHmax	-	-	TYR	2.7	-			
			VAL	5.0	-	% FA in CFAT-fraction	-	-
			ALA	5.9	-			
			ASP	8.8	-			
Nutritional value (in DM)			GLU	9.9	-			
Ruminants			GLY	4.9	-			
VEM	-	-	PRO	5.6	-	FP	-	-
VEVI	-	-	SER	3.9	-	LA	-	-
FOM-91	-	-	Sum AA	80.8		77	AC	-
FOMr-07	-	-					ETH	-
FOMr2-07	-	-					PR	-
FOMr2/FOMr	-	-					BU	-
DVE-91	-	-	Horses				Glycerol	-
DVE-07	-	-	DCCP	46 %				
OEB-91	-	-	DCOM	58 %				
OEB-07	-	-	NEm	5.63 MJ/kg		NH3	-	
OEB2-07	-	-	NEm	1346 kcal/kg				
DVMET-91	-	-	EWpa	0.63 /kg				
DVLYS-91	-	-	DCPho	44 g/kg				
DVMET-07	-	-						
DVLYS-07	-	-						
SW	-	-						
VW	-	-						

Grass hay, f) horses, course 5010.711/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	839	105	78	78	28	-	359	430	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	89	-	-	-	703	703
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	2.4	-	2.3	17.2	2.3	12.3	3.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	194
		CF_DI	0.97	CAD (meq/kg)	6

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N		g/kg DM	% FA	g/kg DM		
Ruminants			mean	sd		CFAT(h)	28.0		
DCCP	36		CP		78	<=C10	-	-	
DCCFAT	-		LYS	4.2	-	3.3	C12:0	-	-
DCCF	-		MET	1.6	-	1.2	C14:0	-	-
DCNFE	-		CYS	1.1	-	0.9	C16:0	-	-
DCOM	62		THR	4.0	-	3.1	C16:1	-	-
			TRP	1.3	-	1.0	C18:0	-	-
DVE	1991	2007	ILE	3.8	-	3.0	C18:1	-	-
%RUP	-	-	ARG	4.4	-	3.4	C18:2	-	-
%DRUP	-	-	PHE	4.8	-	3.7	C18:3	-	-
%RUSTA	-	-	HIS	1.7	-	1.3	>=C20	-	-
%DASH	-	-	LEU	7.2	-	5.6	Sum FA	-	-
DASHmax	-	-	TYR	2.7	-	2.1			
			VAL	5.0	-	3.9	% FA in CFAT-fraction	-	
			ALA	5.9	-	4.6			
			ASP	8.8	-	6.9			
Nutritional value (in DM)			Horses						
Ruminants			GLU	9.9	-	7.7			
VEM	-		GLY	4.9	-	3.8	FP	-	-
VEVI	-		PRO	5.6	-	4.4	LA	-	-
FOM-91	-		SER	3.9	-	3.0	AC	-	-
FOMr-07	-		Sum AA	80.8		63	ETH	-	-
FOMr2-07	-						PR	-	-
FOMr2/FOMr	-						BU	-	-
DVE-91	-						Glycerol	-	-
DVE-07	-								
OEB-91	-						% of CP		
OEB-07	-		DCCP	36 %			NH3	-	
OEB2-07	-		DCOM	54 %					
DVMET-91	-		NEm	4.91 MJ/kg					
DVLYS-91	-		NEm	1172 kcal/kg					
DVMET-07	-		EWpa	0.55 /kg					
DVLYS-07	-		DCPho	30 g/kg					
SW	-								
VW	-								

Grass seed straw 5010.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	854	65	62	62	15	-	370	487	-
sd	32	17	-	16	-	-	32	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	59	-	-	-	801	801
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	3.6	1.9	-	1.2	16.2	1.0	-	1.6
sd	0.9	0.4	-	0.4	4.0	0.7	-	0.4

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	152	67	28	4	1.4	0.0	0.1
sd	65	64	12	2	0.9	0.0	0.0

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	15.0	
DCCP	36		CP		62	<=C10	-	-
DCCFAT	65		LYS	-	-	C12:0	-	-
DCCF	58		MET	-	-	C14:0	-	-
DCNFE	54		CYS	-	-	C16:0	-	-
DCOM	55		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	68	68	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	41	41	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		600 /kg	PRO	-	-	FP	-	-
VEVI		548 /kg	SER	-	-	LA	-	-
FOM-91		453 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		308 g/kg				ETH	-	-
FOMr2-07		85 g/kg				PR	-	-
FOMr2/FOMr		0.28 /kg				BU	-	-
DVE-91		42 g/kg	Horses			Glycerol	-	-
DVE-07		20 g/kg	DCCP	36 %				
OEB-91		-52 g/kg	DCOM	45 %				
OEB-07		-20 g/kg	NEm	4.02 MJ/kg		NH3	-	-
OEB2-07		3 g/kg	NEm	960 kcal/kg				
DVMET-91		-	EWpa	0.45 /kg				
DVLYS-91		-	DCPho	22 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		4.30 /kg						
VW		1.66 /kg						

Grass silage, a) clay soil, before 21 June 5010.140/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	94	185	168	37	-	231	470	-
sd	-	3	-	32	-	-	21	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	86	532	303	24	571	39
sd	-	-	-	33	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.7	4.1	-	2.1	34.3	2.6	13.1	2.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	532	74	34	8	1.8	0.4	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	622
		CF_DI	0.97	CAD (meq/kg)	441

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	37.0	
DCCP	70		CP		168	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	5.5	C12:0	-
DCCF	-		MET	1.2	0.2	2.0	C14:0	-
DCNFE	-		CYS	0.7	0.2	1.2	C16:0	-
DCOM	79		THR	3.4	0.4	5.7	C16:1	-
			TRP	1.0	0.2	1.7	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	6.2	C18:1	-
%RUP	33	33	ARG	2.5	0.6	4.2	C18:2	-
%DRUP	73	64	PHE	4.3	0.5	7.2	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	2.4	>=C20	-
%DASH	50	50	LEU	6.3	0.6	10.6	Sum FA	-
DASHmax	57	57	TYR	2.2	0.5	3.7		
			VAL	4.9	0.4	8.2	% FA in CFAT-fraction	-
			ALA	6.0	0.7	10.1		
			ASP	7.5	0.9	12.6		
Nutritional value (in DM)			GLU	7.4	0.8	12.4		
Ruminants			GLY	4.3	0.4	7.2	g/kg DM	sd
VEM		945 /kg	PRO	5.2	1.0	8.7	FP	36
VEVI		987 /kg	SER	3.2	0.4	5.4	LA	30
FOM-91		601 g/kg	Sum AA	68.5		115	AC	6
FOMr-07		534 g/kg					ETH	-
FOMr2-07		239 g/kg					PR	-
FOMr2/FOMr		0.45 /kg					BU	-
DVE-91		89 g/kg	Horses				Glycerol	-
DVE-07		66 g/kg	DCCP	70 %				
OEB-91		27 g/kg	DCOM	-			% of CP	
OEB-07		54 g/kg	NEm	-		NH3	9	
OEB2-07		63 g/kg	NEm	-				
DVMET-91		1.8 g/kg	EWpa	-				
DVLYS-91		5.0 g/kg	DCPho	-				
DVMET-07		1.3 g/kg						
DVLYS-07		3.7 g/kg						
SW		2.69 /kg						
VW		0.98 /kg						

Grass silage, b) sandy soil, before 21 June 5010.141/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	93	175	159	37	-	245	466	-
sd	-	5	-	26	-	-	23	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	76	551	314	26	586	35
sd	-	-	-	22	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	4.7	4.0	-	2.5	34.2	2.6	12.6	2.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	290	90	44	8	1.8	0.3	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	633
		CF_DI	0.97	CAD (meq/kg)	452

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	37.0	
DCCP	68		CP		159	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	C12:0	-	-
DCCF	-		MET	1.2	0.2	C14:0	-	-
DCNFE	-		CYS	0.7	0.2	C16:0	-	-
DCOM	78		THR	3.4	0.4	C16:1	-	-
			TRP	1.0	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	34	34	ARG	2.5	0.6	C18:2	-	-
%DRUP	70	63	PHE	4.3	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.4	0.3	>=C20	-	-
%DASH	50	50	LEU	6.3	0.6	Sum FA	-	-
DASHmax	56	56	TYR	2.2	0.5			
			VAL	4.9	0.4	% FA in CFAT-fraction	-	-
			ALA	6.0	0.7			
			ASP	7.5	0.9			
Nutritional value (in DM)			GLU	7.4	0.8			
Ruminants			GLY	4.3	0.4			
VEM		931 /kg	PRO	5.2	1.0	FP	42	-
VEVI		968 /kg	SER	3.2	0.4	LA	36	-
FOMr-91		592 g/kg	Sum AA	68.5	109	AC	6	-
FOMr-07		521 g/kg				ETH	-	-
FOMr2-07		229 g/kg				PR	-	-
FOMr2/FOMr		0.44 /kg				BU	-	-
DVE-91		84 g/kg	Horses			Glycerol	-	-
DVE-07		62 g/kg	DCCP	68 %				
OEB-91		20 g/kg	DCOM	-		% of CP		
OEB-07		48 g/kg	NEm	-		NH3	9	
OEB2-07		59 g/kg	NEm	-				
DVMET-91		1.7 g/kg	EWpa	-				
DVLYS-91		4.8 g/kg	DCPho	-				
DVMET-07		1.3 g/kg						
DVLYS-07		3.5 g/kg						
SW		2.86 /kg						
VW		1.01 /kg						

Grass silage, c) peat soil, before 21 June 5010.142/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	96	201	183	39	-	224	458	-
sd	-	3	-	23	-	-	24	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	80	523	298	23	556	33
sd	-	-	-	19	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.3	4.2	-	2.4	34.1	2.6	13.8	3.4
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	761	136	40	9	2.5	0.9	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	597
		CF_DI	0.97	CAD (meq/kg)	385

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	39.0	
DCCP	72		CP		183	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	C12:0	-	-
DCCF	-		MET	1.2	0.2	C14:0	-	-
DCNFE	-		CYS	0.7	0.2	C16:0	-	-
DCOM	80		THR	3.4	0.4	C16:1	-	-
			TRP	1.0	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	32	32	ARG	2.5	0.6	C18:2	-	-
%DRUP	66	65	PHE	4.3	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.4	0.3	>=C20	-	-
%DASH	50	50	LEU	6.3	0.6	Sum FA	-	-
DASHmax	58	58	TYR	2.2	0.5			
			VAL	4.9	0.4	% FA in CFAT-fraction	-	-
			ALA	6.0	0.7			
			ASP	7.5	0.9			
Nutritional value (in DM)			GLU	7.4	0.8			
Ruminants			GLY	4.3	0.4			
VEM		956 /kg	PRO	5.2	1.0	FP	36	-
VEVI		999 /kg	SER	3.2	0.4	LA	30	-
FOM-91		600 g/kg	Sum AA	68.5	125	AC	6	-
FOMr-07		538 g/kg				ETH	-	-
FOMr2-07		242 g/kg				PR	-	-
FOMr2/FOMr		0.45 /kg				BU	-	-
DVE-91		87 g/kg	Horses			Glycerol	-	-
DVE-07		69 g/kg	DCCP	72 %				
OEB-91		40 g/kg	DCOM	-				
OEB-07		67 g/kg	NEm	-		NH3	9	
OEB2-07		72 g/kg	NEm	-				
DVMET-91		1.8 g/kg	EWpa	-				
DVLYS-91		5.0 g/kg	DCPho	-				
DVMET-07		1.4 g/kg						
DVLYS-07		3.8 g/kg						
SW		2.60 /kg						
VW		0.97 /kg						

Grass silage, d) clay soil, 21 June - 21 August 5010.150/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	90	153	138	34	-	251	487	-
sd	-	5	-	15	-	-	5	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	86	558	318	26	609	51
sd	-	-	-	17	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.7	3.7	-	2.1	34.3	2.6	13.1	2.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	532	74	34	8	1.8	0.4	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	622
		CF_DI	0.97	CAD (meq/kg)	441

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	% FA	g/kg DM
Ruminants								34.0
DCCP	65		CP		138	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	C12:0	-	-
DCCF	-		MET	1.2	0.2	C14:0	-	-
DCNFE	-		CYS	0.7	0.2	C16:0	-	-
DCOM	78		THR	3.4	0.4	C16:1	-	-
			TRP	1.0	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	35	36	ARG	2.5	0.6	C18:2	-	-
%DRUP	71	62	PHE	4.3	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.4	0.3	>=C20	-	-
%DASH	50	50	LEU	6.3	0.6	Sum FA	-	-
DASHmax	55	55	TYR	2.2	0.5			
			VAL	4.9	0.4	% FA in CFAT-fraction	-	-
			ALA	6.0	0.7			
			ASP	7.5	0.9			
Nutritional value (in DM)			GLU	7.4	0.8			
Ruminants			GLY	4.3	0.4			
VEM		920 /kg	PRO	5.2	1.0	FP	36	-
VEVI		956 /kg	SER	3.2	0.4	LA	30	-
FOM-91		600 g/kg	Sum AA	68.5	95	AC	6	-
FOMr-07		518 g/kg				ETH	-	-
FOMr2-07		223 g/kg				PR	-	-
FOMr2/FOMr		0.43 /kg				BU	-	-
DVE-91		81 g/kg	Horses			Glycerol	-	-
DVE-07		59 g/kg	DCCP	65 %				
OEB-91		3 g/kg	DCOM	-				
OEB-07		31 g/kg	NEm	-		NH3	10	
OEB2-07		48 g/kg	NEm	-				
DVMET-91		1.7 g/kg	EWpa	-				
DVLYS-91		4.8 g/kg	DCPho	-				
DVMET-07		1.2 g/kg						
DVLYS-07		3.4 g/kg						
SW		2.94 /kg						
VW		1.02 /kg						

Grass silage, e) sandy soil, 21 June - 21 August 5010.151/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	91	149	135	34	-	267	473	-
sd	-	5	-	17	-	-	5	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	70	575	327	28	628	53
sd	-	-	-	16	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	4.7	3.7	-	2.5	34.2	2.6	12.6	2.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	290	90	44	8	1.8	0.3	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	633
		CF_DI	0.97	CAD (meq/kg)	452

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	34.0	
DCCP	64		CP		135	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	4.5	C12:0	-
DCCF	-		MET	1.2	0.2	1.6	C14:0	-
DCNFE	-		CYS	0.7	0.2	0.9	C16:0	-
DCOM	77		THR	3.4	0.4	4.6	C16:1	-
			TRP	1.0	0.2	1.4	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	5.0	C18:1	-
%RUP	36	36	ARG	2.5	0.6	3.4	C18:2	-
%DRUP	68	60	PHE	4.3	0.5	5.8	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	1.9	>=C20	-
%DASH	50	50	LEU	6.3	0.6	8.5	Sum FA	-
DASHmax	55	55	TYR	2.2	0.5	3.0		
			VAL	4.9	0.4	6.6	% FA in CFAT-fraction	-
			ALA	6.0	0.7	8.1		
			ASP	7.5	0.9	10.1		
Nutritional value (in DM)			GLU	7.4	0.8	10.0		
Ruminants			GLY	4.3	0.4	5.8		
VEM		902 /kg	PRO	5.2	1.0	7.0	FP	36
VEVI		931 /kg	SER	3.2	0.4	4.3	LA	30
FOM-91		591 g/kg	Sum AA	68.5		92	AC	6
FOMr-07		500 g/kg					ETH	-
FOMr2-07		205 g/kg					PR	-
FOMr2/FOMr		0.41 /kg					BU	-
DVE-91		77 g/kg	Horses				Glycerol	-
DVE-07		54 g/kg	DCCP	64 %				
OEB-91		1 g/kg	DCOM	-				
OEB-07		30 g/kg	NEm	-			NH3	9
OEB2-07		48 g/kg	NEm	-				
DVMET-91		1.6 g/kg	EWpa	-				
DVLYS-91		4.6 g/kg	DCPho	-				
DVMET-07		1.1 g/kg						
DVLYS-07		3.2 g/kg						
SW		3.14 /kg						
VW		1.05 /kg						

Grass silage, f) peat soil, 21 June - 21 August 5010.152/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	89	178	160	37	-	252	462	-
sd	-	1	-	4	-	-	4	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	65	558	318	26	603	45
sd	-	-	-	7	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.3	4.0	-	2.4	34.1	2.6	13.8	3.4
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	761	136	40	9	2.5	0.9	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	597
		CF_DI	0.97	CAD (meq/kg)	385

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	37.0	
DCCP	69		CP		160	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	5.3	C12:0	-
DCCF	-		MET	1.2	0.2	1.9	C14:0	-
DCNFE	-		CYS	0.7	0.2	1.1	C16:0	-
DCOM	78		THR	3.4	0.4	5.4	C16:1	-
			TRP	1.0	0.2	1.6	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	5.9	C18:1	-
%RUP	34	34	ARG	2.5	0.6	4.0	C18:2	-
%DRUP	64	62	PHE	4.3	0.5	6.9	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	2.2	>=C20	-
%DASH	50	50	LEU	6.3	0.6	10.1	Sum FA	-
DASHmax	54	54	TYR	2.2	0.5	3.5		
			VAL	4.9	0.4	7.8	% FA in CFAT-fraction	-
			ALA	6.0	0.7	9.6		
Nutritional value (in DM)			ASP	7.5	0.9	12.0		
Ruminants			GLU	7.4	0.8	11.8		
VEM		933 /kg	GLY	4.3	0.4	6.9	FP	36
VEVI		969 /kg	PRO	5.2	1.0	8.3	LA	30
FOM-91		596 g/kg	SER	3.2	0.4	5.1	AC	6
FOMr-07		514 g/kg	Sum AA	68.5		110	ETH	-
FOMr2-07		216 g/kg					PR	-
FOMr2/FOMr		0.42 /kg					BU	-
DVE-91		82 g/kg	Horses				Glycerol	-
DVE-07		62 g/kg	DCCP	69 %			% of CP	
OEB-91		21 g/kg	DCOM	-		NH3	10	
OEB-07		51 g/kg	NEm	-				
OEB2-07		63 g/kg	NEm	-				
DVMET-91		1.7 g/kg	EWpa	-				
DVLYS-91		4.8 g/kg	DCPho	-				
DVMET-07		1.3 g/kg						
DVLYS-07		3.4 g/kg						
SW		2.95 /kg						
VW		1.02 /kg						

Grass silage, g) clay soil, after 21 August 5010.160/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	105	157	143	35	-	217	500	-
sd	-	6	-	14	-	-	7	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	141	512	292	23	536	24
sd	-	-	-	31	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.7	3.8	-	2.1	34.3	2.6	13.1	2.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	532	74	34	8	1.8	0.4	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	622
		CF_DI	0.97	CAD (meq/kg)	441

