Database of the nutrient content of Australian feed ingredients

By Dr Amy Moss
University of New England

September 2020

AgriFutures® Chicken Meat

ISBN 978-1-76053-113-3

DATABASE OF THE NUTRIENT CONTENTS OF AUSTRALIAN FEED INGREDIENTS
Publication No. 20-078
Project No. PRJ 011564

Researcher Contact Details

Name: Dr Amy Moss
Address: University of New England,
Armidale,
NSW 2350 Australia

Phone: 02 6773 5217
Email: amoss22@une.edu.au

In submitting this report, the researcher has agreed to AgriFutures Australia publishing this material in its edited form.

AgriFutures Australia Contact Details

Building 007, Tooma Way
Charles Sturt University
Locked Bag 588
Wagga Wagga NSW 2650

02 6923 6900
info@agrifutures.com.au
www.agrifutures.com.au

Electronically published by AgriFutures Australia at www.agrifutures.com.au in September 2020

Introduction

Feed represents the primary cost of broiler production, thus the formulation of cost-effective diets that meet broiler nutritional requirements is critical. To ensure this objective is met, nutrient specifications of feed ingredients must be accurately determined. Due to the tight time constraints and fast pace of the industry, feed ingredients delivered to the feed mill are unable to be analysed via wet chemistry. Consequently, NIR calibrations are often used within integrated operations to estimate the nutrient composition of feedstuffs.

However, these readings often end up being received as 'historical' data as it can be a month before they reach the nutritionist due to practical constraints, or consultant nutritionists may not have access to NIR and must rely on book values. Therefore, Australian broiler nutritionists have expressed concern, as many nutrient specification databases contain dated information or lack Australian specific data. Additionally, databases used by nutritionists come from various sources; however, cross-checks of each figure contained in a database are tedious and costly, and the determination and use of some nutrients have been constantly evolving.

Therefore, this compilation of recent Australian and global feed ingredient data for commonly used Australian feed ingredients was created to assist Australian broiler nutritionists to achieve more precise diet formulation and realise improvements in production efficiency, reduced safety margins and feed costs.

I would like to sincerely thank AgriFutures Chicken Meat for funding this project. I am also extremely grateful for the support from the following companies to provide their data for inclusion and publication within the database; Adisseo, Ajinomoto, Cootamundra Oil Seeds, DuPont, Evonik, Poultry Hub Australia, Novus, Premier Nutrition and Rural Chemical Industries (RCI). I would also like to acknowledge the following open access databases that were included; Feed Grain Partnership, Brazilian Tables, Feedipedia and Feedtables.com.

Dr Amy Moss
The University of New England

Contacts

The authors are extremely grateful for the provision of this data by the companies listed within the database. For further details and information, please contact the below company representatives.

Company	Representative	Contact details
Adisseo	Dr Lihong Zhang	NIR and Analytical Services Specialist lihong.zhang@adisseo.com; T +65 6595 1694
Ajinomoto Animal Nutrition Europe	William Lambert	Scientific Coordinator, Innovation and Customer Success Department Lambert_William@eli.ajinomoto.com; T +33 0 1 4440 1216; M +33 0 6 7104 3237
Cootamundra Oilseeds	Suzanne Dicks	Senior Administrator-Office Manager suzanne@oilseeds.com.au; T +61 2 6942 1311; M +61 4 4758 4211; F +61 2 6942 4862
DuPont Nutrition and Biosciences	Ceinwen Evans	Senior Global Technical Services Manager Ceinwen.Evans@dupont.com
Evonik Australia	Amy Liu	Senior Business Manager, Nutrition & Care amy.liu@evonik.com; T +61 3 8581 8408; M +61 4 3367 4651; F +61 3 9544 5002
Feedipedia	Valérie Heuzé	Project Manager, Association Française de Zootechnie (AFZ) valerie.heuze@zootechnie.fr; www.feedipedia.org
INRAE-CIRAD-AFZ Feed Tables, “feedtables.com”	Gilles Tran	Project Manager, Association Française de Zootechnie (AFZ) gilles.tran@zootechnie.fr; www.feedtables.com
Novus International (Australia)	Matthew Bekker	Technical Manager, Oceania Matthew.Bekker@novusint.com; M +61 4 1142 8909
NSP database, Poultry Hub Australia	Dr Natalie Morgan	Research Fellow Poultry Nutrition nmorga20@une.edu.au; T +61 2 6773 5829; M +61 4 8464 9526
Premier Nutrition	Mick Hazzledine	Pig Product Director m.hazzledine@premiernutrition.co.uk; T +44 0 77 1253 1891
RCI	Amy Graetz	Sales – Monogastric sales@rci.com.au; T +61 2 9667 0700; M +61 4 8467 2758; F +61 2 9669 0430

Referenced open access data

Citation in tables	Reference
Brazillian Tables	Rostagno, H.S., Teixeira Albino, L.F., Hannas, M.I., Donzele, J.L., Sakomura, N.K., Perazzo, F.G., Saravia, A., Teixeira de Abreu, L.M., Rodrigues, P.B., Flávia de Oliveira, R., Luiz de Toledo Barreto, Brito, C.O. (2017) Brazilian Tables for Poultry and Swine, Feedstuff Composition and Nutritional Requirements, 4th Edition, Editor: Horacio Santiago Rostagno.
Bryden 2009	Bryden, W.L., Li, X., Ravindran, G., Hew, L.I., Ravindran, V. (2009) Ileal Digestible Amino Acid Values in Feedstuffs for Poultry. RIRDC Publication No 09/071, PRJ-002827.
Feed Grain Partnership	Little, S., McGrath, D. (2019) FGP Wheat, Barley & Sorghum Harvest Report 2018/19, Feed Grain Partnership.
Selle 2003	Selle, P.H., Walker, A.R., Bryden, W.L. (2003) Total and phytate-phosphorus contents and phytase activity of Australian-sourced feed ingredients for pigs and poultry. *Australian Journal of Experimental Agriculture* 43, 475-479.

Calculations

Details	Equation	Equation information
Net Energy Calculated from Choct 2019	NE (MJ/kg) = 0.808 × AMEn (MJ/kg) – 0.017 × CP (%) + 0.031 × EE (%)	NE = net energy (MJ/kg) AMEn = nitrogen corrected apparent metabolisable energy (MJ/kg) CP = crude protein (%) EE = ether extract (%)
Phytate	Phytate (g/kg)* = 3.546 × Phytate-P (g/kg)	
Required Sample Size The sample size required for an accurate estimation of the mean of a population was determined from the standard deviation from the dataset; the 'sub population'.	$N = (Z*SD/E)^2$	N = sample size Z or Z-score = 1.96 SD = standard deviation (average calculated from the dataset) E = margin of error. Calculated as +/– 1, 5 and 10 percentage units. For example, if dry matter = 884 g/kg = 88.4%, a margin of error of 1 percentage unit is equal to 0.884.