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	35.0	
DCCP	66		CP		143	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	4.7	C12:0	-
DCCF	-		MET	1.2	0.2	1.7	C14:0	-
DCNFE	-		CYS	0.7	0.2	1.0	C16:0	-
DCOM	79		THR	3.4	0.4	4.9	C16:1	-
			TRP	1.0	0.2	1.4	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	5.3	C18:1	-
%RUP	34	34	ARG	2.5	0.6	3.6	C18:2	-
%DRUP	69	65	PHE	4.3	0.5	6.1	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	2.0	>=C20	-
%DASH	50	50	LEU	6.3	0.6	9.0	Sum FA	-
DASHmax	63	63	TYR	2.2	0.5	3.1		
			VAL	4.9	0.4	7.0	% FA in CFAT-fraction	-
			ALA	6.0	0.7	8.6		
			ASP	7.5	0.9	10.7		
Nutritional value (in DM)			GLU	7.4	0.8	10.6		
Ruminants			GLY	4.3	0.4	6.1		
VEM		924 /kg	PRO	5.2	1.0	7.4	FP	36
VEVI		966 /kg	SER	3.2	0.4	4.6	LA	30
FOM-91		598 g/kg	Sum AA	68.5		98	AC	6
FOMr-07		553 g/kg					ETH	-
FOMr2-07		274 g/kg					PR	-
FOMr2/FOMr		0.50 /kg					BU	-
DVE-91		80 g/kg	Horses				Glycerol	-
DVE-07		65 g/kg	DCCP	66 %				
OEB-91		8 g/kg	DCOM	-				
OEB-07		28 g/kg	NEm	-			NH3	9
OEB2-07		41 g/kg	NEm	-				
DVMET-91		1.7 g/kg	EWpa	-				
DVLYS-91		4.7 g/kg	DCPho	-				
DVMET-07		1.4 g/kg						
DVLYS-07		3.8 g/kg						
SW		2.51 /kg						
VW		0.97 /kg						

Grass silage, h) sandy soil, after 21 August 5010.161/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	110	177	161	37	-	229	463	-
sd	-	5	-	19	-	-	7	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	97	529	301	24	552	23
sd	-	-	-	23	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	4.7	4.0	-	2.5	34.2	2.6	12.6	2.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	290	90	44	8	1.8	0.3	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	633
		CF_DI	0.97	CAD (meq/kg)	452

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	37.0	
DCCP	69		CP		161	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	5.3	C12:0	-
DCCF	-		MET	1.2	0.2	1.9	C14:0	-
DCNFE	-		CYS	0.7	0.2	1.1	C16:0	-
DCOM	78		THR	3.4	0.4	5.5	C16:1	-
			TRP	1.0	0.2	1.6	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	6.0	C18:1	-
%RUP	33	34	ARG	2.5	0.6	4.0	C18:2	-
%DRUP	66	64	PHE	4.3	0.5	6.9	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	2.3	>=C20	-
%DASH	50	50	LEU	6.3	0.6	10.1	Sum FA	-
DASHmax	66	66	TYR	2.2	0.5	3.5		
			VAL	4.9	0.4	7.9	% FA in CFAT-fraction	-
			ALA	6.0	0.7	9.7		
Nutritional value (in DM)			ASP	7.5	0.9	12.1		
Ruminants			GLU	7.4	0.8	11.9		
VEM		915 /kg	GLY	4.3	0.4	6.9	FP	36
VEVI		952 /kg	PRO	5.2	1.0	8.4	LA	30
FOM-91		582 g/kg	SER	3.2	0.4	5.2	AC	6
FOMr-07		527 g/kg	Sum AA	68.5		110	ETH	-
FOMr2-07		243 g/kg					PR	-
FOMr2/FOMr		0.46 /kg					BU	-
DVE-91		80 g/kg	Horses				Glycerol	-
DVE-07		64 g/kg	DCCP	69 %				
OEB-91		24 g/kg	DCOM	-			% of CP	
OEB-07		48 g/kg	NEm	-			NH3	9
OEB2-07		58 g/kg	NEm	-				
DVMET-91		1.6 g/kg	EWpa	-				
DVLYS-91		4.6 g/kg	DCPho	-				
DVMET-07		1.3 g/kg						
DVLYS-07		3.6 g/kg						
SW		2.66 /kg						
VW		0.98 /kg						

Grass silage, i) peat soil, after 21 August 5010.162/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	103	191	174	38	-	218	467	-
sd	-	5	-	11	-	-	7	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	99	514	293	23	541	27
sd	-	-	-	7	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.3	4.1	-	2.4	34.1	2.6	13.8	3.4
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	761	136	40	9	2.5	0.9	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	597
		CF_DI	0.97	CAD (meq/kg)	385

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			g/kg DM			g/kg DM		
Ruminants			mean	sd	g/kg DM	CFAT(h)		38.0
DCCP	71				174	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	5.7	C12:0	-
DCCF	-		MET	1.2	0.2	2.1	C14:0	-
DCNFE	-		CYS	0.7	0.2	1.2	C16:0	-
DCOM	80		THR	3.4	0.4	5.9	C16:1	-
			TRP	1.0	0.2	1.7	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	6.4	C18:1	-
%RUP	32	32	ARG	2.5	0.6	4.4	C18:2	-
%DRUP	61	66	PHE	4.3	0.5	7.5	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	2.4	>=C20	-
%DASH	50	50	LEU	6.3	0.6	11.0	Sum FA	-
DASHmax	62	62	TYR	2.2	0.5	3.8		
			VAL	4.9	0.4	8.5	% FA in CFAT-fraction	-
			ALA	6.0	0.7	10.4		
Nutritional value (in DM)			ASP	7.5	0.9	13.1		
Ruminants			GLU	7.4	0.8	12.9		
VEM		944 /kg	GLY	4.3	0.4	7.5	FP	36
VEVI		988 /kg	PRO	5.2	1.0	9.0	LA	30
FOM-91		596 g/kg	SER	3.2	0.4	5.6	AC	6
FOMr-07		543 g/kg	Sum AA	68.5		119	ETH	-
FOMr2-07		254 g/kg					PR	-
FOMr2/FOMr		0.47 /kg					BU	-
DVE-91		81 g/kg	Horses				Glycerol	-
DVE-07		68 g/kg	DCCP	71 %				
OEB-91		34 g/kg	DCOM	-				
OEB-07		58 g/kg	NEm	-			NH3	9
OEB2-07		64 g/kg	NEm	-				
DVMET-91		1.7 g/kg	EWpa	-				
DVLYS-91		4.8 g/kg	DCPho	-				
DVMET-07		1.4 g/kg						
DVLYS-07		3.8 g/kg						
SW		2.53 /kg						
VW		0.96 /kg						

Grass silage, j) average 5010.170/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	450	97	174	158	36	-	237	472	-
sd	-	-	-	18	-	-	11	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	89	539	307	25	577	38
sd	-	-	-	19	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.2	4.0	-	2.3	34.1	2.6	13.2	3.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	527	100	39	8	2.0	0.5	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	614
		CF_DI	0.97	CAD (meq/kg)	420

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	36.0	
DCCP	68		CP		158	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	C12:0	-	-
DCCF	-		MET	1.2	0.2	C14:0	-	-
DCNFE	-		CYS	0.7	0.2	C16:0	-	-
DCOM	78		THR	3.4	0.4	C16:1	-	-
			TRP	1.0	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	34	34	ARG	2.5	0.6	C18:2	-	-
%DRUP	63	64	PHE	4.3	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.4	0.3	>=C20	-	-
%DASH	50	50	LEU	6.3	0.6	Sum FA	-	-
DASHmax	58	58	TYR	2.2	0.5			
			VAL	4.9	0.4	% FA in CFAT-fraction	-	-
			ALA	6.0	0.7			
			ASP	7.5	0.9			
Nutritional value (in DM)			GLU	7.4	0.8			
Ruminants			GLY	4.3	0.4			
VEM		929 /kg	PRO	5.2	1.0	FP	36	-
VEVI		968 /kg	SER	3.2	0.4	LA	30	-
FOM-91		595 g/kg	Sum AA	68.5	108	AC	6	-
FOMr-07		527 g/kg				ETH	-	-
FOMr2-07		235 g/kg				PR	-	-
FOMr2/FOMr		0.45 /kg				BU	-	-
DVE-91		80 g/kg	Horses			Glycerol	-	-
DVE-07		63 g/kg	DCCP	68 %				
OEB-91		19 g/kg	DCOM	-		% of CP		
OEB-07		46 g/kg	NEm	-		NH3	9	
OEB2-07		57 g/kg	NEm	-				
DVMET-91		1.7 g/kg	EWpa	-				
DVLYS-91		4.7 g/kg	DCPho	-				
DVMET-07		1.3 g/kg						
DVLYS-07		3.6 g/kg						
SW		2.76 /kg						
VW		0.99 /kg						

Grass silage, k) horses, fine 5010.190/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	568	130	174	157	40	-	244	429	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	101	-	-	-	542	542
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	3.8	-	2.3	32.6	2.3	12.3	3.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	588
		CF_DI	0.97	CAD (meq/kg)	401

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	40.0	
DCCP	68		CP		157	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	C12:0	-	-
DCCF	-		MET	1.2	0.2	C14:0	-	-
DCNFE	-		CYS	0.7	0.2	C16:0	-	-
DCOM	75		THR	3.4	0.4	C16:1	-	-
			TRP	1.0	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	-	-	ARG	2.5	0.6	C18:2	-	-
%DRUP	-	-	PHE	4.3	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.4	0.3	>=C20	-	-
%DASH	-	-	LEU	6.3	0.6	Sum FA	-	-
DASHmax	-	-	TYR	2.2	0.5			
			VAL	4.9	0.4	% FA in CFAT-fraction	-	-
			ALA	6.0	0.7			
			ASP	7.5	0.9			
Nutritional value (in DM)			GLU	7.4	0.8			
Ruminants			GLY	4.3	0.4			
VEM	-		PRO	5.2	1.0	FP	20	-
VEVI	-		SER	3.2	0.4	LA	16	-
FOMr-91	-		Sum AA	68.5	108	AC	4	-
FOMr-07	-					ETH	-	-
FOMr2-07	-					PR	-	-
FOMr2/FOMr	-					BU	-	-
DVE-91	-		Horses			Glycerol	-	-
DVE-07	-		DCCP	68 %				
OEB-91	-		DCOM	69 %				
OEB-07	-		NEm	6.72 MJ/kg		NH3	10	
OEB2-07	-		NEm	1605 kcal/kg				
DVMET-91	-		EWpa	0.75 /kg				
DVLYS-91	-		DCPho	114 g/kg				
DVMET-07	-							
DVLYS-07	-							
SW	-							
VW	-							

Grass silage, I) horses, middle 5010.191/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	605	106	149	134	40	-	284	436	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	95	-	-	-	601	601
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	3.5	-	2.3	28.8	2.3	12.3	3.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	490
		CF_DI	0.97	CAD (meq/kg)	303

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	40.0	
DCCP	64		CP		134	<=C10	-	
DCCFAT	-		LYS	3.3	0.5	4.4	C12:0	-
DCCF	-		MET	1.2	0.2	1.6	C14:0	-
DCNFE	-		CYS	0.7	0.2	0.9	C16:0	-
DCOM	73		THR	3.4	0.4	4.6	C16:1	-
			TRP	1.0	0.2	1.3	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	5.0	C18:1	-
%RUP	-	-	ARG	2.5	0.6	3.4	C18:2	-
%DRUP	-	-	PHE	4.3	0.5	5.8	C18:3	-
%RUSTA	-	-	HIS	1.4	0.3	1.9	>=C20	-
%DASH	-	-	LEU	6.3	0.6	8.4	Sum FA	-
DASHmax	-	-	TYR	2.2	0.5	2.9		
			VAL	4.9	0.4	6.6	% FA in CFAT-fraction	-
			ALA	6.0	0.7	8.0		
Nutritional value (in DM)			ASP	7.5	0.9	10.1		
Ruminants			GLU	7.4	0.8	9.9		
VEM	-		GLY	4.3	0.4	5.8	g/kg DM	sd
VEVI	-		PRO	5.2	1.0	7.0	FP	15
FOM-91	-		SER	3.2	0.4	4.3	LA	12
FOMr-07	-		Sum AA	68.5		92	AC	3
FOMr2-07	-						ETH	-
FOMr2/FOMr	-						PR	-
DVE-91	-		Horses				BU	-
DVE-07	-		DCCP	64 %			Glycerol	-
OEB-91	-		DCOM	67 %			% of CP	
OEB-07	-		NEm	6.53 MJ/kg			NH3	10
OEB2-07	-		NEm	1561 kcal/kg				
DVMET-91	-		EWpa	0.73 /kg				
DVLYS-91	-		DCPho	91 g/kg				
DVMET-07	-							
DVLYS-07	-							
SW	-							
VW	-							

Grass silage, m) horses, course 5010.192/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	645	89	109	98	40	-	334	439	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	84	-	-	-	669	669
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.0	2.8	-	2.3	22.7	2.3	12.3	3.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	443	98	42	8	2.1	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	334
		CF_DI	0.97	CAD (meq/kg)	147

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	% FA	g/kg DM
Ruminants								40.0
DCCP	53		CP		98	<=C10	-	-
DCCFAT	-		LYS	3.3	0.5	C12:0	-	-
DCCF	-		MET	1.2	0.2	C14:0	-	-
DCNFE	-		CYS	0.7	0.2	C16:0	-	-
DCOM	71		THR	3.4	0.4	C16:1	-	-
			TRP	1.0	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	-	-	ARG	2.5	0.6	C18:2	-	-
%DRUP	-	-	PHE	4.3	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.4	0.3	>=C20	-	-
%DASH	-	-	LEU	6.3	0.6	Sum FA	-	-
DASHmax	-	-	TYR	2.2	0.5			
			VAL	4.9	0.4	% FA in CFAT-fraction	-	-
			ALA	6.0	0.7			
			ASP	7.5	0.9			
Nutritional value (in DM)			GLU	7.4	0.8			
Ruminants			GLY	4.3	0.4			
VEM	-		PRO	5.2	1.0	FP	15	-
VEVI	-		SER	3.2	0.4	LA	12	-
FOM-91	-		Sum AA	68.5	67	AC	3	-
FOMr-07	-					ETH	-	-
FOMr2-07	-					PR	-	-
FOMr2/FOMr	-					BU	-	-
DVE-91	-		Horses			Glycerol	-	-
DVE-07	-		DCCP	53 %				
OEB-91	-		DCOM	64 %				
OEB-07	-		NEm	6.10 MJ/kg		NH3	10	
OEB2-07	-		NEm	1459 kcal/kg				
DVMET-91	-		EWpa	0.68 /kg				
DVLYS-91	-		DCPho	55 g/kg				
DVMET-07	-							
DVLYS-07	-							
SW	-							
VW	-							

Grass, artificially dried 5010.609/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	889	104	153	153	35	-	249	459	-
sd	37	24	-	33	-	-	33	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	108	495	256	25	603	108
sd	-	-	-	35	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	6.0	3.7	-	3.1	33.8	1.0	7.9	4.4
sd	1.3	0.5	-	0.5	5.0	0.4	-	0.7

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	180	85	33	8	2.3	0.0	0.5
sd	134	24	6	2	1.4	0.0	0.2

IP/P	-	SUGe/SUG	-	EB (meq/kg)	684
		CF_DI	0.97	CAD (meq/kg)	412

Digestibility coefficients (%)		Amino acids			Fatty acids			
		g/16g N		g/kg DM		% FA	g/kg DM	
Ruminants		mean	sd	g/kg DM	CFAT(h)	35.0		
DCCP	62	CP		153	<=C10	-	-	
DCCFAT	-	LYS	3.9	-	6.0	C12:0	-	
DCCF	-	MET	1.5	-	2.3	C14:0	-	
DCNFE	-	CYS	1.0	-	1.5	C16:0	-	
DCOM	74	THR	4.1	-	6.3	C16:1	-	
		TRP	1.4	-	2.1	C18:0	-	
DVE	1991	2007	ILE	3.8	-	5.8	C18:1	-
%RUP	44	51	ARG	4.2	-	6.4	C18:2	-
%DRUP	70	70	PHE	4.3	-	6.6	C18:3	-
%RUSTA	-	-	HIS	1.9	-	2.9	>=C20	-
%DASH	50	50	LEU	6.9	-	10.6	Sum FA	-
DASHmax	62	62	TYR	2.7	-	4.1		
			VAL	5.2	-	8.0	% FA in CFAT-fraction	-
			ALA	6.4	-	9.8		
			ASP	9.1	-	13.9		
Nutritional value (in DM)			GLU	10.0	-	15.3		
Ruminants			GLY	4.6	-	7.0		
VEM		848 /kg	PRO	4.6	-	7.0	FP	-
VEVI		863 /kg	SER	4.0	-	6.1	LA	-
FOM-91		556 g/kg	Sum AA	79.6		122	AC	-
FOMr-07		497 g/kg					ETH	-
FOMr2-07		173 g/kg					PR	-
FOMr2/FOMr		0.35 /kg					BU	-
DVE-91		84 g/kg	Horses				Glycerol	-
DVE-07		78 g/kg	DCCP	72 %				
OEB-91		-5 g/kg	DCOM	60 %				
OEB-07		4 g/kg	NEm	5.97 MJ/kg			NH3	-
OEB2-07		8 g/kg	NEm	1427 kcal/kg				
DVMET-91		1.8 g/kg	EWpa	0.67 /kg				
DVLYS-91		4.9 g/kg	DCPho	110 g/kg				
DVMET-07		1.7 g/kg						
DVLYS-07		4.4 g/kg						
SW		3.09 /kg						
VW		0.90 /kg						

Grass, fresh, a) clay soil, before 21 June 5010.910/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	99	219	219	39	-	197	446	-
sd	-	7	-	35	-	-	19	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	124	483	221	21	523	40
sd	-	-	-	33	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	6.4	4.2	-	2.2	35.4	2.3	14.1	3.8
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	172	80	35	9	2.1	0.5	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	609
		CF_DI	0.97	CAD (meq/kg)	372

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	39.0	
DCCP	79		CP		219	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	8.8	C12:0	-
DCCF	-		MET	1.5	0.2	3.3	C14:0	-
DCNFE	-		CYS	0.9	0.1	2.0	C16:0	-
DCOM	84		THR	3.8	0.4	8.3	C16:1	-
			TRP	1.5	0.2	3.3	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	8.1	C18:1	-
%RUP	33	34	ARG	4.4	0.5	9.6	C18:2	-
%DRUP	80	80	PHE	4.7	0.5	10.3	C18:3	-
%RUSTA	-	-	HIS	1.8	0.2	3.9	>=C20	-
%DASH	50	50	LEU	6.9	0.8	15.1	Sum FA	-
DASHmax	59	59	TYR	2.2	0.4	4.8		
			VAL	5.0	0.5	11.0	% FA in CFAT-fraction	-
			ALA	6.6	0.6	14.5		
			ASP	8.8	0.8	19.3		
Nutritional value (in DM)			GLU	10.0	0.6	21.9		
Ruminants			GLY	4.7	0.5	10.3		
VEM		1009 /kg	PRO	4.4	0.6	9.6	FP	-
VEVI		1070 /kg	SER	3.6	0.2	7.9	LA	-
FOMr-91		645 g/kg	Sum AA	78.5		172	AC	-
FOMr-07		576 g/kg					ETH	-
FOMr2-07		215 g/kg					PR	-
FOMr2/FOMr		0.37 /kg					BU	-
DVE-91		110 g/kg	Horses				Glycerol	-
DVE-07		98 g/kg	DCCP	79 %				
OEB-91		43 g/kg	DCOM	-				
OEB-07		61 g/kg	NEm	-			NH3	-
OEB2-07		23 g/kg	NEm	-				
DVMET-91		2.3 g/kg	EWpa	-				
DVLYS-91		6.4 g/kg	DCPho	-				
DVMET-07		2.0 g/kg						
DVLYS-07		5.6 g/kg						
SW		1.57 /kg						
VW		0.91 /kg						

Grass, fresh, b) sandy soil, before 21 June 5010.911/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	98	199	199	38	-	208	457	-
sd	-	9	-	27	-	-	20	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	128	500	233	22	541	41
sd	-	-	-	20	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.4	4.1	-	2.5	35.4	2.3	14.4	3.4
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	141	61	43	8	1.9	0.2	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	600
		CF_DI	0.97	CAD (meq/kg)	388

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			g/kg DM			g/kg DM		
Ruminants			mean	sd	g/kg DM	CFAT(h)		38.0
DCCP	77		CP		199	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	C12:0	-	-
DCCF	-		MET	1.5	0.2	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	C16:0	-	-
DCOM	83		THR	3.8	0.4	C16:1	-	-
			TRP	1.5	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	35	36	ARG	4.4	0.5	C18:2	-	-
%DRUP	80	75	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	Sum FA	-	-
DASHmax	59	59	TYR	2.2	0.4			
			VAL	5.0	0.5	% FA in CFAT-fraction	-	-
			ALA	6.6	0.6			
Nutritional value (in DM)			ASP	8.8	0.8			
Ruminants			GLU	10.0	0.6			
VEM		991 /kg	GLY	4.7	0.5			
VEVI		1047 /kg	PRO	4.4	0.6	FP	-	-
FOM-91		639 g/kg	SER	3.6	0.2	LA	-	-
FOMr-07		567 g/kg	Sum AA	78.5	156	AC	-	-
FOMr2-07		211 g/kg				ETH	-	-
FOMr2/FOMr		0.37 /kg				PR	-	-
DVE-91		107 g/kg	Horses			BU	-	-
DVE-07		91 g/kg	DCCP	77 %		Glycerol	-	-
OEB-91		27 g/kg	DCOM	-				
OEB-07		45 g/kg	NEm	-		% of CP		
OEB2-07		17 g/kg	NEm	-		NH3	-	-
DVMET-91		2.3 g/kg	EWpa	-				
DVLYS-91		6.3 g/kg	DCPho	-				
DVMET-07		1.9 g/kg						
DVLYS-07		5.3 g/kg						
SW		1.68 /kg						
VW		0.90 /kg						

Grass, fresh, c) peat soil, before 21 June 5010.912/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	98	219	219	39	-	194	450	-
sd	-	5	-	24	-	-	21	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	128	478	218	20	520	42
sd	-	-	-	16	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.4	4.2	-	2.3	36.8	2.3	14.1	4.5
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	181	119	38	9	3.7	0.6	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	645
		CF_DI	0.97	CAD (meq/kg)	364

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)		
Ruminants								39.0
DCCP	79		CP		219	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	C12:0	-	-
DCCF	-		MET	1.5	0.2	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	C16:0	-	-
DCOM	84		THR	3.8	0.4	C16:1	-	-
			TRP	1.5	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	32	34	ARG	4.4	0.5	C18:2	-	-
%DRUP	79	80	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	Sum FA	-	-
DASHmax	59	59	TYR	2.2	0.4			
			VAL	5.0	0.5	% FA in CFAT-fraction	-	-
			ALA	6.6	0.6			
			ASP	8.8	0.8			
Nutritional value (in DM)			GLU	10.0	0.6			
Ruminants			GLY	4.7	0.5			
VEM		1016 /kg	PRO	4.4	0.6	FP	-	-
VEVI		1078 /kg	SER	3.6	0.2	LA	-	-
FOMr-91		649 g/kg	Sum AA	78.5	172	AC	-	-
FOMr-07		578 g/kg				ETH	-	-
FOMr2-07		219 g/kg				PR	-	-
FOMr2/FOMr		0.38 /kg				BU	-	-
DVE-91		110 g/kg	Horses			Glycerol	-	-
DVE-07		98 g/kg	DCCP	79 %				
OEB-91		43 g/kg	DCOM	-				
OEB-07		62 g/kg	NEm	-		NH3	-	-
OEB2-07		23 g/kg	NEm	-				
DVMET-91		2.3 g/kg	EWpa	-				
DVLYS-91		6.4 g/kg	DCPho	-				
DVMET-07		2.0 g/kg						
DVLYS-07		5.7 g/kg						
SW		1.54 /kg						
VW		0.91 /kg						

Grass, fresh, d) clay soil, 21 June - 21 August 5010.920/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	115	205	205	38	-	202	440	-
sd	-	20	-	28	-	-	1	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	131	491	226	21	516	25
sd	-	-	-	24	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	6.4	4.2	-	2.2	35.4	2.3	14.1	3.8
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	172	80	35	9	2.1	0.5	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	609
		CF_DI	0.97	CAD (meq/kg)	372

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	38.0	
DCCP	78		CP		205	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	C12:0	-	-
DCCF	-		MET	1.5	0.2	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	C16:0	-	-
DCOM	83		THR	3.8	0.4	C16:1	-	-
			TRP	1.5	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	34	35	ARG	4.4	0.5	C18:2	-	-
%DRUP	77	76	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	Sum FA	-	-
DASHmax	68	68	TYR	2.2	0.4			
			VAL	5.0	0.5	% FA in CFAT-fraction	-	-
			ALA	6.6	0.6			
			ASP	8.8	0.8			
Nutritional value (in DM)			GLU	10.0	0.6			
Ruminants			GLY	4.7	0.5			
VEM		975 /kg	PRO	4.4	0.6	FP	-	-
VEVI		1030 /kg	SER	3.6	0.2	LA	-	-
FOM-91		625 g/kg	Sum AA	78.5	161	AC	-	-
FOMr-07		567 g/kg				ETH	-	-
FOMr2-07		215 g/kg				PR	-	-
FOMr2/FOMr		0.38 /kg				BU	-	-
DVE-91		104 g/kg	Horses			Glycerol	-	-
DVE-07		92 g/kg	DCCP	78 %				
OEB-91		34 g/kg	DCOM	-		% of CP		
OEB-07		50 g/kg	NEm	-		NH3	-	-
OEB2-07		18 g/kg	NEm	-				
DVMET-91		2.2 g/kg	EWpa	-				
DVLYS-91		6.1 g/kg	DCPho	-				
DVMET-07		1.9 g/kg						
DVLYS-07		5.3 g/kg						
SW		1.62 /kg						
VW		0.92 /kg						

Grass, fresh, e) sandy soil, 21 June - 21 August 5010.921/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	117	205	205	38	-	214	426	-
sd	-	27	-	25	-	-	1	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	115	508	239	22	529	21
sd	-	-	-	19	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.4	4.2	-	2.5	35.4	2.3	14.4	3.4
sd	-	-	-	-	5.1	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	141	61	43	8	1.9	0.2	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	600
		CF_DI	0.97	CAD (meq/kg)	388

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)		38.0
DCCP	78		CP		205	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	C12:0	-	-
DCCF	-		MET	1.5	0.2	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	C16:0	-	-
DCOM	81		THR	3.8	0.4	C16:1	-	-
			TRP	1.5	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	35	36	ARG	4.4	0.5	C18:2	-	-
%DRUP	77	73	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	Sum FA	-	-
DASHmax	69	69	TYR	2.2	0.4			
			VAL	5.0	0.5	% FA in CFAT-fraction	-	-
			ALA	6.6	0.6			
			ASP	8.8	0.8			
Nutritional value (in DM)			GLU	10.0	0.6			
Ruminants			GLY	4.7	0.5			
VEM		953 /kg	PRO	4.4	0.6	FP	-	-
VEVI		1000 /kg	SER	3.6	0.2	LA	-	-
FOMr-91		610 g/kg	Sum AA	78.5	161	AC	-	-
FOMr-07		560 g/kg				ETH	-	-
FOMr2-07		201 g/kg				PR	-	-
FOMr2/FOMr		0.36 /kg				BU	-	-
DVE-91		103 g/kg	Horses			Glycerol	-	-
DVE-07		89 g/kg	DCCP	78 %				
OEB-91		34 g/kg	DCOM	-				
OEB-07		50 g/kg	NEm	-		NH3	-	-
OEB2-07		20 g/kg	NEm	-				
DVMET-91		2.2 g/kg	EWpa	-				
DVLYS-91		6.0 g/kg	DCPho	-				
DVMET-07		1.9 g/kg						
DVLYS-07		5.2 g/kg						
SW		1.74 /kg						
VW		0.92 /kg						

Grass, fresh, f) peat soil, 21 June - 21 August 5010.922/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	106	220	220	39	-	204	431	-
sd	-	1	-	8	-	-	1	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	112	494	228	21	527	33
sd	-	-	-	7	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.4	4.2	-	2.3	36.8	2.3	14.1	4.5
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	181	119	38	9	3.7	0.6	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	645
		CF_DI	0.97	CAD (meq/kg)	364

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	39.0	
DCCP	79		CP		220	<=C10	-	
DCCFAT	-		LYS	4.0	0.4	8.8	C12:0	-
DCCF	-		MET	1.5	0.2	3.3	C14:0	-
DCNFE	-		CYS	0.9	0.1	2.0	C16:0	-
DCOM	83		THR	3.8	0.4	8.4	C16:1	-
			TRP	1.5	0.2	3.3	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	8.1	C18:1	-
%RUP	33	34	ARG	4.4	0.5	9.7	C18:2	-
%DRUP	76	77	PHE	4.7	0.5	10.3	C18:3	-
%RUSTA	-	-	HIS	1.8	0.2	4.0	>=C20	-
%DASH	50	50	LEU	6.9	0.8	15.2	Sum FA	-
DASHmax	63	63	TYR	2.2	0.4	4.8		
			VAL	5.0	0.5	11.0	% FA in CFAT-fraction	-
			ALA	6.6	0.6	14.5		
			ASP	8.8	0.8	19.4		
Nutritional value (in DM)			GLU	10.0	0.6	22.0		
Ruminants			GLY	4.7	0.5	10.3	g/kg DM	sd
VEM		988 /kg	PRO	4.4	0.6	9.7	FP	-
VEVI		1042 /kg	SER	3.6	0.2	7.9	LA	-
FOMr-91		629 g/kg	Sum AA	78.5		173	AC	-
FOMr-07		570 g/kg					ETH	-
FOMr2-07		205 g/kg					PR	-
FOMr2/FOMr		0.36 /kg					BU	-
DVE-91		106 g/kg	Horses				Glycerol	-
DVE-07		96 g/kg	DCCP	79 %				
OEB-91		45 g/kg	DCOM	-			% of CP	
OEB-07		62 g/kg	NEm	-			NH3	-
OEB2-07		25 g/kg	NEm	-				
DVMET-91		2.2 g/kg	EWpa	-				
DVLYS-91		6.2 g/kg	DCPho	-				
DVMET-07		2.0 g/kg						
DVLYS-07		5.5 g/kg						
SW		1.64 /kg						
VW		0.91 /kg						

Grass, fresh, g) clay soil, after 21 August 5010.930/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	112	165	165	35	-	203	485	-
sd	-	26	-	6	-	-	3	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	179	492	227	21	515	23
sd	-	-	-	10	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	6.4	3.9	-	2.2	35.4	2.3	14.1	3.8
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	172	80	35	9	2.1	0.5	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	609
		CF_DI	0.97	CAD (meq/kg)	372

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	35.0	
DCCP	73		CP		165	<=C10	-	
DCCFAT	-		LYS	4.0	0.4	6.6	C12:0	-
DCCF	-		MET	1.5	0.2	2.5	C14:0	-
DCNFE	-		CYS	0.9	0.1	1.5	C16:0	-
DCOM	83		THR	3.8	0.4	6.3	C16:1	-
			TRP	1.5	0.2	2.5	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	6.1	C18:1	-
%RUP	37	38	ARG	4.4	0.5	7.3	C18:2	-
%DRUP	77	73	PHE	4.7	0.5	7.8	C18:3	-
%RUSTA	-	-	HIS	1.8	0.2	3.0	>=C20	-
%DASH	50	50	LEU	6.9	0.8	11.4	Sum FA	-
DASHmax	67	67	TYR	2.2	0.4	3.6		
			VAL	5.0	0.5	8.3	% FA in CFAT-fraction	-
			ALA	6.6	0.6	10.9		
			ASP	8.8	0.8	14.5		
Nutritional value (in DM)			GLU	10.0	0.6	16.5		
Ruminants			GLY	4.7	0.5	7.8		
VEM		972 /kg	PRO	4.4	0.6	7.3	FP	-
VEVI		1030 /kg	SER	3.6	0.2	5.9	LA	-
FOM-91		640 g/kg	Sum AA	78.5		130	AC	-
FOMr-07		568 g/kg					ETH	-
FOMr2-07		241 g/kg					PR	-
FOMr2/FOMr		0.42 /kg					BU	-
DVE-91		97 g/kg	Horses				Glycerol	-
DVE-07		83 g/kg	DCCP	73 %				
OEB-91		2 g/kg	DCOM	-				
OEB-07		19 g/kg	NEm	-			NH3	-
OEB2-07		1 g/kg	NEm	-				
DVMET-91		2.1 g/kg	EWpa	-				
DVLYS-91		5.9 g/kg	DCPho	-				
DVMET-07		1.8 g/kg						
DVLYS-07		5.0 g/kg						
SW		1.63 /kg						
VW		0.91 /kg						

Grass, fresh, h) sandy soil, after 21 August 5010.931/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	118	195	195	37	-	214	436	-
sd	-	46	-	31	-	-	3	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	127	508	239	22	527	19
sd	-	-	-	39	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.4	4.1	-	2.5	35.4	2.3	14.4	3.4
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	141	61	43	8	1.9	0.2	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	600
		CF_DI	0.97	CAD (meq/kg)	388

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
Ruminants			mean	sd	g/kg DM	CFAT(h)	37.0	
DCCP	77		CP		195	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	C12:0	-	-
DCCF	-		MET	1.5	0.2	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	C16:0	-	-
DCOM	81		THR	3.8	0.4	C16:1	-	-
			TRP	1.5	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	36	37	ARG	4.4	0.5	C18:2	-	-
%DRUP	75	72	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	Sum FA	-	-
DASHmax	70	70	TYR	2.2	0.4			
			VAL	5.0	0.5	% FA in CFAT-fraction	-	-
			ALA	6.6	0.6			
			ASP	8.8	0.8			
Nutritional value (in DM)			GLU	10.0	0.6			
Ruminants			GLY	4.7	0.5			
VEM		949 /kg	PRO	4.4	0.6	FP	-	-
VEVI		997 /kg	SER	3.6	0.2	LA	-	-
FOM-91		612 g/kg	Sum AA	78.5	153	AC	-	-
FOMr-07		560 g/kg				ETH	-	-
FOMr2-07		207 g/kg				PR	-	-
FOMr2/FOMr		0.37 /kg				BU	-	-
DVE-91		100 g/kg	Horses			Glycerol	-	-
DVE-07		87 g/kg	DCCP	77 %				
OEB-91		26 g/kg	DCOM	-				
OEB-07		42 g/kg	NEm	-		NH3	-	-
OEB2-07		16 g/kg	NEm	-				
DVMET-91		2.1 g/kg	EWpa	-				
DVLYS-91		5.9 g/kg	DCPho	-				
DVMET-07		1.9 g/kg						
DVLYS-07		5.1 g/kg						
SW		1.74 /kg						
VW		0.92 /kg						

Grass, fresh, i) peat soil, after 21 August 5010.932/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	105	208	208	38	-	205	444	-
sd	-	1	-	12	-	-	3	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	125	495	229	22	528	33
sd	-	-	-	9	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.4	4.2	-	2.3	36.8	2.3	14.1	4.5
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	181	119	38	9	3.7	0.6	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	645
		CF_DI	0.97	CAD (meq/kg)	364

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	38.0	
DCCP	78		CP		208	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	C12:0	-	-
DCCF	-		MET	1.5	0.2	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	C16:0	-	-
DCOM	83		THR	3.8	0.4	C16:1	-	-
			TRP	1.5	0.2	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	C18:1	-	-
%RUP	34	35	ARG	4.4	0.5	C18:2	-	-
%DRUP	72	76	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	Sum FA	-	-
DASHmax	63	63	TYR	2.2	0.4			
			VAL	5.0	0.5	% FA in CFAT-fraction	-	-
			ALA	6.6	0.6			
			ASP	8.8	0.8			
Nutritional value (in DM)			GLU	10.0	0.6			
Ruminants			GLY	4.7	0.5			
VEM		985 /kg	PRO	4.4	0.6	FP	-	-
VEVI		1040 /kg	SER	3.6	0.2	LA	-	-
FOMr-91		633 g/kg	Sum AA	78.5	163	AC	-	-
FOMr-07		569 g/kg				ETH	-	-
FOMr2-07		211 g/kg				PR	-	-
FOMr2/FOMr		0.37 /kg				BU	-	-
DVE-91		101 g/kg	Horses			Glycerol	-	-
DVE-07		93 g/kg	DCCP	78 %				
OEB-91		35 g/kg	DCOM	-		% of CP		
OEB-07		52 g/kg	NEm	-		NH3	-	-
OEB2-07		20 g/kg	NEm	-				
DVMET-91		2.2 g/kg	EWpa	-				
DVLYS-91		6.0 g/kg	DCPho	-				
DVMET-07		2.0 g/kg						
DVLYS-07		5.4 g/kg						
SW		1.65 /kg						
VW		0.91 /kg						

Grass, fresh, j) average 5010.940/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	108	204	204	38	-	205	445	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	130	494	229	21	525	31
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.8	4.1	-	2.3	35.9	2.3	14.2	3.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	165	86	39	9	2.6	0.5	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	619
		CF_DI	0.97	CAD (meq/kg)	375

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA	g/kg DM		
Ruminants			mean	sd	g/kg DM	CFAT(h)	38.0		
DCCP	78		CP		204	<=C10	-	-	
DCCFAT	-		LYS	4.0	0.4	8.2	C12:0	-	-
DCCF	-		MET	1.5	0.2	3.1	C14:0	-	-
DCNFE	-		CYS	0.9	0.1	1.8	C16:0	-	-
DCOM	83		THR	3.8	0.4	7.8	C16:1	-	-
			TRP	1.5	0.2	3.1	C18:0	-	-
DVE	1991	2007	ILE	3.7	0.4	7.5	C18:1	-	-
%RUP	34	36	ARG	4.4	0.5	9.0	C18:2	-	-
%DRUP	74	76	PHE	4.7	0.5	9.6	C18:3	-	-
%RUSTA	-	-	HIS	1.8	0.2	3.7	>=C20	-	-
%DASH	50	50	LEU	6.9	0.8	14.1	Sum FA	-	-
DASHmax	64	64	TYR	2.2	0.4	4.5			
			VAL	5.0	0.5	10.2	% FA in CFAT-fraction	-	
			ALA	6.6	0.6	13.5			
			ASP	8.8	0.8	18.0			
Nutritional value (in DM)			GLU	10.0	0.6	20.4			
Ruminants			GLY	4.7	0.5	9.6			
VEM		981 /kg	PRO	4.4	0.6	9.0	FP	-	-
VEVI		1036 /kg	SER	3.6	0.2	7.3	LA	-	-
FOMr-91		630 g/kg	Sum AA	78.5		160	AC	-	-
FOMr-07		568 g/kg					ETH	-	-
FOMr2-07		214 g/kg					PR	-	-
FOMr2/FOMr		0.38 /kg					BU	-	-
DVE-91		102 g/kg	Horses				Glycerol	-	-
DVE-07		92 g/kg	DCCP	78 %					
OEB-91		32 g/kg	DCOM	-					
OEB-07		49 g/kg	NEm	-			NH3	-	-
OEB2-07		18 g/kg	NEm	-					
DVMET-91		2.2 g/kg	EWpa	-					
DVLYS-91		6.0 g/kg	DCPho	-					
DVMET-07		1.9 g/kg							
DVLYS-07		5.3 g/kg							
SW		1.65 /kg							
VW		0.91 /kg							

Grass, fresh, k) horses, cont. grazing 5010.991/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	177	106	182	182	41	-	246	425	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	98	-	-	-	576	576
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.8	4.0	-	2.5	30.4	2.3	15.0	3.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	149	95	43	9	2.7	-	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	455
		CF_DI	0.97	CAD (meq/kg)	212