*This equation is derived from the fact that the atomic mass of phytate divided by the atomic mass of phytate-P (6 phosphorus atoms) is equal to 3.546. Thus, the proportion of phytate in a diet is 3.546 times the proportion of phytate-P in the diet.

Reference

Wu, S.B., Swick, R.A., Noblet, J., Rodgers, N., Cadogan, D. and Choct, M. (2019) Net energy prediction and energy efficiency of feed for broiler chickens. *Poultry science* **98**(3), 1222-1234.

Table of contents

Feed ingredient	Page
Cereals	
Barley	10
Corn	20
DDGS (corn)	30
DDGS (sorghum)	36
DDGS (wheat)	42
Millrun	48
Oats	54
Sorghum	62
Triticale	72
Wheat	80
Protein meals	
Blood meal (batch dried)	92
Blood meal (ring dried)	100
Blood meal (spray dried)	108
Canola meal (cold pressed)	116
Canola meal (expeller)	124
Canola meal (solvent)	132
Canola seed	142
Chick peas	150
Copra meal	156
Cottonseed meal	162
Faba beans	170
Lentils	176
Lucerne meal	182
Lupins	186
Meat and bone meal	194
Meat meal	202
Palm kernel meal	208
Peas	216
Safflower meal	224
Soybean meal (Australia)	228
Soybean meal (Argentina)	230
Soybean meal (Brazil)	234
Soybean meal (USA)	238
Soybean meal (full fat)	246
Sunflower meal	254
Fats and oils	
Canola oil	264
Poultry oil	268
Soybean oil	272
Sunflower oil	278
Tallow	282
Minerals	
Limestone	290
Monodicalcium phosphate	294

Abbreviations

AME	Apparent metabolisable energy
AMEn	Apparent metabolisable energy, nitrogen-corrected
ME	Metabolisable energy
MJ	Megajoules
NSP	Non-starch polysaccharides
SID	Standardised ileal digestibility
glu. acid/glu.	glutamic acid/glutamine

Key

Details	Information
Highlighted cells	A highlighted cell indicates that the number of samples tested is not above the number required for 95 or 90% accuracy and highlights the areas that require more samples. For example, the Sample Size Calculations for Barley show there are 140 samples, so it satisfies the requirement of 5 samples needed for 95% accuracy (NOT highlighted). However, for crude protein, 140 samples falls short as 2979 was calculated to be required to estimate the mean at 95% accuracy, (so it IS highlighted).
Cells with no content	No nutrient information is available.

Cereals

Barley

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Feed Grain Partnership			Poultry Hub Australia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	7		902.0	12	6.0	895.0	121	4.4			
ME												
AME (MJ)							11.7	121	0.29			
AMEn (MJ)												
Net energy												
Crude protein	89.1	7		89.0	12	15.0	102.0	121	11			
Ether extract				28.0	12	1.0	23.0	121	1.8			
Ash				23.0	12	1.0	21.0	121	1.1			
Crude fibre				46.0	12	5.0	69.0	121	4.7			
Acid detergent fibre												
Neutral detergent fibre												
Starch							502.0	121	15.5			
Total NSP										154.36	34	28.65
Soluble NSP										41.72	34	18.08
Insoluble NSP										112.64	34	28.05
Oligosaccharides										20.95	8	8.16
Total NSP: Rhamnose										0.34	21	0.48
Total NSP: Fucose										0.08	21	0.31
Total NSP: Ribose										0.69	10	1.17
Total NSP: Arabinose										20.53	21	9.66
Total NSP: Xylose										51.67	21	16.77
Total NSP: Mannose										6.40	21	6.13
Total NSP: Galactose										4.98	21	3.19
Total NSP: Glucose										70.50	21	14.73
Soluble NSP: Rhamnose										0.19	21	0.47
Soluble NSP: Fucose										0.08	21	0.31
Soluble NSP: Ribose										0.73	10	1.22
Soluble NSP: Arabinose										4.24	21	2.08
Soluble NSP: Xylose										4.77	21	3.18
Soluble NSP: Mannose										2.42	21	2.73
Soluble NSP: Galactose										2.54	21	2.96
Soluble NSP: Glucose										33.14	21	11.29
Insoluble NSP: Rhamnose										0.15	21	0.19
Insoluble NSP: Fucose												
Insoluble NSP: Ribose										0.03	10	0.03
Insoluble NSP: Arabinose										16.25	21	8.63
Insoluble NSP: Xylose										46.80	21	16.29
Insoluble NSP: Mannose										3.93	21	4.16
Insoluble NSP: Galactose										2.45	21	1.17
Insoluble NSP: Glucose										37.36	21	12.22
Oligo. NSP: Rhamnose										0.14	8	0.06
Oligo. NSP: Fucose										0.06	8	0.05
Oligo. NSP: Ribose										0.02	8	0.02
Oligo. NSP: Arabinose										0.09	8	0.03
Oligo. NSP: Xylose										0.11	8	0.11
Oligo. NSP: Mannose										3.15	8	2.61
Oligo. NSP: Galactose										2.21	8	0.67
Oligo. NSP: Glucose										15.17	8	6.22

Nutrient (g/kg as fed, unless otherwise specified)	DuPont			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter										892.3
ME										
AME (MJ)										11.7
AMEn (MJ)										
Net energy										
Crude protein										93.4
Ether extract										25.5
Ash										22.0
Crude fibre										57.5
Acid detergent fibre										
Neutral detergent fibre										
Starch										502.0
Total NSP										154.4
Soluble NSP										41.7
Insoluble NSP										112.6
Oligosaccharides										20.9
Total NSP: Rhamnose										0.34
Total NSP: Fucose										0.08
Total NSP: Ribose										0.69
Total NSP: Arabinose										20.53
Total NSP: Xylose										51.67
Total NSP: Mannose										6.40
Total NSP: Galactose										4.98
Total NSP: Glucose										70.50
Soluble NSP: Rhamnose										0.19
Soluble NSP: Fucose										0.08
Soluble NSP: Ribose										0.73
Soluble NSP: Arabinose										4.24
Soluble NSP: Xylose										4.77
Soluble NSP: Mannose										2.42
Soluble NSP: Galactose										2.54
Soluble NSP: Glucose										33.14
Insoluble NSP: Rhamnose										0.15
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										0.03
Insoluble NSP: Arabinose										16.25
Insoluble NSP: Xylose										46.80
Insoluble NSP: Mannose										3.93
Insoluble NSP: Galactose										2.45
Insoluble NSP: Glucose										37.36
Oligo. NSP: Rhamnose										0.14
Oligo. NSP: Fucose										0.06
Oligo. NSP: Ribose										0.02
Oligo. NSP: Arabinose										0.09
Oligo. NSP: Xylose										0.11
Oligo. NSP: Mannose										3.15
Oligo. NSP: Galactose										2.21
Oligo. NSP: Glucose										15.17

Barley

Australia (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Feed Grain Partnership			Poultry Hub Australia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium												
Digestible calcium												
Total phosphorus												
Available phosphorus				1.40	12	0.20						
Phytate phosphorus				2.20	12	0.10						
Phytate												
Linoleic acid												
Sodium												
Chloride												
Potassium												
Magnesium												
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine	3.4	7		3.50	12	0.70						
Total methionine	1.5	7		1.60	12	0.20						
Total threonine	3.0	7		3.20	12	0.40						
Total cysteine	2.0	7		2.10	12	0.20						
Total tryptophan	1.2	5		1.50	12	0.10						
Total arginine	4.5	7		4.80	12	0.50						
Total valine	4.4	7		4.70	12	0.80						
Total isoleucine	3.1	7		3.50	12	0.40						
Total leucine	6.1	7		6.60	12	0.60						
Total histidine	1.9	7		2.10	12	0.30						
Total serine	3.8	7										
Total glycine	3.8	7										
Total proline	9.0	7										
Total alanine	3.8	7										
Total phenylalanine	4.2	7										
Total aspartic acid	5.6	7										
Total glu. acid/glu.	19.3	7										
Lysine (SID)	2.9			2.70	12	0.50						
Methionine (SID)	1.4			1.40	12	0.10						
Threonine (SID)	2.3			2.40	12	0.30						
Cysteine (SID)	1.8			1.60	12	0.20						
Tryptophan (SID)	0.8			1.20	12	0.10						
Arginine (SID)	3.6			4.20	12	0.40						
Valine (SID)	3.6			3.80	12	0.60						
Isoleucine (SID)	2.6			3.00	12	0.40						
Leucine (SID)	5.1			5.80	12	0.50						
Histidine (SID)	1.6			1.80	12	0.30						
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	3.4											
Aspartic acid (SID)												
Glu. acid/glu. (SID)												

Nutrient (g/kg as fed, unless otherwise specified)	DuPont			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus	2.57	2	0.31				2.73	6	0.317	2.7
Available phosphorus										1.4
Phytate phosphorus	1.66	2					1.86	6	0.455	1.9
Phytate	5.89						6.60			6.2
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine				3.6	1					3.50
Total methionine				1.3	1					1.47
Total threonine				3.1	1					3.10
Total cysteine										2.05
Total tryptophan				1.1	1					1.27
Total arginine				4.9	1					4.73
Total valine				4.8	1					4.63
Total isoleucine				3.4	1					3.33
Total leucine				6.9	1					6.53
Total histidine				2.3	1					2.10
Total serine				4.4	1					4.10
Total glycine				3.9	1					3.85
Total proline										9.00
Total alanine				4.1	1					3.95
Total phenylalanine				4.8	1					4.50
Total aspartic acid				5.7	1					5.65
Total glu. acid/glu.				22.6	1					20.95
Lysine (SID)				2.5	1					2.70
Methionine (SID)				1.0	1					1.27
Threonine (SID)				1.9	1					2.20
Cysteine (SID)										1.70
Tryptophan (SID)				0.8	1					0.93
Arginine (SID)				3.6	1					3.80
Valine (SID)				3.5	1					3.63
Isoleucine (SID)				2.4	1					2.67
Leucine (SID)				5.2	1					5.37
Histidine (SID)				1.5	1					1.63
Serine (SID)				2.7	1					2.70
Glycine (SID)				2.3	1					2.30
Proline (SID)										
Alanine (SID)				2.7	1					2.70
Phenylalanine (SID)				3.6	1					3.50
Aspartic acid (SID)				3.4	1					3.40
Glu. acid/glu.				18.8	1					18.80

Barley

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Brazilian Tables			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	613		871.0	9	10.7	870.0			889.29	66	15.15
ME				113.0	3	4.2	11.1					
AME (MJ)												
AMEn (MJ)	11.51	318					11.85					
Net energy	9.19801											
Crude protein	104.9	613		108.0	9	12.9	103.0			103.15	67	10.05
Ether extract	24.6	318		17.0	9	3.7				18.56	66	4.16
Ash	2.2			21.6	9	1.7	22.0			21.16	66	2.33
Crude fibre	44.1			42.5	2	4.9	44.0			47.54	66	5.74
Acid detergent fibre	54.7			53.1	4	6.6	55.0					
Neutral detergent fibre	176.8			162	6	19.8	150.0					
Starch	523.6			521	4	6.6	534.0					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				87.2			871	17310	13	872	6275	23	762.9
ME				11.30									45.1
AME (MJ)				11.31									11.3
AMEn (MJ)							11.3	19	0.4	10.9	11	0.4	11.4
Net energy							8.971			8.693			9.0
Crude protein	104	64	15.89	100			135.5	15723	11	98	8737	23	107.1
Ether extract				23			23	4388	3	17	1251	3	20.5
Ash				25			29.9	4720	3	22	1578	2	20.6
Crude fibre				40			59.7	14398	8	47	6338	6	46.4
Acid detergent fibre				56			73.5	1090	9	56	503	8	58.1
Neutral detergent fibre				187			249.1	1068	32	187	509	19	185.3
Starch				524			685.4	9706	23	524	4011	18	552.0
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Barley