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	41.0	
DCCP	75		CP		182	<=C10	-	-
DCCFAT	-		LYS	4.0	0.4	7.3	C12:0	-
DCCF	-		MET	1.5	0.2	2.7	C14:0	-
DCNFE	-		CYS	0.9	0.1	1.6	C16:0	-
DCOM	78		THR	3.8	0.4	6.9	C16:1	-
			TRP	1.5	0.2	2.7	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	6.7	C18:1	-
%RUP	-	-	ARG	4.4	0.5	8.0	C18:2	-
%DRUP	-	-	PHE	4.7	0.5	8.6	C18:3	-
%RUSTA	-	-	HIS	1.8	0.2	3.3	>=C20	-
%DASH	-	-	LEU	6.9	0.8	12.6	Sum FA	-
DASHmax	-	-	TYR	2.2	0.4	4.0		
			VAL	5.0	0.5	9.1	% FA in CFAT-fraction	-
			ALA	6.6	0.6	12.0		
			ASP	8.8	0.8	16.0		
Nutritional value (in DM)			GLU	10.0	0.6	18.2		
Ruminants			GLY	4.7	0.5	8.6		
VEM	-		PRO	4.4	0.6	8.0	FP	-
VEVI	-		SER	3.6	0.2	6.6	LA	-
FOMr-91	-		Sum AA	78.5		143	AC	-
FOMr-07	-						ETH	-
FOMr2-07	-						PR	-
FOMr2/FOMr	-						BU	-
DVE-91	-		Horses				Glycerol	-
DVE-07	-		DCCP	75 %				
OEB-91	-		DCOM	72 %				
OEB-07	-		NEm	7.24 MJ/kg			NH3	-
OEB2-07	-		NEm	1730 kcal/kg				
DVMET-91	-		EWpa	0.81 /kg				
DVLYS-91	-		DCPho	145 g/kg				
DVMET-07	-							
DVLYS-07	-							
SW	-							
VW	-							

Grass, fresh, I) horses, fresh pasture 5010.990/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	161	102	221	221	41	-	232	404	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	95	-	-	-	544	544
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.8	4.2	-	2.5	30.4	2.3	15.0	3.9
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	149	95	43	9	2.7	-	0.1
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	455
		CF_DI	0.97	CAD (meq/kg)	212

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	41.0	
DCCP	79		CP		221	<=C10	-	
DCCFAT	-		LYS	4.0	0.4	8.8	C12:0	-
DCCF	-		MET	1.5	0.2	3.3	C14:0	-
DCNFE	-		CYS	0.9	0.1	2.0	C16:0	-
DCOM	80		THR	3.8	0.4	8.4	C16:1	-
			TRP	1.5	0.2	3.3	C18:0	-
DVE	1991	2007	ILE	3.7	0.4	8.2	C18:1	-
%RUP	-	-	ARG	4.4	0.5	9.7	C18:2	-
%DRUP	-	-	PHE	4.7	0.5	10.4	C18:3	-
%RUSTA	-	-	HIS	1.8	0.2	4.0	>=C20	-
%DASH	-	-	LEU	6.9	0.8	15.2	Sum FA	-
DASHmax	-	-	TYR	2.2	0.4	4.9		
			VAL	5.0	0.5	11.1	% FA in CFAT-fraction	-
			ALA	6.6	0.6	14.6		
			ASP	8.8	0.8	19.4		
Nutritional value (in DM)			GLU	10.0	0.6	22.1		
Ruminants			GLY	4.7	0.5	10.4	g/kg DM	sd
VEM	-		PRO	4.4	0.6	9.7	FP	-
VEVI	-		SER	3.6	0.2	8.0	LA	-
FOMr-91	-		Sum AA	78.5		173	AC	-
FOMr-07	-						ETH	-
FOMr2-07	-						PR	-
FOMr2/FOMr	-						BU	-
DVE-91	-		Horses				Glycerol	-
DVE-07	-		DCCP	79 %				
OEB-91	-		DCOM	75 %			% of CP	
OEB-07	-		NEm	7.65 MJ/kg			NH3	-
OEB2-07	-		NEm	1829 kcal/kg				
DVMET-91	-		EWpa	0.86 /kg				
DVLYS-91	-		DCPho	185 g/kg				
DVMET-07	-							
DVLYS-07	-							
SW	-							
VW	-							

Grass/clover, silage-Red clover 5037.602/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	370	114	166	153	24	-	303	406	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	32	460	329	56	612	152
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	24.0	
DCCP	-		CP		153	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	66		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	25	25	ARG	-	-	C18:2	-	-
%DRUP	72	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	68	68	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		718 /kg	GLY	-	-			
VEVI		697 /kg	PRO	-	-	FP	72	-
FOM-91		485 g/kg	SER	-	-	LA	51	-
FOMr-07		527 g/kg	Sum AA	-	-	AC	12	-
FOMr2-07		240 g/kg				ETH	9	-
FOMr2/FOMr		0.45 /kg				PR	-	-
DVE-91		53 g/kg	Horses			BU	-	-
DVE-07		47 g/kg	DCCP	-		Glycerol	-	-
OEB-91		47 g/kg	DCOM	-				
OEB-07		55 g/kg	NEm	-		% of CP		
OEB2-07		61 g/kg	NEm	-		NH3	8	
DVMET-91		-	EWpa	-				
DVLYS-91		-	DCPho	-				
DVMET-07		-						
DVLYS-07		-						
SW		3.33 /kg						
VW		0.96 /kg						

Remarks

Grass/clover, silage-Red clover:

1. The chemical contents, digestibility coefficients and feeding values are based on 6 batches of grass/red clover mixtures with an average clover percentage of 71%.
2. Training is required in order to make a correct visual assessment of the percentage of clover.

Grass/clover, silage-White clover 5037.602/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	456	121	167	154	33	-	279	413	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	58	460	295	31	600	140
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	33.0	
DCCP	-		CP		154	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	72		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	25	25	ARG	-	-	C18:2	-	-
%DRUP	74	73	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	72	72	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		803 /kg	GLY	-	-			
VEVI		807 /kg	PRO	-	-	FP	47	-
FOM-91		533 g/kg	SER	-	-	LA	22	-
FOMr-07		556 g/kg	Sum AA	-	-	AC	6	-
FOMr2-07		243 g/kg				ETH	19	-
FOMr2/FOMr		0.44 /kg				PR	-	-
DVE-91		62 g/kg	Horses			BU	-	-
DVE-07		56 g/kg	DCCP	-		Glycerol	-	-
OEB-91		40 g/kg	DCOM	-		% of CP		
OEB-07		49 g/kg	NEm	-		NH3	8	
OEB2-07		59 g/kg	NEm	-				
DVMET-91		-	EWpa	-				
DVLYS-91		-	DCPho	-				
DVMET-07		-						
DVLYS-07		-						
SW		3.13 /kg						
VW		0.97 /kg						

Remarks

Grass/clover, silage-White clover:

1. The chemical contents, digestibility coefficients and feeding values are based on 5 batches of grass/red clover mixtures with an average clover percentage of 47%.
2. Training is required in order to make a correct visual assessment of the percentage of clover.

Green cereals, fresh 5028.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	160	80	110	110	35	-	250	525	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	250	230	-	-	-	-	-	545	545
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	3.9	-	-	29.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	35.0	
DCCP	69		CP		110	<=C10	-	-
DCCFAT	43		LYS	-	-	C12:0	-	-
DCCF	69		MET	-	-	C14:0	-	-
DCNFE	85		CYS	-	-	C16:0	-	-
DCOM	77		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	44	46	ARG	-	-	C18:2	-	-
%DRUP	65	65	PHE	-	-	C18:3	-	-
%RUSTA	-	18	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	34	34	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		913 /kg	GLY	-	-		g/kg DM	sd
VEVI		946 /kg	PRO	-	-	FP	-	-
FOM-91		626 g/kg	SER	-	-	LA	-	-
FOMr-07		520 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		163 g/kg				ETH	-	-
FOMr2/FOMr		0.31 /kg				PR	-	-
DVE-91		75 g/kg	Horses			BU	-	-
DVE-07		60 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		-38 g/kg	DCOM	-	-			
OEB-07		-15 g/kg	NEm	-	-	% of CP		
OEB2-07		-1 g/kg	NEm	-	-	NH3	-	-
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		2.10 /kg						
VW		0.92 /kg						

Green cereals, silage 5028.602/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	250	80	107	98	35	-	250	537	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	218	207	-	-	-	-	-	488	488
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	3.5	3.7	-	1.5	27.3	0.5	6.7	1.6
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	372	73	41	6	1.8	-	0.4
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	532
		CF_DI	0.97	CAD (meq/kg)	432

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	% FA	g/kg DM
Ruminants								35.0
DCCP	62		CP		98	<=C10	-	-
DCCFAT	63		LYS	-	-	C12:0	-	-
DCCF	69		MET	-	-	C14:0	-	-
DCNFE	85		CYS	-	-	C16:0	-	-
DCOM	78		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	25	25	ARG	-	-	C18:2	-	-
%DRUP	50	50	PHE	-	-	C18:3	-	-
%RUSTA	-	18	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	34	34	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants								
VEM		945 /kg	GLU	-	-			
VEVI		990 /kg	PRO	-	-	FP	100	-
FOM-91		607 g/kg	SER	-	-	LA	80	-
FOMr-07		603 g/kg	Sum AA	-	-	AC	20	-
FOMr2-07		294 g/kg				ETH	-	-
FOMr2/FOMr		0.49 /kg				PR	-	-
DVE-91		54 g/kg	Horses			BU	-	-
DVE-07		46 g/kg	DCCP	60 %		Glycerol	-	-
OEB-91		-14 g/kg	DCOM	63 %				
OEB-07		-2 g/kg	NEm	6.61 MJ/kg		NH3	8	
OEB2-07		31 g/kg	NEm	1580 kcal/kg				
DVMET-91		-	EWpa	0.74 /kg				
DVLYS-91		-	DCPho	59 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		2.93 /kg						
VW		1.11 /kg						

Leek, fresh 6012.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	100	97	165	165	24	-	121	593	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	400	-	-	-	328	328
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	4.2	3.9	-	2.0	31.7	0.3	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	24.0		
DCCP	80		CP		165	<=C10	-	-	
DCCFAT	50		LYS	-	-	C12:0	-	-	
DCCF	60		MET	-	-	C14:0	-	-	
DCNFE	90		CYS	-	-	C16:0	-	-	
DCOM	83		THR	-	-	C16:1	-	-	
			TRP	-	-	C18:0	-	-	
DVE	1991	2007	ILE	-	-	C18:1	-	-	
%RUP	37	38	ARG	-	-	C18:2	-	-	
%DRUP	80	80	PHE	-	-	C18:3	-	-	
%RUSTA	-	-	HIS	-	-	>=C20	-	-	
%DASH	50	50	LEU	-	-	Sum FA	-	-	
DASHmax	58	58	TYR	-	-				
			VAL	-	-	% FA in CFAT-fraction	-	-	
			ALA	-	-				
			ASP	-	-				
Nutritional value (in DM)									
Ruminants									
VEM		970 /kg	GLU	-	-			g/kg DM	sd
VEVI		1034 /kg	PRO	-	-	FP	-	-	
FOM-91		665 g/kg	SER	-	-	LA	-	-	
FOMr-07		656 g/kg	Sum AA	-	-	AC	-	-	
FOMr2-07		432 g/kg				ETH	-	-	
FOMr2/FOMr		0.66 /kg				PR	-	-	
DVE-91		102 g/kg	Horses			BU	-	-	
DVE-07		100 g/kg	DCCP	-	-	Glycerol	-	-	
OEB-91		-2 g/kg	DCOM	-	-			% of CP	
OEB-07		0 g/kg	NEm	-	-	NH3	-	-	
OEB2-07		-33 g/kg	NEm	-	-				
DVMET-91		-	EWpa	-	-				
DVLYS-91		-	DCPho	-	-				
DVMET-07		-							
DVLYS-07		-							
SW		0.60 /kg							
VW		0.92 /kg							

Lettuce, fresh 6014.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	61	175	237	237	45	-	116	427	-
sd	15	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	100	-	-	-	447	447
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	12.2	5.3	-	3.0	56.2	1.7	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	45.0	
DCCP	82		CP		237	<=C10	-	-
DCCFAT	61		LYS	-	-	C12:0	-	-
DCCF	80		MET	-	-	C14:0	-	-
DCNFE	91		CYS	-	-	C16:0	-	-
DCOM	85		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	30	32	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	101	101	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		966 /kg	GLY	-	-			
VEVI		1032 /kg	PRO	-	-	FP	-	-
FOM-91		587 g/kg	SER	-	-	LA	-	-
FOMr-07		513 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		189 g/kg				ETH	-	-
FOMr2/FOMr		0.37 /kg				PR	-	-
DVE-91		98 g/kg	Horses			BU	-	-
DVE-07		85 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		69 g/kg	DCOM	-	-			
OEB-07		90 g/kg	NEm	-	-	% of CP		
OEB2-07		35 g/kg	NEm	-	-	NH3	-	-
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.60 /kg						
VW		0.92 /kg						

Lucerne (alfalfa), artificially dried 5004.609/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	903	117	172	172	23	-	314	375	-
sd	22	17	-	22	-	-	41	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	47	436	-	-	643	207
sd	-	-	-	11	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	14.9	2.9	-	2.1	24.4	0.4	-	2.5
sd	-	0.4	-	0.8	6.8	0.2	-	1.0

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	687	35	26	9	2.2	-	0.1
sd	527	18	9	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	23.0		
DCCP	67		CP		172	<=C10	-	-	
DCCFAT	-		LYS	4.3	-	C12:0	-	-	
DCCF	-		MET	1.5	-	C14:0	-	-	
DCNFE	-		CYS	1.0	-	C16:0	-	-	
DCOM	63		THR	4.0	-	C16:1	-	-	
			TRP	1.4	-	C18:0	-	-	
DVE	1991	2007	ILE	4.0	-	C18:1	-	-	
%RUP	44	44	ARG	4.1	-	C18:2	-	-	
%DRUP	73	73	PHE	4.6	-	C18:3	-	-	
%RUSTA	-	-	HIS	2.0	-	>=C20	-	-	
%DASH	50	50	LEU	6.9	-	Sum FA	-	-	
DASHmax	70	70	TYR	3.1	-				
			VAL	5.1	-	% FA in CFAT-fraction	-	-	
			ALA	5.1	-				
			ASP	11.1	-				
Nutritional value (in DM)									
Ruminants									
VEM		671 /kg	GLU	4.7	-	8.1		g/kg DM	sd
VEVI		637 /kg	PRO	4.8	-	8.2	FP	-	-
FOM-91		459 g/kg	SER	4.2	-	7.2	LA	-	-
FOMr-07		510 g/kg	Sum AA	81.5		140	AC	-	-
FOMr2-07		147 g/kg					ETH	-	-
FOMr2/FOMr		0.29 /kg					PR	-	-
DVE-91		77 g/kg	Horses				BU	-	-
DVE-07		73 g/kg	DCCP	-			Glycerol	-	-
OEB-91		18 g/kg	DCOM	-				% of CP	
OEB-07		23 g/kg	NEm	-			NH3	-	
OEB2-07		26 g/kg	NEm	-					
DVMET-91		1.6 g/kg	EWpa	-					
DVLYS-91		4.4 g/kg	DCPho	-					
DVMET-07		1.6 g/kg							
DVLYS-07		4.3 g/kg							
SW		3.94 /kg							
VW		1.40 /kg							

Lucerne (alfalfa), ensiled 5004.602/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	403	142	200	184	24	-	288	361	-
sd	108	36	-	31	6	-	40	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	25	436	326	61	515	79
sd	-	-	-	20	59	38	10	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	12.1	3.3	-	2.6	33.1	0.6	6.7	2.8
sd	3.0	0.6	-	0.6	6.0	0.4	2.8	0.9

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	528	54	45	9	3.7	0.0	33.5
sd	411	28	20	2	2.0	0.0	65.8

IP/P	-	SUGe/SUG	-	EB (meq/kg)	685
		CF_DI	0.97	CAD (meq/kg)	510

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N		g/kg DM	% FA	g/kg DM		
Ruminants			mean	sd		CFAT(h)	24.4		
DCCP	73		CP		184	<=C10	-	-	
DCCFAT	-		LYS	4.1	0.5	7.6	C12:0	-	-
DCCF	-		MET	1.4	0.2	2.6	C14:0	-	-
DCNFE	-		CYS	1.0	0.1	1.8	C16:0	-	-
DCOM	65		THR	3.9	0.2	7.2	C16:1	-	-
			TRP	1.0	0.2	1.8	C18:0	-	-
DVE	1991	2007	ILE	3.9	0.4	7.2	C18:1	-	-
%RUP	29	29	ARG	2.9	0.6	5.3	C18:2	-	-
%DRUP	55	55	PHE	4.2	0.6	7.7	C18:3	-	-
%RUSTA	-	-	HIS	1.7	0.2	3.1	>=C20	-	-
%DASH	50	50	LEU	6.5	0.6	12.0	Sum FA	-	-
DASHmax	83	83	TYR	2.7	0.4	5.0			
			VAL	5.1	0.3	9.4	% FA in CFAT-fraction	-	-
			ALA	5.8	0.7	10.7			
Nutritional value (in DM)			ASP	10.6	1.6	19.5			
Ruminants			GLU	8.1	0.8	14.9			
VEM		678 /kg	GLY	4.5	0.4	8.3	FP	119	-
VEVI		650 /kg	PRO	6.0	0.9	11.1	LA	82	19
FOMr-91		414 g/kg	SER	3.8	0.4	7.0	AC	37	3
FOMr-07		458 g/kg	Sum AA	77.2		142	ETH	-	-
FOMr2-07		288 g/kg					PR	-	-
FOMr2/FOMr		0.63 /kg					BU	-	-
DVE-91		46 g/kg	Horses				Glycerol	-	-
DVE-07		38 g/kg	DCCP	73 %					
OEB-91		74 g/kg	DCOM	63 %					
OEB-07		88 g/kg	NEm	5.63 MJ/kg			NH3	8	
OEB2-07		99 g/kg	NEm	1346 kcal/kg					
DVMET-91		1.1 g/kg	EWpa	0.63 /kg					
DVLYS-91		2.9 g/kg	DCPho	135 g/kg					
DVMET-07		0.9 g/kg							
DVLYS-07		2.3 g/kg							
SW		3.06 /kg							
VW		0.96 /kg							

Lucerne (alfalfa), hay 5004.606/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	872	101	175	175	20	-	312	392	-
sd	25	16	-	36	-	-	44	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	50	437	330	63	656	218
sd	-	-	-	-	59	34	11	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	12.9	2.8	-	2.5	27.6	1.0	-	2.1
sd	3.6	0.6	-	-	6.3	-	-	0.5