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Brazilian Tables			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.5	318		0.5	7	0.1	0.6			0.61	1	
Digestible calcium				0		0						
Total phosphorus	2.8	318		3.5	7	0.9	2.8			2.75	1	
Available phosphorus				0		0						
Phytate phosphorus	1.6	318		2.0	2	0.2	1.9					
Phytate	5.6736			7.092								
Linoleic acid												
Sodium	0.1	318		0.2	2	0.1	0.1			0.16	1	
Chloride				1.2	2	0.1	1.4			2	1	
Potassium	4.4	318		4.3	2	0.7	4.7			4.79	1	
Magnesium	1.0	318		1.3	2	0.2	1.0					
Manganese				0.162	2	0.0021	0.016					
Zinc				0.29	2	0.0141	0.025					
Copper				0.0722	2	0.0252	0.005					
Iron				1.16	2	0.587	0.085					
Selenium				0.0011	2	0.0001						
Cobalt												
Molybdenum							0.0003					
Choline												
Sulphur				1.3								
Total lysine	3.8	613		4.1			3.7			3.98	55	0.47
Total methionine	1.7	613		1.8			1.7			1.69	55	0.18
Total threonine	3.5	613		3.6			3.4			3.39	55	0.33
Total cysteine	2.3	613		2.6			2.3			2.15	55	0.22
Total tryptophan	1.3	268		1.3			1.3			1.16	55	0.33
Total arginine	5.2	613		5.3			5.1			5.04	55	0.58
Total valine	5.1	613		4.8			5.0			5.04	55	0.48
Total isoleucine	3.6	613		3.6			3.6			3.62	55	0.38
Total leucine	7.1	613		7.3			7.0			7.04	55	0.78
Total histidine	2.3	613		2.5			2.3			2.23	55	0.26
Total serine	4.4	613		4.6			4.3			3.9	55	0.44
Total glycine	4.2	613		4.4			4.1			4.16	55	0.4
Total proline	11	613		11.2			10.9			10.14	55	1.37
Total alanine	4.3	613		4.3						4.21	55	0.39
Total phenylalanine	5.2	613		5.2						5.12	55	0.67
Total aspartic acid	6.3	613		3.9			6.2			6.15	55	0.6
Total glu. acid/glu.	23.8	613		25.5			23.7			23.1	55	2.9
Lysine (SID)	3.2			3.2			2.9					
Methionine (SID)	1.6			1.5			1.4					
Threonine (SID)	2.6			2.7			2.6					
Cysteine (SID)	2.0			2.1			1.8					
Tryptophan (SID)	0.9						1.0					
Arginine (SID)	4.2			4.4			4.2					
Valine (SID)	4.2			3.8			4.1					
Isoleucine (SID)	3.1			2.9			2.9					
Leucine (SID)	5.9			6.0			6.0					
Histidine (SID)	1.8			2.2			1.9					
Serine (SID)				3.6			3.4					
Glycine (SID)				4.0			3.0					
Proline (SID)				9.8			9.1					
Alanine (SID)				3.1								
Phenylalanine (SID)	4.2			4.5								
Aspartic acid (SID)				2.9			5.4					
Glu. acid/glu.(SID)				22.7			20.6					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				0.6			0.8	974	0.4	0.7	1099	0.6	0.62
Digestible calcium													
Total phosphorus				4.0			3.9	1613	0.3	3.4	479	0.3	3.31
Available phosphorus				1.6									0.80
Phytate phosphorus				1.8						1.8	42	0.5	1.82
Phytate										6.3828			6.38
Linoleic acid										0.0071	13	0.001	0.007
Sodium				0.2			0.1	233	0.1	0.1	279	0.08	0.137
Chloride													1.533
Potassium				4.9			5.7	87	0.6	4.9	111	0.6	4.813
Magnesium				1.1			1.3	88	0.2	1.1	64	0.2	1.133
Manganese				0.015			0.019	54	0.003	0.015	48	0.005	0.045
Zinc				0.03			0.03	65	0.004	0.03	51	0.008	0.081
Copper				0.008			0.012	56	0.005	0.008	52	0.005	0.021
Iron				0.108			0.184	57	0.119	0.108	62	0.123	0.329
Selenium				0.0001						0.0001			0.0004
Cobalt				0.0001						0.0001			0.0001
Molybdenum				0.0004						0.0004			0.0004
Choline				1.027									1.027
Sulphur				1.3						1.3	13	0.3	1.30
Total lysine	3.8	64	0.52	3.99			5.01	315	0.407	3.7	98	0.4	4.01
Total methionine	1.6	64	0.21	1.83			2.30	117	0.271	1.7	98	0.3	1.79
Total threonine	3.4	64	0.46	3.87			4.61	118	0.271	3.4	97	0.5	3.65
Total cysteine	2.1	64	0.24	2.34			2.98	109	0.271	2.2	196	0.3	2.37
Total tryptophan	1.3	64	0.18	1.47			1.63	52	0.136	1.2	111	0.2	1.33
Total arginine	4.9	64	0.75	5.5			6.37	108	0.542	4.7	97	0.8	5.26
Total valine	5.0	64	0.69	5.44			6.78	116	0.407	5.0	97	0.7	5.27
Total isoleucine	3.5	64	0.59	3.85			4.88	117	0.271	3.5	97	0.5	3.77
Total leucine	6.9	64	1.09	6.7			9.21	117	0.407	6.7	97	1.0	7.24
Total histidine	2.2	64	0.32	2.2			2.98	90	0.271	2.2	97	0.3	2.36
Total serine	4.3	64	0.64	4.1			5.69	103	0.271	4.1	97	0.7	4.42
Total glycine	4.1	64	0.5	4.0			5.42	105	0.271	4.0	97	0.5	4.30
Total proline	10.4	64	1.93	10.3			14.23	53	1.220	10.3	97	2.3	11.06
Total alanine	4.2	64	0.53	4.1			5.56	103	0.407	4.1	97	0.5	4.40
Total phenylalanine	5.1	64	0.93	4.8			6.64	113	0.407	4.8	199	0.8	5.27
Total aspartic acid	6.1	64	0.98	5.8			7.86	104	0.542	5.8	187	0.7	6.01
Total glu. acid/glu.	22.9	64	4.28	22.2			30.89	102	2.033	22.2	183	3.8	24.29
Lysine (SID)				3.51						3.0			3.16
Methionine (SID)				1.61						1.5			1.52
Threonine (SID)				3.29						2.6			2.76
Cysteine (SID)				2.1						1.7			1.94
Tryptophan (SID)				1.01						1.0			0.98
Arginine (SID)				4.68						3.7			4.24
Valine (SID)				4.62						3.9			4.12
Isoleucine (SID)				3.46						2.9			3.05
Leucine (SID)				5.4						5.4			5.74
Histidine (SID)				1.8						1.8			1.90
Serine (SID)				3.3						3.3			3.40
Glycine (SID)				2.9						2.9			3.20
Proline (SID)				8.5						8.5			8.98
Alanine (SID)				3.1						3.1			3.10
Phenylalanine (SID)				3.9						3.9			4.13
Aspartic acid (SID)				4.2						4.2			4.18
Glu. acid/glu. (SID)				19.4						19.4			20.53