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	115	24	19	-	-	-	-
sd	65	5	4	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)		
Ruminants						20.0		
DCCP	67		CP		175	<=C10	-	-
DCCFAT	-		LYS	4.8	0.6	C12:0	-	-
DCCF	-		MET	1.5	0.1	C14:0	-	-
DCNFE	-		CYS	1.3	0.1	C16:0	-	-
DCOM	62		THR	4.4	0.3	C16:1	-	-
			TRP	1.4	0.2	C18:0	-	-
DVE	1991	2007	ILE	4.1	0.4	C18:1	-	-
%RUP	50	50	ARG	4.6	0.5	C18:2	-	-
%DRUP	75	75	PHE	4.7	0.5	C18:3	-	-
%RUSTA	-	-	HIS	2.0	0.2	>=C20	-	-
%DASH	50	50	LEU	7.2	0.6	Sum FA	-	-
DASHmax	60	60	TYR	3.4	0.3			
			VAL	5.2	0.4	% FA in CFAT-fraction	-	-
			ALA	5.5	0.4			
Nutritional value (in DM)			ASP	11.1	1.1			
Ruminants			GLU	9.6	0.5			
VEM		663 /kg	GLY	5.0	0.2	8.8	g/kg DM	sd
VEVI		625 /kg	PRO	5.4	0.6	9.5	FP	-
FOM-91		450 g/kg	SER	4.2	0.2	7.4	LA	-
FOMr-07		450 g/kg	Sum AA	85.4		150	AC	-
FOMr2-07		135 g/kg					ETH	-
FOMr2/FOMr		0.30 /kg					PR	-
DVE-91		87 g/kg	Horses				BU	-
DVE-07		75 g/kg	DCCP	70 %			Glycerol	-
OEB-91		10 g/kg	DCOM	60 %			% of CP	
OEB-07		28 g/kg	NEm	5.57 MJ/kg			NH3	-
OEB2-07		40 g/kg	NEm	1331 kcal/kg				
DVMET-91		1.8 g/kg	EWpa	0.62 /kg				
DVLYS-91		5.2 g/kg	DCPho	123 g/kg				
DVMET-07		1.5 g/kg						
DVLYS-07		4.4 g/kg						
SW		3.92 /kg						
VW		1.40 /kg						

Maize fresh, chopped-DM < 240 g/kg 5008.000/10/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	225	58	94	94	25	-	215	608	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	224	-	-	432	-	-	599	167
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N		g/kg DM	CFAT(h)	% FA	g/kg DM
Ruminants			mean	sd				
DCCP	62		CP		94	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	71		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	35	36	ARG	-	-	C18:2	-	-
%DRUP	73	73	PHE	-	-	C18:3	-	-
%RUSTA	20	25	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	37	37	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			Horses					
Ruminants								
VEM		871 /kg	GLY	-	-		g/kg DM	sd
VEVI		888 /kg	PRO	-	-	FP	-	-
FOM-91		561 g/kg	SER	-	-	LA	-	-
FOMr-07		485 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		175 g/kg				ETH	-	-
FOMr2/FOMr		0.36 /kg				PR	-	-
DVE-91		58 g/kg				BU	-	-
DVE-07		48 g/kg				Glycerol	-	-
OEB-91		-27 g/kg					% of CP	
OEB-07		-13 g/kg	DCCP	68 %		NH3	-	
OEB2-07		26 g/kg	DCOM	68 %				
DVMET-91		-	NEm	7.49 MJ/kg				
DVLYS-91		-	NEm	1790 kcal/kg				
DVMET-07		-	EWpa	0.84 /kg				
DVLYS-07		-	DCPho	64 g/kg				
SW		1.84 /kg						
VW		1.04 /kg						

Maize fresh, chopped-DM 240 - 280 g/kg 5008.000/20/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	263	51	84	84	25	-	195	645	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	297	-	-	398	-	-	543	145
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	25.0
DCCP	57		CP		84	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	73		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	35	36	ARG	-	-	C18:2	-
%DRUP	73	73	PHE	-	-	C18:3	-
%RUSTA	21	26	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	33	33	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU		g/kg DM		sd
Ruminants			GLY	-	-	FP	-
VEM		908 /kg	PRO	-	-	LA	-
VEVI		934 /kg	SER	-	-	AC	-
FOM-91		571 g/kg	Sum AA	-	-	ETH	-
FOMr-07		499 g/kg				PR	-
FOMr2-07		194 g/kg				BU	-
FOMr2/FOMr		0.39 /kg				Glycerol	-
DVE-91		57 g/kg	Horses				
DVE-07		50 g/kg	DCCP	68 %			
OEB-91		-35 g/kg	DCOM	71 %			
OEB-07		-24 g/kg	NEm	8.20 MJ/kg		NH3	-
OEB2-07		17 g/kg	NEm	1960 kcal/kg			
DVMET-91		-	EWpa	0.92 /kg			
DVLYS-91		-	DCPho	57 g/kg			
DVMET-07		-					
DVLYS-07		-					
SW		1.66 /kg					
VW		0.94 /kg					

Maize fresh, chopped-DM 280 - 320 g/kg 5008.000/30/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	300	48	80	80	25	-	185	662	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	333	-	-	381	-	-	514	133
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	25.0
DCCP	55		CP		80	<=C10	-
DCCFAT	-		LYS	-	-	C12:0	-
DCCF	-		MET	-	-	C14:0	-
DCNFE	-		CYS	-	-	C16:0	-
DCOM	73		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	35	36	ARG	-	-	C18:2	-
%DRUP	73	73	PHE	-	-	C18:3	-
%RUSTA	22	27	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	31	31	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		925 /kg	PRO	-	-	FP	-
VEVI		956 /kg	SER	-	-	LA	-
FOM-91		574 g/kg	Sum AA	-	-	AC	-
FOMr-07		502 g/kg				ETH	-
FOMr2-07		201 g/kg				PR	-
FOMr2/FOMr		0.40 /kg				BU	-
DVE-91		57 g/kg	Horses			Glycerol	-
DVE-07		51 g/kg	DCCP	68 %			
OEB-91		-37 g/kg	DCOM	72 %			
OEB-07		-28 g/kg	NEm	8.56 MJ/kg		NH3	-
OEB2-07		13 g/kg	NEm	2046 kcal/kg			
DVMET-91		-	EWpa	0.96 /kg			
DVLYS-91		-	DCPho	54 g/kg			
DVMET-07		-					
DVLYS-07		-					
SW		1.57 /kg					
VW		0.83 /kg					

Maize fresh, chopped-DM > 320 g/kg 5008.000/40/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	336	46	79	79	25	-	180	670	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	366	-	-	373	-	-	484	111
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	25.0	
DCCP	54		CP		79	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	74		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	35	36	ARG	-	-	C18:2	-	-
%DRUP	73	73	PHE	-	-	C18:3	-	-
%RUSTA	23	28	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	30	30	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants								
VEM		935 /kg	GLU	-	-			
VEVI		968 /kg	PRO	-	-	FP	-	-
FOM-91		570 g/kg	SER	-	-	LA	-	-
FOMr-07		501 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		207 g/kg				ETH	-	-
FOMr2/FOMr		0.41 /kg				PR	-	-
DVE-91		57 g/kg	Horses			BU	-	-
DVE-07		52 g/kg	DCCP	68 %		Glycerol	-	-
OEB-91		-38 g/kg	DCOM	72 %				
OEB-07		-30 g/kg	NEm	8.82 MJ/kg		NH3	-	-
OEB2-07		12 g/kg	NEm	2108 kcal/kg				
DVMET-91		-	EWpa	0.99 /kg				
DVLYS-91		-	DCPho	54 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		1.52 /kg						
VW		0.80 /kg						

Maize silage-DM < 240 g/kg 5008.602/1/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	222	57	101	96	25	-	244	577	-
sd	15	7	-	8	-	-	21	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	191	-	-	460	-	-	525	65
sd	-	-	-	-	35	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N		g/kg DM	% FA	g/kg DM		
Ruminants			mean	sd		CFAT(h)		25.0	
DCCP	60		CP		96	<=C10	-	-	
DCCFAT	-		LYS	2.3	0.4	2.2	C12:0	-	-
DCCF	-		MET	1.5	0.2	1.4	C14:0	-	-
DCNFE	-		CYS	1.3	0.3	1.3	C16:0	-	-
DCOM	68		THR	3.2	0.3	3.1	C16:1	-	-
			TRP	0.5	0.1	0.5	C18:0	-	-
DVE	1991	2007	ILE	3.3	0.3	3.2	C18:1	-	-
%RUP	35	36	ARG	1.9	0.4	1.8	C18:2	-	-
%DRUP	63	63	PHE	3.8	0.5	3.7	C18:3	-	-
%RUSTA	20	25	HIS	1.6	0.3	1.5	>=C20	-	-
%DASH	50	50	LEU	8.6	1.0	8.3	Sum FA	-	-
DASHmax	37	37	TYR	2.1	0.3	2.0			
			VAL	4.5	0.3	4.3	% FA in CFAT-fraction	-	
			ALA	7.6	0.7	7.3			
			ASP	5.9	0.8	5.7			
Nutritional value (in DM)			GLU	11.8	1.2	11.4			
Ruminants			GLY	3.9	0.3	3.8			
VEM		832 /kg	PRO	6.2	0.9	6.0	FP	120	-
VEVI		837 /kg	SER	3.7	0.4	3.6	LA	96	-
FOMr-91		481 g/kg	Sum AA	73.7		71	AC	24	-
FOMr-07		524 g/kg					ETH	-	-
FOMr2-07		268 g/kg					PR	-	-
FOMr2/FOMr		0.51 /kg					BU	-	-
DVE-91		46 g/kg	Horses				Glycerol	-	-
DVE-07		43 g/kg	DCCP	68 %					
OEB-91		-11 g/kg	DCOM	65 %					
OEB-07		-5 g/kg	NEm	6.92 MJ/kg			NH3	5	
OEB2-07		25 g/kg	NEm	1655 kcal/kg					
DVMET-91		1.2 g/kg	EWpa	0.78 /kg					
DVLYS-91		2.7 g/kg	DCPho	66 g/kg					
DVMET-07		1.1 g/kg							
DVLYS-07		2.6 g/kg							
SW		2.10 /kg							
VW		1.04 /kg							

Maize silage-DM 240 - 280 g/kg 5008.602/2/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	265	52	95	90	25	-	225	608	-
sd	9	7	-	5	-	-	16	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	245	-	-	448	-	-	498	50
sd	-	-	-	-	27	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N		g/kg DM	% FA	g/kg DM		
Ruminants			mean	sd		CFAT(h)		25.0	
DCCP	57		CP		90	<=C10	-	-	
DCCFAT	-		LYS	2.3	0.4	2.1	C12:0	-	-
DCCF	-		MET	1.5	0.2	1.4	C14:0	-	-
DCNFE	-		CYS	1.3	0.3	1.2	C16:0	-	-
DCOM	70		THR	3.2	0.3	2.9	C16:1	-	-
			TRP	0.5	0.1	0.5	C18:0	-	-
DVE	1991	2007	ILE	3.3	0.3	3.0	C18:1	-	-
%RUP	35	36	ARG	1.9	0.4	1.7	C18:2	-	-
%DRUP	63	63	PHE	3.8	0.5	3.4	C18:3	-	-
%RUSTA	21	26	HIS	1.6	0.3	1.4	>=C20	-	-
%DASH	50	50	LEU	8.6	1.0	7.8	Sum FA	-	-
DASHmax	33	33	TYR	2.1	0.3	1.9			
			VAL	4.5	0.3	4.1	% FA in CFAT-fraction	-	
			ALA	7.6	0.7	6.9			
			ASP	5.9	0.8	5.3			
Nutritional value (in DM)			GLU	11.8	1.2	10.6			
Ruminants			GLY	3.9	0.3	3.5		g/kg DM	sd
VEM		865 /kg	PRO	6.2	0.9	5.6	FP	103	-
VEVI		879 /kg	SER	3.7	0.4	3.3	LA	82	-
FOM-91		501 g/kg	Sum AA	73.7		66	AC	21	-
FOMr-07		524 g/kg					ETH	-	-
FOMr2-07		265 g/kg					PR	-	-
FOMr2/FOMr		0.51 /kg					BU	-	-
DVE-91		48 g/kg	Horses				Glycerol	-	-
DVE-07		45 g/kg	DCCP	68 %					
OEB-91		-17 g/kg	DCOM	68 %					
OEB-07		-12 g/kg	NEm	7.49 MJ/kg			NH3	5	
OEB2-07		19 g/kg	NEm	1791 kcal/kg					
DVMET-91		1.2 g/kg	EWpa	0.84 /kg					
DVLYS-91		2.9 g/kg	DCPho	61 g/kg					
DVMET-07		1.2 g/kg							
DVLYS-07		2.8 g/kg							
SW		1.92 /kg							
VW		0.95 /kg							

Maize silage-DM 280 - 320 g/kg 5008.602/3/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	301	52	90	86	25	-	207	630	-
sd	10	7	-	7	-	-	16	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	294	-	-	427	-	-	464	36
sd	-	-	-	-	26	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	25.0
DCCP	55		CP		86	<=C10	-
DCCFAT	-		LYS	2.3	0.4	C12:0	-
DCCF	-		MET	1.5	0.2	C14:0	-
DCNFE	-		CYS	1.3	0.3	C16:0	-
DCOM	71		THR	3.2	0.3	C16:1	-
			TRP	0.5	0.1	C18:0	-
DVE	1991	2007	ILE	3.3	0.3	C18:1	-
%RUP	35	36	ARG	1.9	0.4	C18:2	-
%DRUP	63	63	PHE	3.8	0.5	C18:3	-
%RUSTA	22	27	HIS	1.6	0.3	>=C20	-
%DASH	50	50	LEU	8.6	1.0	Sum FA	-
DASHmax	34	34	TYR	2.1	0.3		
			VAL	4.5	0.3	% FA in CFAT-fraction	-
			ALA	7.6	0.7		
			ASP	5.9	0.8		
Nutritional value (in DM)			GLU	11.8	1.2		
Ruminants			GLY	3.9	0.3		
VEM		889 /kg	PRO	6.2	0.9	FP	90
VEVI		910 /kg	SER	3.7	0.4	LA	72
FOMr-91		511 g/kg	Sum AA	73.7	63	AC	18
FOMr-07		524 g/kg				ETH	-
FOMr2-07		265 g/kg				PR	-
FOMr2/FOMr		0.51 /kg				BU	-
DVE-91		49 g/kg	Horses			Glycerol	-
DVE-07		47 g/kg	DCCP	68 %			
OEB-91		-22 g/kg	DCOM	69 %			
OEB-07		-18 g/kg	NEm	7.97 MJ/kg		NH3	5
OEB2-07		15 g/kg	NEm	1906 kcal/kg			
DVMET-91		1.2 g/kg	EWpa	0.89 /kg			
DVLYS-91		3.0 g/kg	DCPho	58 g/kg			
DVMET-07		1.2 g/kg					
DVLYS-07		2.9 g/kg					
SW		1.77 /kg					
VW		0.84 /kg					

Maize silage-DM > 320 g/kg 5008.602/4/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	351	47	89	84	25	-	191	653	-
sd	26	7	-	5	-	-	14	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	322	-	-	425	-	-	454	29
sd	-	-	-	-	37	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	216	28	38	4	0.4	-	0.2
sd	67	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA	g/kg DM	
Ruminants			mean	sd	g/kg DM	CFAT(h)	25.0	
DCCP	54		CP		84	<=C10	-	
DCCFAT	-		LYS	2.3	0.4	1.9	C12:0	-
DCCF	-		MET	1.5	0.2	1.3	C14:0	-
DCNFE	-		CYS	1.3	0.3	1.1	C16:0	-
DCOM	73		THR	3.2	0.3	2.7	C16:1	-
			TRP	0.5	0.1	0.4	C18:0	-
DVE	1991	2007	ILE	3.3	0.3	2.8	C18:1	-
%RUP	35	36	ARG	1.9	0.4	1.6	C18:2	-
%DRUP	63	63	PHE	3.8	0.5	3.2	C18:3	-
%RUSTA	23	28	HIS	1.6	0.3	1.4	>=C20	-
%DASH	50	50	LEU	8.6	1.0	7.3	Sum FA	-
DASHmax	31	31	TYR	2.1	0.3	1.8		
			VAL	4.5	0.3	3.8	% FA in CFAT-fraction	-
			ALA	7.6	0.7	6.4		
			ASP	5.9	0.8	5.0		
Nutritional value (in DM)			GLU	11.8	1.2	10.0		
Ruminants			GLY	3.9	0.3	3.3		
VEM		918 /kg	PRO	6.2	0.9	5.2	FP	75
VEVI		946 /kg	SER	3.7	0.4	3.1	LA	60
FOMr-91		527 g/kg	Sum AA	73.7		62	AC	15
FOMr-07		515 g/kg					ETH	-
FOMr2-07		257 g/kg					PR	-
FOMr2/FOMr		0.50 /kg					BU	-
DVE-91		51 g/kg	Horses				Glycerol	-
DVE-07		47 g/kg	DCCP	68 %				
OEB-91		-25 g/kg	DCOM	71 %				
OEB-07		-19 g/kg	NEm	8.42 MJ/kg			NH3	5
OEB2-07		15 g/kg	NEm	2013 kcal/kg				
DVMET-91		1.3 g/kg	EWpa	0.94 /kg				
DVLYS-91		3.2 g/kg	DCPho	57 g/kg				
DVMET-07		1.2 g/kg						
DVLYS-07		3.0 g/kg						
SW		1.62 /kg						
VW		0.81 /kg						

Maize, artificially dried 5008.610/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	909	54	86	86	25	-	208	627	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	249	-	-	420	-	-	586	166
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.5	2.0	-	1.2	12.0	0.2	2.3	1.1
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	120	28	38	4	0.4	-	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	251
		CF_DI	0.97	CAD (meq/kg)	182

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N		g/kg DM	% FA	g/kg DM	
Ruminants			mean	sd		CFAT(h)		25.0
DCCP	40		CP		86	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	73		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	35	36	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	27	32	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	35	35	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		907 /kg	PRO	-	-	FP	-	-
VEVI		934 /kg	SER	-	-	LA	-	-
FOM-91		566 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		451 g/kg				ETH	-	-
FOMr2-07		162 g/kg				PR	-	-
FOMr2/FOMr		0.36 /kg				BU	-	-
DVE-91		56 g/kg	Horses			Glycerol	-	-
DVE-07		43 g/kg	DCCP	-	-			
OEB-91		-33 g/kg	DCOM	-	-	% of CP		
OEB-07		-12 g/kg	NEm	-	-	NH3	-	-
OEB2-07		24 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.52 /kg						
VW		0.35 /kg						

Oats straw 1004.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	840	70	37	37	17	-	450	426	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	876	876
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	5.2	1.6	-	1.3	17.9	-	-	1.0
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	17.0		
DCCP	19		CP		37	<=C10	-	-	
DCCFAT	62		LYS	-	-	C12:0	-	-	
DCCF	56		MET	-	-	C14:0	-	-	
DCNFE	45		CYS	-	-	C16:0	-	-	
DCOM	50		THR	-	-	C16:1	-	-	
			TRP	-	-	C18:0	-	-	
DVE	1991	2007	ILE	-	-	C18:1	-	-	
%RUP	68	68	ARG	-	-	C18:2	-	-	
%DRUP	70	70	PHE	-	-	C18:3	-	-	
%RUSTA	-	-	HIS	-	-	>=C20	-	-	
%DASH	35	35	LEU	-	-	Sum FA	-	-	
DASHmax	30	30	TYR	-	-				
			VAL	-	-	% FA in CFAT-fraction	-	-	
			ALA	-	-				
			ASP	-	-				
Nutritional value (in DM)									
Ruminants									
VEM		531 /kg	GLU	-	-			g/kg DM	sd
VEVI		463 /kg	PRO	-	-	FP	-	-	
FOM-91		419 g/kg	SER	-	-	LA	-	-	
FOMr-07		266 g/kg	Sum AA	-	-	AC	-	-	
FOMr2-07		25 g/kg				ETH	-	-	
FOMr2/FOMr		0.09 /kg				PR	-	-	
DVE-91		21 g/kg	Horses			BU	-	-	
DVE-07		-1 g/kg	DCCP	28 %		Glycerol	-	-	
OEB-91		-54 g/kg	DCOM	41 %				% of CP	
OEB-07		-20 g/kg	NEm	3.40 MJ/kg		NH3	-	-	
OEB2-07		7 g/kg	NEm	812 kcal/kg					
DVMET-91		-	EWpa	0.38 /kg					
DVLYS-91		-	DCPho	10 g/kg					
DVMET-07		-							
DVLYS-07		-							
SW		4.30 /kg							
VW		1.66 /kg							