Barley

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	892.3	140	5.2	5	1	762.9	24273	15.5	63	16
ME						45.1	3	4.2	1331	333
AME (MJ)	11.7	121	0.3	94	24	11.3				
AMEn (MJ)						11.4	348	0.4	190	47
Net energy						9.0				
Crude protein	93.4	140	13.0	2979	745	107.1	25213	14.6	2845	711
Ether extract	25.5	133	1.4	463	116	20.5	6032	3.5	4379	1095
Ash	22.0	133	1.1	350	88	20.6	6373	2.3	1854	464
Crude fibre	57.5	133	4.9	1093	273	46.4	20804	6.2	2708	677
Acid detergent fibre						58.1	1597	7.9	2822	705
Neutral detergent fibre						185.3	1583	23.6	2492	623
Starch	502.0	121	15.5	146	37	552.0	13721	15.9	127	32
Total NSP	154.4	34	28.6	5292	1323					
Soluble NSP	41.7	34	18.1	28850	7213					
Insoluble NSP	112.6	34	28.1	9531	2383					
Oligosaccharides	20.9	8	8.2	23303	5826					
Total NSP: Rhamnose	0.34	21	0.5	312012	78003					
Total NSP: Fucose	0.08	21	0.3	2168301	542075					
Total NSP: Ribose	0.69	10	1.2	440479	110120					
Total NSP: Arabinose	20.53	21	9.7	34041	8510					
Total NSP: Xylose	51.67	21	16.8	16188	4047					
Total NSP: Mannose	6.40	21	6.1	141097	35274					
Total NSP: Galactose	4.98	21	3.2	63140	15785					
Total NSP: Glucose	70.50	21	14.7	6708	1677					
Soluble NSP: Rhamnose	0.19	21	0.5	963009	240752					
Soluble NSP: Fucose	0.08	21	0.3	2168301	542075					
Soluble NSP: Ribose	0.73	10	1.2	433054	108263					
Soluble NSP: Arabinose	4.24	21	2.1	36908	9227					
Soluble NSP: Xylose	4.77	21	3.2	68293	17073					
Soluble NSP: Mannose	2.42	21	2.7	196193	49048					
Soluble NSP: Galactose	2.54	21	3.0	208970	52242					
Soluble NSP: Glucose	33.14	21	11.3	17845	4461					
Insoluble NSP: Rhamnose	0.15	21	0.2	257739	64435					
Insoluble NSP: Fucose										
Insoluble NSP: Ribose	0.03	10	0.0	134315	33579					
Insoluble NSP: Arabinose	16.25	21	8.6	43311	10828					
Insoluble NSP: Xylose	46.80	21	16.3	18615	4654					
Insoluble NSP: Mannose	3.93	21	4.2	171649	42912					
Insoluble NSP: Galactose	2.45	21	1.2	34834	8709					
Insoluble NSP: Glucose	37.36	21	12.2	16448	4112					
Oligo. NSP: Rhamnose	0.14	8	0.1	26471	6618					
Oligo. NSP: Fucose	0.06	8	0.1	128820	32205					
Oligo. NSP: Ribose	0.02	8	0.0	177152	44288					
Oligo. NSP: Arabinose	0.09	8	0.0	23030	5758					
Oligo. NSP: Xylose	0.11	8	0.1	151535	37884					
Oligo. NSP: Mannose	3.15	8	2.6	105364	26341					
Oligo. NSP: Galactose	2.21	8	0.7	14242	3560					
Oligo. NSP: Glucose	15.17	8	6.2	25865	6466					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						0.62	2399	0.4	54495	13624
Digestible calcium										
Total phosphorus	2.7	8	0.3	2151	538	3.31	2418	0.5	3512	878
Available phosphorus	1.4	12	0.2	3136	784	0.80				
Phytate phosphorus	1.9	20	0.3	3255	814	1.82	362	0.4	5683	1421
Phytate	6.2					6.38				
Linoleic acid						0.007	13	0.0	2469	617
Sodium						0.137	833	0.1	71170	17793
Chloride						1.533	3	0.1	654	163
Potassium						4.813	519	0.6	2661	665
Magnesium						1.133	472	0.2	4785	1196
Manganese						0.045	104	0.0	845	211
Zinc						0.081	118	0.0	1773	443
Copper						0.021	110	0.0	47789	11947
Iron						0.329	121	0.3	108404	27101
Selenium						0.0004	2	0.0	8183	2046
Cobalt						0.0001				
Molybdenum						0.0004				
Choline						1.027				
Sulphur						1.3000	13	0.3	8183	2046
Total lysine	3.50	20	0.7	6147	1537	4.01	1145	0.4	1927	482
Total methionine	1.47	20	0.2	2857	714	1.79	947	0.2	2767	692
Total threonine	3.10	20	0.4	2558	640	3.65	947	0.4	1761	440
Total cysteine	2.05	19	0.2	1463	366	2.37	1037	0.3	1815	454
Total tryptophan	1.27	18	0.1	958	239	1.33	550	0.2	3870	967
Total arginine	4.73	20	0.5	1715	429	5.26	937	0.7	2475	619
Total valine	4.63	20	0.8	4581	1145	5.27	945	0.6	1793	448
Total isoleucine	3.33	20	0.4	2213	553	3.77	946	0.4	2050	512
Total leucine	6.53	20	0.6	1296	324	7.24	946	0.8	1965	491
Total histidine	2.10	20	0.3	3136	784	2.36	919	0.3	2277	569
Total serine	4.10	8				4.42	932	0.5	2064	516
Total glycine	3.85	8				4.30	934	0.4	1452	363
Total proline	9.00	7				11.06	882	1.7	3652	913
Total alanine	3.95	8				4.40	932	0.5	1659	415
Total phenylalanine	4.50	8				5.27	1044	0.7	2728	682
Total aspartic acid	5.65	8				6.01	1023	0.7	2115	529
Total glu. acid/glu.	20.95	8				24.29	1017	3.3	2757	689
Lysine (SID)	2.70	13	0.5	5270	1317	3.16				
Methionine (SID)	1.27	13	0.1	958	239	1.52				
Threonine (SID)	2.20	13	0.3	2857	714	2.76				
Cysteine (SID)	1.70	12	0.2	2127	532	1.94				
Tryptophan (SID)	0.93	13	0.1	1764	441	0.98				
Arginine (SID)	3.80	13	0.4	1703	426	4.24				
Valine (SID)	3.63	13	0.6	4190	1048	4.12				
Isoleucine (SID)	2.67	13	0.4	3457	864	3.05				
Leucine (SID)	5.37	13	0.5	1334	333	5.74				
Histidine (SID)	1.63	13	0.3	5184	1296	1.90				
Serine (SID)	2.70	1				3.40				
Glycine (SID)	2.30	1				3.20				
Proline (SID)						8.98				
Alanine (SID)	2.70	1				3.10				
Phenylalanine (SID)	3.50	1				4.13				
Aspartic acid (SID)	3.40	1				4.18				
Glu. acid/glu. (SID)	18.80	1				20.53				

Corn

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			DuPont		
	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	15							
ME									
AME (MJ)									
AMEn (MJ)	13.96	15							
Net energy	11.25								
Crude protein	91.5	15							
Ether extract	39.7	15							
Ash	12.5	15							
Crude fibre	20.9	15							
Acid detergent fibre	28.3	15							
Neutral detergent fibre	111.4	15							
Starch	621.0	15							
Total NSP				70.3	168	14.0			
Soluble NSP				8.7	168	8.0			
Insoluble NSP				61.6	168	9.6			
Oligosaccharides				0.7	8	0.1			
Total NSP: Rhamnose				0.49	168	1.82			
Total NSP: Fucose				0.01	168	0.09			
Total NSP: Ribose				0.20	10	0.16			
Total NSP: Arabinose				16.34	168	2.34			
Total NSP: Xylose				22.55	168	4.25			
Total NSP: Mannose				2.38	168	4.03			
Total NSP: Galactose				5.50	168	0.89			
Total NSP: Glucose				21.16	168	3.43			
Soluble NSP: Rhamnose				0.06	168	0.27			
Soluble NSP: Fucose				0.02	168	0.12			
Soluble NSP: Ribose				0.20	10	0.16			
Soluble NSP: Arabinose				1.29	168	1.24			
Soluble NSP: Xylose				1.17	168	1.28			
Soluble NSP: Mannose				1.28	168	1.83			
Soluble NSP: Galactose				1.16	168	0.87			
Soluble NSP: Glucose				2.90	168	2.38			
Insoluble NSP: Rhamnose				0.43	168	1.60			
Insoluble NSP: Fucose									
Insoluble NSP: Ribose									
Insoluble NSP: Arabinose				15.15	168	1.74			
Insoluble NSP: Xylose				21.34	168	3.97			
Insoluble NSP: Mannose				1.09	168	2.50			
Insoluble NSP: Galactose				4.31	168	0.92			
Insoluble NSP: Glucose				18.25	168	3.29			
Oligo. NSP: Rhamnose				0.17	8	0.04			
Oligo. NSP: Fucose									
Oligo. NSP: Ribose									
Oligo. NSP: Arabinose									
Oligo. NSP: Xylose									
Oligo. NSP: Mannose									
Oligo. NSP: Galactose									
Oligo. NSP: Glucose				0.51	8	0.13			

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	895	7	14.0				887.5
ME							
AME (MJ)							
AMEn (MJ)							14.0
Net energy							11.2
Crude protein	80	7	3.6				85.8
Ether extract							39.7
Ash							12.5
Crude fibre							20.9
Acid detergent fibre							28.3
Neutral detergent fibre							111.4
Starch							621.0
Total NSP							70.32
Soluble NSP							8.670
Insoluble NSP							61.63
Oligosaccharides							0.687
Total NSP: Rhamnose							0.493
Total NSP: Fucose							0.012
Total NSP: Ribose							0.196
Total NSP: Arabinose							16.343
Total NSP: Xylose							22.548
Total NSP: Mannose							2.383
Total NSP: Galactose							5.504
Total NSP: Glucose							21.156
Soluble NSP: Rhamnose							0.062
Soluble NSP: Fucose							0.019
Soluble NSP: Ribose							0.196
Soluble NSP: Arabinose							1.286
Soluble NSP: Xylose							1.168
Soluble NSP: Mannose							1.275
Soluble NSP: Galactose							1.163
Soluble NSP: Glucose							2.904
Insoluble NSP: Rhamnose							0.431
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							15.145
Insoluble NSP: Xylose							21.340
Insoluble NSP: Mannose							1.087
Insoluble NSP: Galactose							4.314
Insoluble NSP: Glucose							18.252
Oligo. NSP: Rhamnose							0.165
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							0.507

Corn

Australia (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			DuPont		
	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.1	15							
Digestible calcium									
Total phosphorus	2.3	15					2.7	3	
Available phosphorus									
Phytate phosphorus	1.5	15					2.47	3	
Phytate	5.32						8.76		
Linoleic acid									
Sodium	0	15							
Chloride									
Potassium	2.8	15							
Magnesium	0.9	15							
Manganese									
Zinc									
Copper									
Iron									
Selenium									
Cobalt									
Molybdenum									
Choline									
Sulphur									
Total lysine	2.6	15							
Total methionine	1.8	15							
Total threonine	3.2	15							
Total cysteine	2.1	15							
Total tryptophan	0.7	8							
Total arginine	4.3	15							
Total valine	4.2	15							
Total isoleucine	3.2	15							
Total leucine	12	15							
Total histidine	2.6	15							
Total serine	4.5	15							
Total glycine	3.3	15							
Total proline	8.8	15							
Total alanine	7.0	15							
Total phenylalanine	4.8	15							
Total aspartic acid	6.0	15							
Total glu. acid/glu.	17.6	15							
Lysine (SID)	2.3								
Methionine (SID)	1.7								
Threonine (SID)	2.9								
Cysteine (SID)	1.8								
Tryptophan (SID)	0.6								
Arginine (SID)	3.8								
Valine (SID)	4.0								
Isoleucine (SID)	3.1								
Leucine (SID)	11.1								
Histidine (SID)	2.5								
Serine (SID)									
Glycine (SID)									
Proline (SID)									
Alanine (SID)									
Phenylalanine (SID)	4.4								
Aspartic acid (SID)									
Glu. acid/glu. (SID)									

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium							0.10
Digestible calcium							
Total phosphorus				2.4	2		2.47
Available phosphorus							
Phytate phosphorus				2.05	2		2.01
Phytate				7.27			7.12
Linoleic acid							
Sodium							0.00
Chloride							
Potassium							2.80
Magnesium							0.90
Manganese							
Zinc							
Copper							
Iron							
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine	2.5	7	0.2				2.6
Total methionine	1.5	7	0.2				1.7
Total threonine	3.4	7	0.7				3.3
Total cysteine							2.1
Total tryptophan	0.6	7	0				0.7
Total arginine	4.0	7	0.2				4.2
Total valine	4.3	7	0.4				4.3
Total isoleucine	3.2	7	0.3				3.2
Total leucine	10.8	7	0.7				11.4
Total histidine	2.4	7	0.2				2.5
Total serine	4.2	7	0.9				4.4
Total glycine	3.4	7	0.4				3.4
Total proline							8.8
Total alanine	6.6	7	0.6				6.8
Total phenylalanine	4.3	7	0.3				4.6
Total aspartic acid	5.7	7	0.4				5.9
Total glu. acid/glu.	16.3	7	1.1				17.0
Lysine (SID)	2.0	7	0.2				2.2
Methionine (SID)	1.3	7	0.2				1.5
Threonine (SID)	2.3	7	0.5				2.6
Cysteine (SID)							1.8
Tryptophan (SID)	0.4	7	0.1				0.5
Arginine (SID)	3.5	7	0.2				3.7
Valine (SID)	3.6	7	0.4				3.8
Isoleucine (SID)	2.7	7	0.3				2.9
Leucine (SID)	9.8	7	0.8				10.5
Histidine (SID)	2.1	7	0.2				2.3
Serine (SID)	3.3	7	0.7				3.3
Glycine (SID)	2.6	7	0.3				2.6
Proline (SID)							
Alanine (SID)	5.9	7	0.6				5.9
Phenylalanine (SID)	3.7	7	0.3				4.1
Aspartic acid (SID)	4.5	7	0.4				4.5
Glu. acid/glu.	14.8	7	1.2				14.8

Corn

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	1212		871.2	6729	39.8	870			886.86	7	11.12
ME							13.57					
AME (MJ)				14.09	6729	1.34						
AMEn (MJ)	13.9	389					13.75					
Net energy	11.22											
Crude protein	76.4	1212		76.8	6729	20.82	76.0			77.94	395	7.33
Ether extract	37.0	389		39.7	6729	11.06				32.68	343	5.73
Ash	11.9	389		11.6	6729	3.89	11.9			12.16	343	3.55
Crude fibre	22.3	389		20.6	6729	5.84	20			17.35	340	4.93
Acid detergent fibre	29.8	389					26			47.08	12	24.85
Neutral detergent fibre	105.5	389					95			97.36	11	15.11
Starch	646.3	389					652			602.67	3	14.38
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				863			863	11791	10	863	6687	21	873.3
ME				13.6									13.7
AME (MJ)				13.6									13.8
AMEn (MJ)							15.1	2		12.9	10	0.5	13.9
Net energy							12.17			10.41			11.3
Crude protein	79	89	6.4	75.4			109	11175	8	76	7399	6	80.6
Ether extract				36			49.8	5643	4	36	3334	3	38.5
Ash				12			16.2	3508	1	12	1832	1	12.4
Crude fibre				23			29	4230	4	23	1619	4	21.6
Acid detergent fibre				27			34.8	259	4	27	200	6	31.9
Neutral detergent fibre				107			141.4	261	14	107	201	14	113.0
Starch				638			850.5	481	6	638	6298	16	665.9
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Corn