Onions, fresh 4009.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	118	134	135	135	25	-	115	591	-
sd	4	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	275	-	-	-	441	441
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	9.4	3.0	-	0.8	16.5	0.6	-	-
sd	-	0.2	-	0.0	0.9	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	25.0		
DCCP	75		CP		135	<=C10	-	-	
DCCFAT	80		LYS	-	-	C12:0	-	-	
DCCF	85		MET	-	-	C14:0	-	-	
DCNFE	95		CYS	-	-	C16:0	-	-	
DCOM	90		THR	-	-	C16:1	-	-	
			TRP	-	-	C18:0	-	-	
DVE	1991	2007	ILE	-	-	C18:1	-	-	
%RUP	35	36	ARG	-	-	C18:2	-	-	
%DRUP	65	65	PHE	-	-	C18:3	-	-	
%RUSTA	-	-	HIS	-	-	>=C20	-	-	
%DASH	65	65	LEU	-	-	Sum FA	-	-	
DASHmax	102	102	TYR	-	-				
			VAL	-	-	% FA in CFAT-fraction	-	-	
			ALA	-	-				
			ASP	-	-				
Nutritional value (in DM)									
Ruminants			GLU	-	-				
VEM		1055 /kg	GLY	-	-				
VEVI		1160 /kg	PRO	-	-	FP	-	-	
FOM-91		709 g/kg	SER	-	-	LA	-	-	
FOMr-07		574 g/kg	Sum AA	-	-	AC	-	-	
FOMr2-07		313 g/kg				ETH	-	-	
FOMr2/FOMr		0.54 /kg				PR	-	-	
DVE-91		89 g/kg	Horses			BU	-	-	
DVE-07		74 g/kg	DCCP	-	-	Glycerol	-	-	
OEB-91		-23 g/kg	DCOM	-	-				
OEB-07		0 g/kg	NEm	-	-	% of CP			
OEB2-07		-19 g/kg	NEm	-	-	NH3	-	-	
DVMET-91		-	EWpa	-	-				
DVLYS-91		-	DCPho	-	-				
DVMET-07		-							
DVLYS-07		-							
SW		1.00 /kg							
VW		0.90 /kg							

Pea leaves, ensiled 5007.639/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	227	169	183	165	26	-	258	382	-
sd	40	59	-	24	-	-	35	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	88	-	-	-	-	-	-	538	538
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	3.7	-	2.2	21.1	0.7	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			g/kg DM		
			mean	sd	g/kg DM	CFAT(h)	% FA	g/kg DM
Ruminants								26.0
DCCP	68		CP		165	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	64		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	24	24	ARG	-	-	C18:2	-	-
%DRUP	50	50	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	69	69	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		663 /kg	GLY	-	-		g/kg DM	sd
VEVI		640 /kg	PRO	-	-	FP	100	-
FOM-91		415 g/kg	SER	-	-	LA	80	-
FOMr-07		512 g/kg	Sum AA	-	-	AC	20	-
FOMr2-07		241 g/kg				ETH	-	-
FOMr2/FOMr		0.47 /kg				PR	-	-
DVE-91		32 g/kg	Horses			BU	-	-
DVE-07		29 g/kg	DCCP	-		Glycerol	-	-
OEB-91		72 g/kg	DCOM	-				
OEB-07		78 g/kg	NEm	-		% of CP		
OEB2-07		92 g/kg	NEm	-		NH3	10	
DVMET-91		-	EWpa	-				
DVLYS-91		-	DCPho	-				
DVMET-07		-						
DVLYS-07		-						
SW		3.03 /kg						
VW		1.00 /kg						

Pea leaves, fresh 5007.642/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	180	93	184	184	35	-	274	414	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	688	688
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.7	-	-	21.1	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)		35.0
DCCP	77		CP		184	<=C10	-	-
DCCFAT	57		LYS	-	-	C12:0	-	-
DCCF	51		MET	-	-	C14:0	-	-
DCNFE	81		CYS	-	-	C16:0	-	-
DCOM	70		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	43	45	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	56	56	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		822 /kg	PRO	-	-	FP	-	-
VEVI		822 /kg	SER	-	-	LA	-	-
FOM-91		522 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		477 g/kg				ETH	-	-
FOMr2-07		85 g/kg				PR	-	-
FOMr2/FOMr		0.18 /kg				BU	-	-
DVE-91		92 g/kg	Horses			Glycerol	-	-
DVE-07		78 g/kg	DCCP	-	-			
OEB-91		18 g/kg	DCOM	-	-	% of CP		
OEB-07		37 g/kg	NEm	-	-	NH3	-	-
OEB2-07		31 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		2.34 /kg						
VW		0.92 /kg						

Pea straw 5007.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	710	106	106	106	16	-	368	404	-
sd	282	28	-	32	-	-	36	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	772	772
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	21.6	1.2	-	1.6	23.3	1.0	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	16.0	
DCCP	58		CP		106	<=C10	-	-
DCCFAT	60		LYS	-	-	C12:0	-	-
DCCF	41		MET	-	-	C14:0	-	-
DCNFE	55		CYS	-	-	C16:0	-	-
DCOM	50		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	68	68	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	63	63	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		523 /kg	PRO	-	-	FP	-	-
VEVI		457 /kg	SER	-	-	LA	-	-
FOM-91		356 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		258 g/kg				ETH	-	-
FOMr2-07		41 g/kg				PR	-	-
FOMr2/FOMr		0.16 /kg				BU	-	-
DVE-91		51 g/kg	Horses			Glycerol	-	-
DVE-07		31 g/kg	DCCP	-	-			
OEB-91		-27 g/kg	DCOM	-	-	% of CP		
OEB-07		4 g/kg	NEm	-	-	NH3	-	-
OEB2-07		23 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		4.30 /kg						
VW		1.66 /kg						

Pears, fresh 6021.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	165	24	16	16	15	-	146	799	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	558	-	-	-	407	407
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	0.8	0.4	-	-	1.2	0.1	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	15.0	
DCCP	-		CP		16	<=C10	-	-
DCCFAT	73		LYS	-	-	C12:0	-	-
DCCF	65		MET	-	-	C14:0	-	-
DCNFE	95		CYS	-	-	C16:0	-	-
DCOM	87		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	24	24	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		1098 /kg	PRO	-	-	FP	-	-
VEVI		1205 /kg	SER	-	-	LA	-	-
FOM-91		826 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		807 g/kg				ETH	-	-
FOMr2-07		566 g/kg				PR	-	-
FOMr2/FOMr		0.70 /kg				BU	-	-
DVE-91		77 g/kg	Horses			Glycerol	-	-
DVE-07		87 g/kg	DCCP	-	-			
OEB-91		-118 g/kg	DCOM	-	-	% of CP		
OEB-07		-134 g/kg	NEm	-	-	NH3	-	-
OEB2-07		-97 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.60 /kg						
VW		0.55 /kg						

Potato peelings, ensiled 4001.525/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	220	80	98	93	12	-	188	627	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	500	485	-	5	-	-	-	295	295
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.9	-	-	27.2	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM	CFAT(h)		
Ruminants								12.0
DCCP	53		CP		93	<=C10	-	-
DCCFAT	69		LYS	-	-	C12:0	-	-
DCCF	74		MET	-	-	C14:0	-	-
DCNFE	93		CYS	-	-	C16:0	-	-
DCOM	85		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	30	30	ARG	-	-	C18:2	-	-
%DRUP	60	60	PHE	-	-	C18:3	-	-
%RUSTA	43	44	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	34	34	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants								
VEM		1025 /kg	GLU	-	-			
VEVI		1106 /kg	PRO	-	-	FP	30	-
FOMr-91		517 g/kg	SER	-	-	LA	24	-
FOMr-07		560 g/kg	Sum AA	-	-	AC	6	-
FOMr2-07		197 g/kg				ETH	-	-
FOMr2/FOMr		0.35 /kg				PR	-	-
DVE-91		55 g/kg				BU	-	-
DVE-07		70 g/kg	Horses			Glycerol	-	-
OEB-91		-12 g/kg	DCCP	-	-			
OEB-07		-35 g/kg	DCOM	-	-			
OEB2-07		5 g/kg	NEm	-	-			
DVMET-91		-	NEm	-	-	NH3	5	
DVLYS-91		-	EWpa	-	-			
DVMET-07		-	DCPho	-	-			
DVLYS-07		-						
SW		0.75 /kg						
VW		0.55 /kg						

Potatoes, fresh 4001.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	202	57	105	105	3	-	41	794	-
sd	25	15	-	12	-	-	20	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	638	627	-	30	-	-	-	180	180
sd	79	-	-	7	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	0.6	2.0	-	1.1	22.2	0.2	1.6	1.6
sd	0.2	0.5	-	0.1	3.5	0.1	0.7	0.2

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	91	7	14	4	0.3	-	-
sd	57	2	2	1	0.1	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	531
		CF_DI	0.97	CAD (meq/kg)	430

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	3.0	
DCCP	56		CP		105	<=C10	-	-
DCCFAT	7		LYS	-	-	C12:0	-	-
DCCF	74		MET	-	-	C14:0	-	-
DCNFE	93		CYS	-	-	C16:0	-	-
DCOM	88		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	30	30	ARG	-	-	C18:2	-	-
%DRUP	80	80	PHE	-	-	C18:3	-	-
%RUSTA	43	44	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	25	25	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		1097 /kg	PRO	-	-	FP	-	-
VEVI		1207 /kg	SER	-	-	LA	-	-
FOM-91		524 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		565 g/kg				ETH	-	-
FOMr2-07		212 g/kg				PR	-	-
FOMr2/FOMr		0.37 /kg				BU	-	-
DVE-91		67 g/kg	Horses			Glycerol	-	-
DVE-07		85 g/kg	DCCP	44 %				
OEB-91		-8 g/kg	DCOM	86 %				
OEB-07		-37 g/kg	NEm	10.53 MJ/kg		NH3	-	-
OEB2-07		3 g/kg	NEm	2518 kcal/kg				
DVMET-91		-	EWpa	1.18 /kg				
DVLYS-91		-	DCPho	46 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		0.70 /kg						
VW		0.65 /kg						

Potatoes, raw, ensiled 4001.602/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	322	74	71	65	1	-	33	827	-
sd	62	28	-	10	-	-	7	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	550	536	-	5	-	-	-	288	288
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.0	-	-	11.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)		1.0
DCCP	33		CP		65	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	74		MET	-	-	C14:0	-	-
DCNFE	93		CYS	-	-	C16:0	-	-
DCOM	88		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	30	30	ARG	-	-	C18:2	-	-
%DRUP	60	60	PHE	-	-	C18:3	-	-
%RUSTA	43	44	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	32	32	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
Nutritional value (in DM)			ASP	-	-			
Ruminants			GLU	-	-			
VEM		1079 /kg	GLY	-	-			
VEVI		1194 /kg	PRO	-	-	FP	30	-
FOM-91		549 g/kg	SER	-	-	LA	24	-
FOMr-07		565 g/kg	Sum AA	-	-	AC	6	-
FOMr2-07		196 g/kg				ETH	-	-
FOMr2/FOMr		0.35 /kg				PR	-	-
DVE-91		55 g/kg	Horses			BU	-	-
DVE-07		69 g/kg	DCCP	33 %		Glycerol	-	-
OEB-91		-35 g/kg	DCOM	86 %				
OEB-07		-57 g/kg	NEm	10.26 MJ/kg		NH3	8	
OEB2-07		-6 g/kg	NEm	2452 kcal/kg				
DVMET-91		-	EWpa	1.15 /kg				
DVLYS-91		-	DCPho	29 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		0.60 /kg						
VW		0.65 /kg						

Rape seed straw 3009.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	849	70	38	38	8	-	523	361	-
sd	19	24	-	10	-	-	46	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	830	663	102	884	54
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	15.6	1.1	-	1.1	14.1	1.4	2.7	3.5
sd	-	0.4	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	345	26	12	2	0.9	0.4	0.2
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	346
		CF_DI	0.97	CAD (meq/kg)	127

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	8.0		
DCCP	31		CP		38	<=C10	-	-	
DCCFAT	54		LYS	-	-	C12:0	-	-	
DCCF	23		MET	-	-	C14:0	-	-	
DCNFE	46		CYS	-	-	C16:0	-	-	
DCOM	33		THR	-	-	C16:1	-	-	
			TRP	-	-	C18:0	-	-	
DVE	1991	2007	ILE	-	-	C18:1	-	-	
%RUP	68	68	ARG	-	-	C18:2	-	-	
%DRUP	70	70	PHE	-	-	C18:3	-	-	
%RUSTA	-	-	HIS	-	-	>=C20	-	-	
%DASH	35	35	LEU	-	-	Sum FA	-	-	
DASHmax	30	30	TYR	-	-				
			VAL	-	-	% FA in CFAT-fraction	-	-	
			ALA	-	-				
			ASP	-	-				
Nutritional value (in DM)			GLU	-	-				
Ruminants			GLY	-	-				
VEM		327 /kg	PRO	-	-	FP	-	-	
VEVI		232 /kg	SER	-	-	LA	-	-	
FOMr-91		269 g/kg	Sum AA	-	-	AC	-	-	
FOMr-07		269 g/kg				ETH	-	-	
FOMr2-07		26 g/kg				PR	-	-	
FOMr2/FOMr		0.10 /kg				BU	-	-	
DVE-91		-7 g/kg	Horses			Glycerol	-	-	
DVE-07		-14 g/kg	DCCP	-					
OEB-91		-31 g/kg	DCOM	-		% of CP			
OEB-07		-20 g/kg	NEm	-		NH3	-	-	
OEB2-07		7 g/kg	NEm	-					
DVMET-91		-	EWpa	-					
DVLYS-91		-	DCPho	-					
DVMET-07		-							
DVLYS-07		-							
SW		4.30 /kg							
VW		1.66 /kg							

Rye straw 1007.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	840	70	29	29	16	-	485	400	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	885	885
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	1.0	-	-	10.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	16.0	
DCCP	14		CP		29	<=C10	-	-
DCCFAT	57		LYS	-	-	C12:0	-	-
DCCF	54		MET	-	-	C14:0	-	-
DCNFE	38		CYS	-	-	C16:0	-	-
DCOM	46		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	68	68	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	30	30	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
Nutritional value (in DM)			ASP	-	-			
Ruminants			GLU	-	-			
VEM		482 /kg	GLY	-	-			
VEVI		404 /kg	PRO	-	-	FP	-	-
FOM-91		391 g/kg	SER	-	-	LA	-	-
FOMr-07		266 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		23 g/kg				ETH	-	-
FOMr2/FOMr		0.09 /kg				PR	-	-
DVE-91		11 g/kg	Horses			BU	-	-
DVE-07		-8 g/kg	DCCP	15 %		Glycerol	-	-
OEB-91		-51 g/kg	DCOM	38 %				
OEB-07		-22 g/kg	NEm	3.09 MJ/kg		NH3	-	-
OEB2-07		5 g/kg	NEm	739 kcal/kg				
DVMET-91		-	EWpa	0.35 /kg				
DVLYS-91		-	DCPho	4 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		4.30 /kg						
VW		1.66 /kg						

Spinach, fresh 6008.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	94	186	256	256	37	-	99	422	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	521	521
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	9.7	6.2	-	7.2	62.0	7.5	8.2	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	1682
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	37.0	
DCCP	84		CP		256	<=C10	-	-
DCCFAT	60		LYS	-	-	C12:0	-	-
DCCF	80		MET	-	-	C14:0	-	-
DCNFE	90		CYS	-	-	C16:0	-	-
DCOM	85		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	29	30	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	139	139	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		953 /kg	PRO	-	-	FP	-	-
VEVI		1019 /kg	SER	-	-	LA	-	-
FOM-91		584 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		483 g/kg				ETH	-	-
FOMr2-07		110 g/kg				PR	-	-
FOMr2/FOMr		0.23 /kg				BU	-	-
DVE-91		95 g/kg	Horses			Glycerol	-	-
DVE-07		77 g/kg	DCCP	-	-			
OEB-91		86 g/kg	DCOM	-	-	% of CP		
OEB-07		113 g/kg	NEm	-	-	NH3	-	-
OEB2-07		56 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		1.00 /kg						
VW		0.92 /kg						

Sugarbeet leaves with tops, fresh 4004.647/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	160	200	151	151	20	-	100	529	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	629	629
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	2.3	-	-	31.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	20.0		
DCCP	79		CP		151	<=C10	-	-	
DCCFAT	38		LYS	-	-	C12:0	-	-	
DCCF	67		MET	-	-	C14:0	-	-	
DCNFE	87		CYS	-	-	C16:0	-	-	
DCOM	82		THR	-	-	C16:1	-	-	
			TRP	-	-	C18:0	-	-	
DVE	1991	2007	ILE	-	-	C18:1	-	-	
%RUP	38	40	ARG	-	-	C18:2	-	-	
%DRUP	80	80	PHE	-	-	C18:3	-	-	
%RUSTA	-	-	HIS	-	-	>=C20	-	-	
%DASH	35	35	LEU	-	-	Sum FA	-	-	
DASHmax	81	81	TYR	-	-				
			VAL	-	-	% FA in CFAT-fraction	-	-	
			ALA	-	-				
			ASP	-	-				
Nutritional value (in DM)									
Ruminants			GLU	-	-				
VEM		857 /kg	GLY	-	-				
VEVI		910 /kg	PRO	-	-	FP	-	-	
FOM-91		576 g/kg	SER	-	-	LA	-	-	
FOMr-07		421 g/kg	Sum AA	-	-	AC	-	-	
FOMr2-07		71 g/kg				ETH	-	-	
FOMr2/FOMr		0.17 /kg				PR	-	-	
DVE-91		85 g/kg	Horses			BU	-	-	
DVE-07		62 g/kg	DCCP	-	-	Glycerol	-	-	
OEB-91		0 g/kg	DCOM	-	-				
OEB-07		35 g/kg	NEm	-	-	% of CP			
OEB2-07		26 g/kg	NEm	-	-	NH3	-	-	
DVMET-91		-	EWpa	-	-				
DVLYS-91		-	DCPho	-	-				
DVMET-07		-							
DVLYS-07		-							
SW		0.60 /kg							
VW		1.00 /kg							

Sugarbeet leaves, silage 4004.639/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	182	313	126	116	20	-	137	415	-
sd	24	88	-	31	-	-	16	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	2	-	1	298	-	-	417	119
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	13.9	3.1	-	4.5	39.3	7.6	-	2.5
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	1177	183	189	10	1.4	-	0.3
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	20.0	
DCCP	60		CP		116	<=C10	-	-
DCCFAT	38		LYS	-	-	C12:0	-	-
DCCF	67		MET	-	-	C14:0	-	-
DCNFE	79		CYS	-	-	C16:0	-	-
DCOM	73		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	21	21	ARG	-	-	C18:2	-	-
%DRUP	60	60	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	35	35	LEU	-	-	Sum FA	-	-
DASHmax	124	124	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		640 /kg	GLY	-	-			
VEVI		653 /kg	PRO	-	-	FP	145	-
FOM-91		384 g/kg	SER	-	-	LA	116	-
FOMr-07		465 g/kg	Sum AA	-	-	AC	29	-
FOMr2-07		249 g/kg				ETH	-	-
FOMr2/FOMr		0.54 /kg				PR	-	-
DVE-91		22 g/kg	Horses			BU	-	-
DVE-07		19 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		39 g/kg	DCOM	-	-			
OEB-07		44 g/kg	NEm	-	-	% of CP		
OEB2-07		57 g/kg	NEm	-	-	NH3	8	
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		1.51 /kg						
VW		1.00 /kg						