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.10	382					0.3			0.14	37	0.15
Digestible calcium												
Total phosphorus	2.20	388					2.4			2.59	38	0.47
Available phosphorus				0.41	6729	0.91						
Phytate phosphorus	1.70	388		1.94	6729	1.06						
Phytate	6.03									8.74	5	0.62
Linoleic acid												
Sodium	0.00	359					0			0.08	30	0.09
Chloride							0.6			0.66	29	0.16
Potassium	3.10	388					3.3			3.32	61	0.44
Magnesium	0.90	388					1			1.14	9	0.36
Manganese							0.005			0.0067	47	0.006
Zinc							0.02			0.0279	53	0.034
Copper							0.006			0.0028	40	0.002
Iron							0.03			0.0227	23	0.015
Selenium							0.00008			0.0002	1.0	
Cobalt							0.00002					
Molybdenum							0.00026					
Choline												
Sulphur							1.2			0.55	2.0	0.55
Total lysine	2.3	1212		2.39	6729	0.67	2.3			2.6	498	0.42
Total methionine	1.6	1212		1.70	6729	0.52	1.6			1.66	500	0.29
Total threonine	2.7	1212		2.87	6729	0.97	2.7			2.76	497	0.41
Total cysteine	1.7	1212		1.76	6729	0.57	1.7			1.67	497	1.67
Total tryptophan	0.6	660		0.76	6729	0.52	0.6			0.62	514	0.09
Total arginine	3.6	1212		3.88	6729	1.00	3.6			3.72	478	0.55
Total valine	3.6	1212		3.95	6729	1.11	3.6			3.84	497	0.76
Total isoleucine	2.6	1212		2.91	6729	0.94	2.5			2.72	497	0.42
Total leucine	9.1	1212		9.80	6729	3.97	9.1			9.16	497	1.51
Total histidine	2.2	1212		2.31	6729	0.67	2.2			2.18	478	0.3
Total serine	3.6	1212					3.7			3.61	478	0.64
Total glycine	3.0	1212					3.0			3.12	497	0.42
Total proline	6.8	1212					6.8			6.18	497	1.35
Total alanine	5.6	1212								5.67	497	0.86
Total phenylalanine	3.6	1212								3.78	478	0.58
Total aspartic acid	5.1	1212					5.1			5.23	496	0.73
Total glu. acid/glu.	13.7	1212					13.7			14.03	497	2.23
Lysine (SID)	2.1			1.88	6729	0.60	1.9					
Methionine (SID)	1.5			1.57	6729	0.52	1.5					
Threonine (SID)	2.4			2.31	6729	0.82	2.3					
Cysteine (SID)	1.5			1.49	6729	0.52	1.5					
Tryptophan (SID)	0.5			0.66	6729	0.52	0.5					
Arginine (SID)	3.2			3.50	6729	0.94	3.3					
Valine (SID)	3.4			3.40	6729	0.95	3.1					
Isoleucine (SID)	2.5			2.62	6729	0.89	2.3					
Leucine (SID)	8.4			9.20	6729	3.82	8.3					
Histidine (SID)	2.1			2.07	6729	0.62	1.9					
Serine (SID)							3.4					
Glycine (SID)							2.5					
Proline (SID)							6.1					
Alanine (SID)												
Phenylalanine (SID)	3.4											
Aspartic acid (SID)							4.7					
Glu. acid/glu.(SID)							12.7					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				0.2			0.5	547	0.3	0.4	931	0.4	0.3
Digestible calcium													
Total phosphorus				2.6			3	881	0.2	2.5	309	0.3	2.5
Available phosphorus				0.65									0.5
Phytate phosphorus				1.9						1.9	5	0.4	1.8
Phytate										6.74			7.0
Linoleic acid										17.9	13	2.3	18.5
Sodium				0.3			0	113	0	0.04	214	0.05	0.1
Chloride													0.7
Potassium				3.1			3.9	29	0.3	3.1	182	0.4	3.3
Magnesium				1.1			1.2	28	0.1	1.1	138	0.2	1.08
Manganese				0.008			0.005	11	0.002	0.008	53	0.008	0.01
Zinc				0.021			0.021	10	8	0.021	38	0.008	0.05
Copper				0.003			0.002	15	0	0.003	40	0.001	0.006
Iron				0.035			0.037	16	0.012	0.035	11	0.111	0.066
Selenium				0.0001						0.0001			0.0002
Cobalt				0.0001						0.0001	5	0.00002	0.00004
Molybdenum				0.0004						0.0004			0.00035
Choline				0.66									0.66
Sulphur				1.1						1.1	6	0.2	0.95
Total lysine	2.3	89	0.2	2.4			3.38	184	0.33	2.3	155	0.2	2.5
Total methionine	1.5	89	0.13	1.6			2.29	108	0.22	1.6	154	0.2	1.7
Total threonine	2.8	89	0.23	2.6			3.92	83	0.11	2.9	151	0.3	2.9
Total cysteine	1.6	89	0.12	1.6			2.51	100	0.22	1.9	145	0.1	1.8
Total tryptophan	0.6	89	0.07	0.5			0.76	50	0.11	0.5	121	0.06	0.6
Total arginine	3.4	89	0.27	3.6			4.91	75	0.44	3.7	154	0.3	3.8
Total valine	3.7	89	0.32	3.8			5.23	77	0.22	3.8	153	0.4	3.9
Total isoleucine	2.6	89	0.25	3			3.82	77	0.22	2.8	152	0.3	2.8
Total leucine	9.4	89	1.05	9.3			13.08	76	0.76	9.3	151	1.0	9.7
Total histidine	2.2	89	0.19	2.2			3.05	65	0.22	2.2	153	0.2	2.3
Total serine	3.7	89	0.32	3.8			5.23	74	0.22	3.8	148	0.4	3.9
Total glycine	2.9	89	0.2	3			4.03	72	0.33	3.0	153	0.3	3.2
Total proline	6.8	89	0.68	7.1			9.59	47	0.44	7.1	142	0.7	7.3
Total alanine	5.7	89	0.54	5.7			8.07	74	0.33	5.7	151	0.6	6.1
Total phenylalanine	3.7	89	0.38	3.7			5.23	77	0.22	3.7	153	0.4	3.9
Total aspartic acid	5.1	89	0.39	5			7.09	74	0.33	5.0	153	0.6	5.1
Total glu. acid/glu.	13.9	89	1.39	14.1			19.84	74	0.98	14.1	152	1.5	14.8
Lysine (SID)				2.21						2.1			2.0
Methionine (SID)				1.5						1.5			1.5
Threonine (SID)				2.21						2.4			2.4
Cysteine (SID)				1.38						1.6			1.5
Tryptophan (SID)				0.41						0.4			0.5
Arginine (SID)				3.34						3.4			3.4
Valine (SID)				3.49						3.5			3.3
Isoleucine (SID)				2.8						2.6			2.5
Leucine (SID)				8.8						8.8			8.8
Histidine (SID)				2						2.0			2.0
Serine (SID)				3.5						3.5			3.4
Glycine (SID)				2.5						2.5			2.5
Proline (SID)				6.4						6.4			6.6
Alanine (SID)				5.3						5.3			5.2
Phenylalanine (SID)				3.4						3.4			3.4
Aspartic acid (SID)				4.4						4.4			4.0
Glu. acid/glu. (SID)				13.4						13.4			13.5