Sugarbeet rests, ensiled 4004.617/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	135	185	110	104	5	-	147	559	-
sd	14	45	-	15	-	-	24	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	113	-	-	2	-	-	-	698	698
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	12.4	2.2	-	2.5	14.2	2.7	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA			
			mean	sd	g/kg DM	g/kg DM			
Ruminants						CFAT(h)	5.0		
DCCP	55		CP		104	<=C10	-	-	
DCCFAT	20		LYS	-	-	C12:0	-	-	
DCCF	69		MET	-	-	C14:0	-	-	
DCNFE	84		CYS	-	-	C16:0	-	-	
DCOM	78		THR	-	-	C16:1	-	-	
			TRP	-	-	C18:0	-	-	
DVE	1991	2007	ILE	-	-	C18:1	-	-	
%RUP	58	61	ARG	-	-	C18:2	-	-	
%DRUP	80	80	PHE	-	-	C18:3	-	-	
%RUSTA	-	-	HIS	-	-	>=C20	-	-	
%DASH	35	35	LEU	-	-	Sum FA	-	-	
DASHmax	75	75	TYR	-	-				
			VAL	-	-	% FA in CFAT-fraction	-	-	
			ALA	-	-				
			ASP	-	-				
Nutritional value (in DM)			GLU	-	-				
Ruminants			GLY	-	-				
VEM		799 /kg	PRO	-	-	FP	55	-	
VEVI		837 /kg	SER	-	-	LA	-	-	
FOMr-91		565 g/kg	Sum AA	-	-	AC	-	-	
FOMr-07		563 g/kg				ETH	-	-	
FOMr2-07		140 g/kg				PR	-	-	
FOMr2/FOMr		0.25 /kg				BU	-	-	
DVE-91		87 g/kg	Horses			GPC	-	-	
DVE-07		89 g/kg	DCCP	56 %					
OEB-91		-45 g/kg	DCOM	84 %					
OEB-07		-48 g/kg	NEm	6.85 MJ/kg		NH3	6		
OEB2-07		-7 g/kg	NEm	1638 kcal/kg					
DVMET-91		-	EWpa	0.77 /kg					
DVLYS-91		-	DCPho	58 g/kg					
DVMET-07		-							
DVLYS-07		-							
SW		1.40 /kg							
VW		0.69 /kg							

Sugarbeets, fresh 4004.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	260	190	41	41	5	-	45	719	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	600	-	-	-	185	185
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	-	1.6	-	-	8.0	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	5.0
DCCP	27		CP		41	<=C10	-
DCCFAT	20		LYS	-	-	C12:0	-
DCCF	71		MET	-	-	C14:0	-
DCNFE	95		CYS	-	-	C16:0	-
DCOM	90		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	58	61	ARG	-	-	C18:2	-
%DRUP	60	60	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	50	50	LEU	-	-	Sum FA	-
DASHmax	110	110	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		931 /kg	PRO	-	-	FP	-
VEVI		1033 /kg	SER	-	-	LA	-
FOM-91		700 g/kg	Sum AA	-	-	AC	-
FOMr-07		708 g/kg				ETH	-
FOMr2-07		585 g/kg				PR	-
FOMr2/FOMr		0.83 /kg				BU	-
DVE-91		67 g/kg	Horses			Glycerol	-
DVE-07		77 g/kg	DCCP	27 %			
OEB-91		-90 g/kg	DCOM	86 %			
OEB-07		-107 g/kg	NEm	8.77 MJ/kg		NH3	-
OEB2-07		-97 g/kg	NEm	2096 kcal/kg			
DVMET-91		-	EWpa	0.98 /kg			
DVLYS-91		-	DCPho	17 g/kg			
DVMET-07		-					
DVLYS-07		-					
SW		0.80 /kg					
VW		0.69 /kg					

Sunflower, silage 5002.602/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	184	126	119	109	58	-	307	400	-
sd	24	26	-	12	-	-	35	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	-	-	-	614	614
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	18.0	3.7	-	3.2	38.2	0.3	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	230	30	57	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA g/kg DM		
			mean	sd	g/kg DM			
Ruminants						CFAT(h)	58.0	
DCCP	47		CP		109	<=C10	-	-
DCCFAT	-		LYS	-	-	C12:0	-	-
DCCF	-		MET	-	-	C14:0	-	-
DCNFE	-		CYS	-	-	C16:0	-	-
DCOM	69		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	30	30	ARG	-	-	C18:2	-	-
%DRUP	70	70	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	50	50	LEU	-	-	Sum FA	-	-
DASHmax	74	74	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		803 /kg	PRO	-	-	FP	100	-
VEVI		805 /kg	SER	-	-	LA	80	-
FOM-91		456 g/kg	Sum AA	-	-	AC	20	-
FOMr-07		481 g/kg				ETH	-	-
FOMr2-07		198 g/kg				PR	-	-
FOMr2/FOMr		0.41 /kg				BU	-	-
DVE-91		46 g/kg	Horses			Glycerol	-	-
DVE-07		36 g/kg	DCCP	45 %				
OEB-91		10 g/kg	DCOM	58 %				
OEB-07		25 g/kg	NEm	5.38 MJ/kg		NH3	8	
OEB2-07		54 g/kg	NEm	1285 kcal/kg				
DVMET-91		-	EWpa	0.60 /kg				
DVLYS-91		-	DCPho	49 g/kg				
DVMET-07		-						
DVLYS-07		-						
SW		2.66 /kg						
VW		1.00 /kg						

Sweet pepper, fresh 6009.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	125	62	163	163	37	-	176	562	-
sd	-	-	-	-	-	-	-	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	375	-	-	-	376	376
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.2	2.9	-	-	-	-	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)		37.0
DCCP	56		CP		163	<=C10	-	-
DCCFAT	70		LYS	-	-	C12:0	-	-
DCCF	50		MET	-	-	C14:0	-	-
DCNFE	83		CYS	-	-	C16:0	-	-
DCOM	72		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	51	51	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)			GLU	-	-			
Ruminants			GLY	-	-			
VEM		864 /kg	PRO	-	-	FP	-	-
VEVI		880 /kg	SER	-	-	LA	-	-
FOM-91		541 g/kg	Sum AA	-	-	AC	-	-
FOMr-07		670 g/kg				ETH	-	-
FOMr2-07		409 g/kg				PR	-	-
FOMr2/FOMr		0.61 /kg				BU	-	-
DVE-91		108 g/kg	Horses			Glycerol	-	-
DVE-07		125 g/kg	DCCP	-	-			
OEB-91		-22 g/kg	DCOM	-	-	% of CP		
OEB-07		-50 g/kg	NEm	-	-	NH3	-	-
OEB2-07		-52 g/kg	NEm	-	-			
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.60 /kg						
VW		0.55 /kg						

Tomatoes, fresh 6015.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	63	90	164	164	47	-	96	603	-
sd	-	-	-	-	-	-	-	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	450	-	110	-	265	265
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	1.9	4.9	-	1.9	42.0	1.4	-	-
sd	-	-	-	-	-	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids		
			g/16g N			% FA		
			mean	sd	g/kg DM	g/kg DM		
Ruminants						CFAT(h)	47.0	
DCCP	76		CP		164	<=C10	-	-
DCCFAT	55		LYS	-	-	C12:0	-	-
DCCF	60		MET	-	-	C14:0	-	-
DCNFE	88		CYS	-	-	C16:0	-	-
DCOM	81		THR	-	-	C16:1	-	-
			TRP	-	-	C18:0	-	-
DVE	1991	2007	ILE	-	-	C18:1	-	-
%RUP	58	61	ARG	-	-	C18:2	-	-
%DRUP	75	75	PHE	-	-	C18:3	-	-
%RUSTA	-	-	HIS	-	-	>=C20	-	-
%DASH	65	65	LEU	-	-	Sum FA	-	-
DASHmax	71	71	TYR	-	-			
			VAL	-	-	% FA in CFAT-fraction	-	-
			ALA	-	-			
			ASP	-	-			
Nutritional value (in DM)								
Ruminants			GLU	-	-			
VEM		977 /kg	GLY	-	-			
VEVI		1037 /kg	PRO	-	-	FP	-	-
FOM-91		597 g/kg	SER	-	-	LA	-	-
FOMr-07		667 g/kg	Sum AA	-	-	AC	-	-
FOMr2-07		467 g/kg				ETH	-	-
FOMr2/FOMr		0.70 /kg				PR	-	-
DVE-91		120 g/kg	Horses			BU	-	-
DVE-07		132 g/kg	DCCP	-	-	Glycerol	-	-
OEB-91		-30 g/kg	DCOM	-	-			
OEB-07		-49 g/kg	NEm	-	-	% of CP		
OEB2-07		-62 g/kg	NEm	-	-	NH3	-	-
DVMET-91		-	EWpa	-	-			
DVLYS-91		-	DCPho	-	-			
DVMET-07		-						
DVLYS-07		-						
SW		0.60 /kg						
VW		0.55 /kg						

Wheat straw 1010.508/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	878	84	41	41	12	-	418	446	-
sd	58	24	-	15	-	-	31	-	-

	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	-	-	-	-	745	489	-	863	118
sd	-	-	-	-	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	4.3	0.9	-	0.7	14.8	0.3	-	-
sd	-	0.3	-	0.2	3.0	-	-	-

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	-	-	-	-	-	-	-
sd	-	-	-	-	-	-	-

IP/P	-	SUGe/SUG	-	EB (meq/kg)	-
		CF_DI	0.97	CAD (meq/kg)	-

Digestibility coefficients (%)			Amino acids			Fatty acids	
			g/16g N		g/kg DM		% FA
Ruminants			mean	sd	g/kg DM	CFAT(h)	12.0
DCCP	23		CP		41	<=C10	-
DCCFAT	41		LYS	-	-	C12:0	-
DCCF	48		MET	-	-	C14:0	-
DCNFE	38		CYS	-	-	C16:0	-
DCOM	42		THR	-	-	C16:1	-
			TRP	-	-	C18:0	-
DVE	1991	2007	ILE	-	-	C18:1	-
%RUP	68	68	ARG	-	-	C18:2	-
%DRUP	70	70	PHE	-	-	C18:3	-
%RUSTA	-	-	HIS	-	-	>=C20	-
%DASH	35	35	LEU	-	-	Sum FA	-
DASHmax	36	36	TYR	-	-		
			VAL	-	-	% FA in CFAT-fraction	-
			ALA	-	-		
			ASP	-	-		
Nutritional value (in DM)			GLU	-	-		
Ruminants			GLY	-	-		
VEM		425 /kg	PRO	-	-	FP	-
VEVI		343 /kg	SER	-	-	LA	-
FOMr-91		344 g/kg	Sum AA	-	-	AC	-
FOMr-07		264 g/kg				ETH	-
FOMr2-07		26 g/kg				PR	-
FOMr2/FOMr		0.10 /kg				BU	-
DVE-91		10 g/kg	Horses			Glycerol	-
DVE-07		-5 g/kg	DCCP	19 %			
OEB-91		-41 g/kg	DCOM	31 %			
OEB-07		-18 g/kg	NEm	2.53 MJ/kg		NH3	-
OEB2-07		8 g/kg	NEm	604 kcal/kg			
DVMET-91		-	EWpa	0.28 /kg			
DVLYS-91		-	DCPho	8 g/kg			
DVMET-07		-					
DVLYS-07		-					
SW		4.30 /kg					
VW		1.66 /kg					

Whole crop silage (cereal) 5055.000/0/0

Weende analysis and carbohydrates (g/kg DM)

	DM	ASH	CPin	CP	CFAT	CFATh	CF	NFE	NFEh
mean	325	79	122	110	30	-	248	533	-
sd	84	34	-	28	-	-	35	-	-
	STAew	STAam	GOS	SUG	NDF	ADF	ADL	NSP	RNSP
mean	149	130	-	14	-	-	-	541	541
sd	110	-	-	8	-	-	-	-	-

Minerals (g/kg DM)

	Ca	P	IP	Mg	K	Na	Cl	S
mean	3.7	3.0	-	1.4	19.4	0.5	6.1	1.9
sd	1.7	0.6	-	0.3	6.0	0.5	-	0.4

Trace elements (mg/kg DM)

	Fe	Mn	Zn	Cu	Mo	J	Co
mean	275	53	38	5	1.3	-	0.1
sd	172	27	15	2	0.7	-	0.1

IP/P	-	SUGe/SUG	-	EB (meq/kg)	349
		CF_DI	0.97	CAD (meq/kg)	231

Digestibility coefficients (%)			Amino acids			Fatty acids			
			g/16g N			% FA g/kg DM			
			mean	sd	g/kg DM				
Ruminants						CFAT(h)	30.0		
DCCP	63		CP		110	<=C10	-	-	
DCCFAT	-		LYS	2.6	0.2	2.9	C12:0	-	-
DCCF	-		MET	1.0	0.1	1.1	C14:0	-	-
DCNFE	-		CYS	0.7	0.1	0.8	C16:0	-	-
DCOM	68		THR	2.9	0.2	3.2	C16:1	-	-
			TRP	0.6	0.1	0.6	C18:0	-	-
DVE	1991	2007	ILE	3.1	0.2	3.4	C18:1	-	-
%RUP	35	36	ARG	1.5	0.4	1.7	C18:2	-	-
%DRUP	50	50	PHE	3.4	0.4	3.7	C18:3	-	-
%RUSTA	9	7	HIS	1.2	0.1	1.3	>=C20	-	-
%DASH	35	35	LEU	5.1	0.5	5.6	Sum FA	-	-
DASHmax	34	34	TYR	-	-	-			
			VAL	4.2	0.3	4.7	% FA in CFAT-fraction	-	
			ALA	6.9	1.1	7.6			
Nutritional value (in DM)			ASP	4.9	1.2	5.4			
Ruminants			GLU	9.9	1.2	10.9			
VEM		794 /kg	GLY	4.1	0.3	4.5		g/kg DM	sd
VEVI		792 /kg	PRO	4.5	1.4	5.0	FP	100	-
FOMr-91		489 g/kg	SER	2.8	0.2	3.1	LA	80	-
FOMr-07		503 g/kg	Sum AA	59.5	-	-	AC	20	-
FOMr2-07		295 g/kg					ETH	-	-
FOMr2/FOMr		0.59 /kg					PR	-	-
DVE-91		45 g/kg	Horses				BU	-	-
DVE-07		38 g/kg	DCCP	50 %			Glycerol	-	-
OEB-91		1 g/kg	DCOM	64 %			% of CP		
OEB-07		12 g/kg	NEm	6.47 MJ/kg		NH3	10		
OEB2-07		29 g/kg	NEm	1547 kcal/kg					
DVMET-91		1.0 g/kg	EWpa	0.72 /kg					
DVLYS-91		2.7 g/kg	DCPho	55 g/kg					
DVMET-07		0.9 g/kg							
DVLYS-07		2.4 g/kg							
SW		2.51 /kg							
VW		0.76 /kg							

Alfabetic index (EN, NL)

Code	English	Dutch	
1005.000	Barley	Gerst	2
1005.112	Barley feed, high grade	Gersteslijpmeel	4
1005.105	Barley, mill by-product	Gerstevoermeel	6
9011.001	Biscuits, ground CFATh < 120 g/kg	Biscuitmeel, RVETH < 120 g/kg	8
9011.002	Biscuits, ground CFATh > 120 g/kg	Biscuitmeel, RVETH > 120 g/kg	10
8002.657	Bloodmeal, spray dried	Bloedmeel, spray gedroogd	12
8005.000	Bone meal	Beendermeel	14
1010.612	Bread (remains)	Broodmeel	16
1005.301	Brewer's grains, dried	Bierbostel, gedroogd	18
9001.315	Brewer's yeast, dried	Biergist, gedroogd	20
1009.000	Canary seed	Kanariezaad	22
7008.000	Carob pods	Johannesbrood	24
8010.000	Casein	Caseine	26
4015.209	Chicory pulp, dried	Cichoreipulp, gedroogd	28
6022.305	Citrus pulp	Citruspulp	30
3015.401	Copra cake	Kokosschilfers	32
3015.401	Copra cake	Kokosschilfers	34
3015.407	Copra meal	Kokosschroot	36
3018.401	Cotton seed meal, expeller	Katoenzaadschilfers	38
3018.401	Cotton seed meal, expeller	Katoenzaadschilfers	40
3018.401	Cotton seed meal, expeller	Katoenzaadschilfers	42
3018.000	Cotton seeds	Katoenzaad	44
3018.000	Cotton seeds	Katoenzaad	46
3018.407	Cottonseed meal, extracted	Katoenzaadschroot	48
3018.407	Cottonseed meal, extracted	Katoenzaadschroot	50
3018.407	Cottonseed meal, extracted	Katoenzaadschroot	52
1002.310	DDGS, Maize	DDGS, Mais	54
1010.310	DDGS, Wheat	DDGS, Tarwe	56
8006.000	Fat/oil, Animal fat	Vet/olie, Dierlijk	58
8006.000	Fat/oil, Animal fat	Vet/olie, Dierlijk	60
3015.421	Fat/oil, Coconut oil	Vet/olie, Kokosvet	62
8015.425	Fat/oil, Fish oil	Vet/olie, Visolie	64
2013.421	Fat/oil, Groundnut oil	Vet/olie, Grondnootolie (arachideolie)	66
8050.425	Fat/oil, Lard	Vet/olie, Varkensvet	68
3006.437	Fat/oil, Linseed oil	Vet/olie, Lijnolie	70
1002.421	Fat/oil, Maize oil	Vet/olie, Maisolie	72
7001.421	Fat/oil, Olive oil	Vet/olie, Olijfolie	74
3001.437	Fat/oil, Palm oil, chemically refined	Vet/olie, Palmolie, chem. geraffineerd	76
3001.421	Fat/oil, Palmkernel oil, chemically refined	Vet/olie, Palmpitolie, chem. geraf.	78

Code	English	Dutch	
8051.425	Fat/oil, Poultry fat	Vet/olie, Kippenvet	80
3009.437	Fat/oil, Rapeseed oil	Vet/olie, Raapzaadolie	82
3013.425	Fat/oil, Safflower oil	Vet/olie, Saffloerolie	84
3012.421	Fat/oil, Soya oil	Vet/olie, Sojaolie	86
3003.421	Fat/oil, Sunflower oil, refined	Vet/olie, Zonnebloemolie, geraffineerd	88
8020.000	Fat/oil, Tallow	Vet/olie, Rundvet	90
8003.629	Feather meal, hydrolysed	Verenmeel, gehydrolyseerd	92
2001.616	Feed beans, heat treated	Bonen (Phaseolus), verhit	94
8015.000	Fish meal, treated	Vismeeel, behandeld	96
8015.000	Fish meal, treated	Vismeeel, behandeld	98
8015.000	Fish meal, treated	Vismeeel, behandeld	100
8015.000	Fish meal, treated	Vismeeel, behandeld	102
5010.610	Grass meal	Grasmeel/-brok	104
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Code	English	Dutch	
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8009.626	Whey powder, low lactose	Weipoeder, melksuikerarm	406
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1005.313	Brewer's grains, traditional process	Bierbostel, traditioneel proces	412
1005.313	Brewer's grains, traditional process	Bierbostel, traditioneel proces	414
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9001.314	Brewer's yeast, liquid	Biergist, vloeibaar	418
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8023.000	Cheese whey, fresh	Kaaswei, vers	426
8023.000	Cheese whey, fresh	Kaaswei, vers	428
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1002.517	Corn cob mix (CCM), silage	Corn Cob Mix (CCM), kuil	434
1002.517	Corn cob mix (CCM), silage	Corn Cob Mix (CCM), kuil	436
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4001.637	Potato cuttings/chips, prefried	Aardappelsnippers, voorgebakken	448
4001.637	Potato cuttings/chips, prefried	Aardappelsnippers, voorgebakken	450
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4001.208	Potato fruit-juice concentrated	Aardappeldiksap	454
4001.638	Potato peelings, steamed	Aardappelstoomschillen, vers en kuil	456
4001.638	Potato peelings, steamed	Aardappelstoomschillen, vers en kuil	458
4001.638	Potato peelings, steamed	Aardappelstoomschillen, vers en kuil	460
4001.638	Potato peelings, steamed	Aardappelstoomschillen, vers en kuil	462
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4001.226	Potato pulp, pressed, Dutch origin	Aardappelpersvezels, vers en kuil, NL	466
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4001.231	Potato starch, gelatinised	Aardappelzetmeel, ontsloten, vers	470

Code	English	Dutch	
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4001.231	Potato starch, gelatinised	Aardappelzetmeel, ontsloten, vers	474
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4001.222	Potato starch, untreated, liquid	Aardappelzetmeel, niet ontsl., vloeibaar	478
4001.222	Potato starch, untreated, liquid	Aardappelzetmeel, niet ontsl., vloeibaar	480
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1010.234	Wheat starch	Tarwezetmeel	488
1010.234	Wheat starch	Tarwezetmeel	490
1010.234	Wheat starch	Tarwezetmeel	492
1010.236	Wheat starch, French origin	Tarwezetmeel, Franse herkomst	494
1010.236	Wheat starch, French origin	Tarwezetmeel, Franse herkomst	496
1010.689	Wheat yeast concentrate	Tarwegistconcentraat	498
1010.689	Wheat yeast concentrate	Tarwegistconcentraat	500
1010.689	Wheat yeast concentrate	Tarwegistconcentraat	502
6020.000	Apples, fresh	Appelen, vers	506
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2001.508	Bean straw (Phaseolus)	Bonenstro (Phaseolus)	508
2002.508	Bean straw (Vicia)	Bonenstro (Vicia)	509
4010.000	Beetroot	Kroten, rode biet	510
6023.102	Cabbage (Brussels sprouts)	Kool (spruitkool)	511
6023.101	Cabbage (Brussels sprouts, stem and leaves)	Kool (spruitkool, kop+stengels)	512
6023.103	Cabbage (cauliflower)	Kool (bloemkool)	513
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6023.000	Cabbage (red/white/sav.), fresh	Kool (rood/wit/sav.), vers	515
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6023.104	Cabbage (winterrape)	Kool (bladkool)	517
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4015.642	Chicory leaves, fresh	Cichoreiloof, vers	520
6019.644	Chicory roots, forced, clean	Witlofwortelen, getrokken, schoon	521
6019.643	Chicory roots, not forced	Witlofwortelen, niet getrokken	522
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5003.602	Clover red, ensiled	Klaver rode, kuil	524
5003.000	Clover red, fresh	Klaver rode, vers	525
5003.606	Clover red, hay	Klaver rode, hooi	526
5003.508	Clover red, straw	Klaver rode, stro	527
6006.000	Cucumber, fresh	Komkommer, vers	528

Code	English	Dutch	
6010.000	Endive, fresh	Andijvie, vers	529
5001.602	Field beans (<i>Vicia faba</i>) ensiled	Veldbonen (<i>Vicia faba</i>), ingekuild	530
4005.000	Fodderbeets, fresh	Voederbietten, vers	531
6018.000	Gherkin, fresh	Augurk, vers	532
5010.701	Grass hay, a) poor quality	Grashooi, a) matig	533
5010.702	Grass hay, b) average quality	Grashooi, b) gemiddeld	534
5010.703	Grass hay, c) good quality	Grashooi, c) goed	535
5010.704	Grass hay, d) horses, fine	Grashooi, d) paarden, fijn	536
5010.705	Grass hay, e) horses, middle	Grashooi, e) paarden, middel	537
5010.711	Grass hay, f) horses, course	Grashooi, f) paarden, grof	538
5010.508	Grass seed straw	Graszaadstro	539
5010.140	Grass silage, a) clay soil, before 21 June	Graskuil, a) kleigrond, vóór 21 juni	540
5010.141	Grass silage, b) sandy soil, before 21 June	Graskuil, b) zandgrond, vóór 21 juni	541
5010.142	Grass silage, c) peat soil, before 21 June	Graskuil, c) veengrond, vóór 21 juni	542
5010.150	Grass silage, d) clay soil, 21 June - 21 August	Graskuil, d) kleigrond, 21 juni - 21 augustus	543
5010.151	Grass silage, e) sandy soil, 21 June - 21 August	Graskuil, e) zandgrond, 21 juni - 21 augustus	544
5010.152	Grass silage, f) peat soil, 21 June - 21 August	Graskuil, f) veengrond, 21 juni - 21 augustus	545
5010.160	Grass silage, g) clay soil, after 21 August	Graskuil, g) kleigrond, na 21 augustus	546
5010.161	Grass silage, h) sandy soil, after 21 August	Graskuil, h) zandgrond, na 21 augustus	547
5010.162	Grass silage, i) peat soil, after 21 August	Graskuil, i) veengrond, na 21 augustus	548
5010.170	Grass silage, j) average	Graskuil, j) gemiddelde	549
5010.190	Grass silage, k) horses, fine	Graskuil, k) paarden, fijn	550
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5010.609	Grass, artificially dried	Gras, kunstmatig gedroogd	553
5010.910	Grass, fresh, a) clay soil, before 21 June	Gras, vers, a) kleigrond, vóór 21 juni	554
5010.911	Grass, fresh, b) sandy soil, before 21 June	Gras, vers, b) zandgrond, vóór 21 juni	555
5010.912	Grass, fresh, c) peat soil, before 21 June	Gras, vers, c) veengrond, vóór 21 juni	556
5010.920	Grass, fresh, d) clay soil, 21 June - 21 August	Gras, vers, d) kleigrond, 21 juni - 21 augustus	557
5010.921	Grass, fresh, e) sandy soil, 21 June - 21 August	Gras, vers, e) zandgrond, 21 juni - 21 augustus	558
5010.922	Grass, fresh, f) peat soil, 21 June - 21 August	Gras, vers, f) veengrond, 21 juni - 21 augustus	559
5010.930	Grass, fresh, g) clay soil, after 21 August	Gras, vers, g) kleigrond, na 21 augustus	560
5010.931	Grass, fresh, h) sandy soil, after 21 August	Gras, vers, h) zandgrond, na 21 augustus	561
5010.932	Grass, fresh, i) peat soil, after 21 August	Gras, vers, i) veengrond, na 21 augustus	562
5010.940	Grass, fresh, j) average	Gras, vers, j) gemiddelde	563
5010.991	Grass, fresh, k) horses, cont. grazing	Gras, vers, k) paarden, standweide	564
5010.990	Grass, fresh, l) horses, fresh pasture	Gras, vers, l) paarden, verse weide	565
5037.602	Grass/clover, silage	Gras/klaver, kuil	566
5037.602	Grass/clover, silage	Gras/klaver, kuil	568

Code	English	Dutch	
5028.000	Green cereals, fresh	Snijgraan, vers	570
5028.602	Green cereals, silage	Snijgraan, kuil	571
6012.000	Leek, fresh	Prei, vers	572
6014.000	Lettuce, fresh	Sla, vers	573
5004.609	Lucerne (alfalfa), artificially dried	Luzerne, kunstmatig gedroogd	574
5004.602	Lucerne (alfalfa), ensiled	Luzerne, kuil	575
5004.000	Lucerne (alfalfa), fresh	Luzerne, vers	576
5004.606	Lucerne (alfalfa), hay	Luzerne, hooi	577
5008.000	Maize fresh, chopped	Snijmais, vers	578
5008.000	Maize fresh, chopped	Snijmais, vers	579
5008.000	Maize fresh, chopped	Snijmais, vers	580
5008.000	Maize fresh, chopped	Snijmais, vers	581
5008.602	Maize silage	Snijmais, kuil	582
5008.602	Maize silage	Snijmais, kuil	583
5008.602	Maize silage	Snijmais, kuil	584
5008.602	Maize silage	Snijmais, kuil	585
5008.610	Maize, artificially dried	Snijmais, kunstmatig gedroogd,	586
1004.508	Oats straw	Haverstro	587
4009.000	Onions, fresh	Uien, vers	588
5007.639	Pea leaves, ensiled	Erwtenloof, kuil	589
5007.642	Pea leaves, fresh	Erwtenloof, vers	590
5007.508	Pea straw	Erwtenstro	591
6021.000	Pears, fresh	Peren, vers	592
4001.525	Potato peelings, ensiled	Aardappelen, schillenkui	593
4001.000	Potatoes, fresh	Aardappelen, vers	594
4001.602	Potatoes, raw, ensiled	Aardappelen, rauw, kuil	595
3009.508	Rape seed straw	Raapzaadstro	596
1007.508	Rye straw	Roggestro	597
6008.000	Spinach, fresh	Spinazie, vers	598
4004.647	Sugarbeet leaves with tops, fresh	Bietenblad met koppen, vers	599
4004.642	Sugarbeet leaves, fresh	Bietenblad, vers	600
4004.639	Sugarbeet leaves, silage	Bietenblad, kuil	601
4004.617	Sugarbeet rests, ensiled	Bietenstaartjes, kuil	602
4004.000	Sugarbeets, fresh	Suikerbieten, vers	603
5002.602	Sunflower, silage	Zonnebloemen, kuil	604
6009.000	Sweet pepper, fresh	Paprika, vers	605
6015.000	Tomatoes, fresh	Tomaten, vers	606
1010.508	Wheat straw	Tarwestro	607
5055.000	Whole crop silage (cereal)	Gehele planten silage (graan)	608

Code	English	Dutch	
5028.000	Green cereals, fresh	Snijgraan, vers	570
5028.602	Green cereals, silage	Snijgraan, kuil	571
6012.000	Leek, fresh	Prei, vers	572
6014.000	Lettuce, fresh	Sla, vers	573
5004.609	Lucerne (alfalfa), artificially dried	Luzerne, kunstmatig gedroogd	574
5004.602	Lucerne (alfalfa), ensiled	Luzerne, kuil	575
5004.000	Lucerne (alfalfa), fresh	Luzerne, vers	576
5004.606	Lucerne (alfalfa), hay	Luzerne, hooi	577
5008.000	Maize fresh, chopped	Snijmais, vers	578
5008.000	Maize fresh, chopped	Snijmais, vers	579
5008.000	Maize fresh, chopped	Snijmais, vers	580
5008.000	Maize fresh, chopped	Snijmais, vers	581
5008.602	Maize silage	Snijmais, kuil	582
5008.602	Maize silage	Snijmais, kuil	583
5008.602	Maize silage	Snijmais, kuil	584
5008.602	Maize silage	Snijmais, kuil	585
5008.610	Maize, artificially dried	Snijmais, kunstmatig gedroogd,	586
1004.508	Oats straw	Haverstro	587
4009.000	Onions, fresh	Uien, vers	588
5007.639	Pea leaves, ensiled	Erwtenloof, kuil	589
5007.642	Pea leaves, fresh	Erwtenloof, vers	590
5007.508	Pea straw	Erwtenstro	591
6021.000	Pears, fresh	Peren, vers	592
4001.525	Potato peelings, ensiled	Aardappelen, schillenkui	593
4001.000	Potatoes, fresh	Aardappelen, vers	594
4001.602	Potatoes, raw, ensiled	Aardappelen, rauw, kuil	595
3009.508	Rape seed straw	Raapzaadstro	596
1007.508	Rye straw	Roggestro	597
6008.000	Spinach, fresh	Spinazie, vers	598
4004.647	Sugarbeet leaves with tops, fresh	Bietenblad met koppen, vers	599
4004.642	Sugarbeet leaves, fresh	Bietenblad, vers	600
4004.639	Sugarbeet leaves, silage	Bietenblad, kuil	601
4004.617	Sugarbeet rests, ensiled	Bietenstaartjes, kuil	602
4004.000	Sugarbeets, fresh	Suikerbieten, vers	603
5002.602	Sunflower, silage	Zonnebloemen, kuil	604
6009.000	Sweet pepper, fresh	Paprika, vers	605
6015.000	Tomatoes, fresh	Tomaten, vers	606
1010.508	Wheat straw	Tarwestro	607
5055.000	Whole crop silage (cereal)	Gehele planten silage (graan)	608

10.4 Mineral feedstuffs

Mineral feedstuff	Composition ^a					Standardised and apparent P digestibility pigs (resp. StaDCP and AppDCP; %) ^{**}			DCPpo poultry
	Na	Cl	Ca	Mg	P	min	max	mean	mean
Salt	380	570							
Limestone			380						
Monosodium phosphate.0H ₂ O; NaH ₂ PO ₄	190				239			87 ^b	
Monosodium phosphate.1H ₂ O; NaH ₂ PO ₄ .1 H ₂ O	167				225			89 ^b	91
Disodium phosphate	250				174	87.5	93.0	90	
Monocalcium phosphate.1H ₂ O Ca(H ₂ PO ₄) ₂ .H ₂ O Origin: Belgium and Scandinavia			160		226	82.5	84.2	83	85
Monocalcium phosphate: CaHPO ₄ .Ca(H ₂ PO ₄) ₂ .H ₂ O			*		*	74.0	87.4	82	79
Dicalcium phosphate.0 H ₂ O			250		200	62.7	72.1	65	55
Dicalcium phosphate.2 H ₂ O			240		182	68.8	79.9	71	78
Sodium calcium phosphate	60		311		181				60
Calcium magnesium phosphate Mg(H ₂ PO ₄) ₂ Ca(H ₂ PO ₄) ₂ .H ₂ O			100	100	200			84	
Sodium magnesium phosphate; NaMgPO ₄	131		78	41	173			81 ^b	
Magnesium oxide 80 %				480					
Magnesium oxide 72 %				436					

^a: The mineral composition in this Table is based on the molecular relationships in the pure product.

^b: This figure is based on only one digestibility trial with a product form one manufacturer.

*: the Ca/P ratio in this product is not constant.

^{**}: Because of the high P contents the standardised and apparent P digestibilities only differ 0.1% from each other. After rounding the values for both parameters the values for both are the same.

10.5 Miscellaneous

10.5.1 Energy values organic acids

10.5.1.1 ATP yielding capacity for organic acids, glucose, sucrose and starch

	Molecular formula	Molecular mass	ATP (mol/mol) Literature based	ATP-yield (Mol/g)	ATP yield relative to starch (%)
Ethanol	C ₂ H ₆ O	46	15	0.3261	146.74
Malic acid	C ₄ H ₆ O ₅	134	17	0.1269	57.09
Acetic acid	C ₂ H ₄ O ₂	60	10	0.1667	75.00
Buteric acid	C ₄ H ₈ O ₂	88	27	0.3068	138.07
Citric acid	C ₆ H ₈ O ₇	192	26	0.1354	60.94
Fumaric acid	C ₄ H ₄ O ₄	116	17	0.1466	65.95
Lactic acid	C ₃ H ₆ O ₃	90	17	0.1889	85.00
Propionic acid	C ₃ H ₆ O ₂	74	17	0.2297	103.38
Propylene glycol	C ₃ H ₈ O ₂	76	21	0.2763	124.34
Glycerol	C ₃ H ₈ O ₃	92	20	0.2174	97.83
Glucose	C ₆ H ₁₂ O ₆	180	36	0.2000	90.00
Sucrose	C ₁₂ H ₂₂ O ₁₁	342	72	0.2105	94.74
Starch	C ₆ H ₁₀ O ₅ ¹⁾	162	36	0.2222 ²⁾	100.00

¹⁾: The molecular formula represents a glucose unit within starch.

²⁾ The ATP yield is based on an ATP yield of 36 Mol ATP per g of glucose. The earlier Feed Table 2011 had a high ATP yield of 0.2346 Mol per g of glucose and was based on a ATP yield of 38 Mol per Mol of glucose.

10.5.1.2 VEM en VEVI values of organic acids, glucose, sucrose, and starch

	ATP yield relative to starch (%)	VEM	VEVI	ATP loss due to fermentation (%)	VEM	VEVI
		Excluding fermentation loss			Including fermentation loss	
Ethanol	146.74	2385	2759	10	2146	2483
Acetic acid	75.00	1219	1410	0	1219	1410
Buteric acid	138.07	2244	2596	0	2244	2596
Lactic acid	85.00	1381	1598	10	1243	1438
Propionic acid	103.38	1680	1944	0	1680	1944
Propylene glycol	124.34	2021	2338	0	2021	2338
Glycerol	97.83	1590	1839	30	1113	1287
Glucose	90.00	1463	1692	30	1024	1184
Sucrose	94.74	1539	1781	30	1078	1247
Starch	100.00	1625	1880	25	1219	1410

10.5.1.3 *NE₂₀₁₅, EW₂₀₁₅, ME_{Epo}, ME_{Ia}, and ME_{Br} values of organic acids, glucose, sucrose and starch*

	ATP yield relative to starch (%)	NE ₂₀₁₅ (MJ/kg)	EW ₂₀₁₅	OE _{Pl} = OE _{Ih} = OE _{Vlk} (MJ/kg)
Ethanol	146.74	20.75	2.36	25.42
Malic acid	57.09	8.07	0.92	9.89
Acetic acid	75.00	10.61	1.21	12.99
Buteric acid	138.07	19.52	2.22	23.91
Citric acid	60.94	8.62	0.98	10.55
Fumaric acid	65.95	9.33	1.06	11.42
Lactic acid	85.00	12.02	1.37	14.72
Propionic acid	103.38	14.62	1.66	17.91
Propylene glycol	124.34	17.58	2.00	21.54
Glycerol	97.83	13.83	1.57	16.94
Glucose	90.00	12.73	1.45	15.59
Sucrose	94.74	13.40	1.52	16.41
Starch	100.00	14.14	1.61	17.32

10.5.2 Energy value amino acids

Amino acid *	mol ATP/ mol AA according Van Milgen (2002)	ATP yielding capacity relative to starch	NE ₂₀₁₅ at NE ₂₀₁₅ Sta = 14.14 MJ/kg	EW ₂₀₁₅ at NE ₂₀₁₅ Sta = 14.14 MJ/kg and EW ₂₀₁₅ = NE ₂₀₁₅ /8.8	ME _{Epo} , ME _{Ia} , ME _{Br} at ME DNFE = 17.32 MJ/kg
LYS	37	114	16.13	1.83	19.75
MET	29,5	89	12.60	1.43	15.43
THR	22	83	11.76	1.34	14.41
TRP	45	99	14.04	1.60	17.19
ILE	41	1.41	19.91	2.26	24.39
ARG	29	75	10.61	1.21	12.99
LEU	40	137	19.43	2.21	23.80
VAL	32	123	17.40	1.98	21.32
GLY	7	42	5.94	0.67	7.27

*: The energy values are valid for the pure products; for commercial products the energy values presented in this Table must be corrected for the inclusion percentage in the commercial product. For example; Lysine-HCl contains 78% LYS; the energy value of LYS shown in this Table must then be multiplied with the factor 0.78.

10.5.3 Protein value miscellaneous products

10.5.1.2.1 Protein value of urea in the DVE/OEB 1991 system

Product	CP g/kg	DVE g/kg	OEB g/kg
Urea (100 %) ^a	2920 ^b	0	2920

- a) Based on the purity of the commercial product the values shown in this Table should be adapted.
b) Based on N (= 46,6 %) x 6.25.