Corn

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	887.5	22	14.0	38	10	873.3	26671	21.1	90	22
ME						13.7	14	0.4	143	36
AME (MJ)						13.8	6729	1.3	1439	360
AMEn (MJ)	14.0	15				13.9	401	0.5	198	50
Net energy	11.2					11.3				
Crude protein	85.8	22	3.6	271	68	80.6	27401	9.7	2208	552
Ether extract	39.7	15				38.5	16595	5.3	2960	740
Ash	12.5	15				12.4	12819	2.3	5550	1387
Crude fibre	20.9	15				21.6	13458	4.1	5642	1411
Acid detergent fibre	28.3	15				31.9	863	9.4	13452	3363
Neutral detergent fibre	111.4	15				113.0	865	13.8	2283	571
Starch	621.0	15				665.9	7319	15.4	82	20
Total NSP	70.322	168	14.0	6116	1529					
Soluble NSP	8.670	168	8.0	132162	33040					
Insoluble NSP	61.629	168	9.6	3721	930					
Oligosaccharides	0.687	8	0.2	7446	1861					
Total NSP: Rhamnose	0.493	168	1.8	2101645	525411					
Total NSP: Fucose	0.012	168	0.1	7486159	1871540					
Total NSP: Ribose	0.196	10	0.2	95999	24000					
Total NSP: Arabinose	16.343	168	2.3	3142	785					
Total NSP: Xylose	22.548	168	4.2	5449	1362					
Total NSP: Mannose	2.383	168	4.0	440224	110056					
Total NSP: Galactose	5.504	168	0.9	3997	999					
Total NSP: Glucose	21.156	168	3.4	4030	1008					
Soluble NSP: Rhamnose	0.062	168	0.3	2798512	699628					
Soluble NSP: Fucose	0.019	168	0.1	5914647	1478662					
Soluble NSP: Ribose	0.196	10	0.2	95999	24000					
Soluble NSP: Arabinose	1.286	168	1.2	141886	35472					
Soluble NSP: Xylose	1.168	168	1.3	184900	46225					
Soluble NSP: Mannose	1.275	168	1.8	316247	79062					
Soluble NSP: Galactose	1.163	168	0.9	85431	21358					
Soluble NSP: Glucose	2.904	168	2.4	103548	25887					
Insoluble NSP: Rhamnose	0.431	168	1.6	2127391	531848					
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose	15.145	168	1.7	2032	508					
Insoluble NSP: Xylose	21.340	168	4.0	5307	1327					
Insoluble NSP: Mannose	1.087	168	2.5	812939	203235					
Insoluble NSP: Galactose	4.314	168	0.9	6949	1737					
Insoluble NSP: Glucose	18.252	168	3.3	4990	1248					
Oligo. NSP: Rhamnose	0.165	8	0.0	7800	1950					
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose	0.507	8	0.1	9974	2494					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	0.10	15				0.3	1904	0.2	125447	31362
Digestible calcium										
Total phosphorus	2.47	20				2.5	1625	0.4	3250	812
Available phosphorus						0.5	6729	0.9	447691	111923
Phytate phosphorus	2.01	20				1.8	7192	0.6	15457	3864
Phytate	7.12					7.0	5	0.6	1215	304
Linoleic acid						18.5	14	2.3	2375	594
Sodium	0.00	15				0.1	720	0.1	100245	25061
Chloride						0.7	32	0.3	23239	5810
Potassium	2.80	15				3.3	664	0.4	2106	527
Magnesium	0.90	15				1.077	567	0.2	6122	1531
Manganese						0.014	112	0.0	21767	5442
Zinc						0.054	102	2.7	374161399	93540350
Copper						0.006	96	0.0	3151	788
Iron						0.066	51	0.0	75285	18821
Selenium						0.0002	2			
Cobalt						0.00004	5	0.0	38416	9604
Molybdenum						0.0004				
Choline						0.66				
Sulphur						0.95	10	0.4	25019	6255
Total lysine	2.6	22	0.2	945	236	2.5	8867	0.4	3319	830
Total methionine	1.7	22	0.2	2258	564	1.7	8792	0.3	4001	1000
Total threonine	3.3	22	0.7	6914	1729	2.9	8761	0.4	2920	730
Total cysteine	2.1	15				1.8	8772	0.5	13765	3441
Total tryptophan	0.7	15	0.0	0	0	0.6	8163	0.2	11657	2914
Total arginine	4.2	22	0.2	357	89	3.8	8737	0.5	2808	702
Total valine	4.3	22	0.4	1361	340	3.9	8757	0.6	3191	798
Total isoleucine	3.2	22	0.3	1351	338	2.8	8756	0.4	3467	867
Total leucine	11.4	22	0.7	579	145	9.7	8754	1.7	4445	1111
Total histidine	2.5	22	0.2	983	246	2.3	8726	0.3	2829	707
Total serine	4.4	22	0.9	6578	1644	3.9	2001	0.4	1548	387
Total glycine	3.4	22	0.4	2191	548	3.2	2023	0.3	1499	375
Total proline	8.8	15				7.3	1987	0.8	1808	452
Total alanine	6.8	22	0.6	1196	299	6.1	2023	0.6	1408	352
Total phenylalanine	4.6	22	0.3	668	167	3.9	2009	0.4	1559	390
Total aspartic acid	5.9	22	0.4	718	180	5.1	2024	0.5	1561	390
Total glu. acid/glu.	17.0	22	1.1	647	162	14.8	2024	1.5	1627	407
Lysine (SID)	2.2	7	0.2	1330	332	2.0	6729	0.6	13630	3407
Methionine (SID)	1.5	7	0.2	2732	683	1.5	6729	0.5	18140	4535
Threonine (SID)	2.6	7	0.5	5683	1421	2.4	6729	0.8	17830	4458
Cysteine (SID)	1.8					1.5	6729	0.5	18973	4743
Tryptophan (SID)	0.5	7	0.1	6147	1537	0.5	6729	0.5	158935	39734
Arginine (SID)	3.7	7	0.2	461	115	3.4	6729	0.9	12133	3033
Valine (SID)	3.8	7	0.4	1703	426	3.3	6729	0.9	12464	3116
Isoleucine (SID)	2.9	7	0.3	1644	411	2.5	6729	0.9	19108	4777
Leucine (SID)	10.5	7	0.8	901	225	8.8	6729	3.8	29236	7309
Histidine (SID)	2.3	7	0.2	1162	290	2.0	6729	0.6	14338	3584
Serine (SID)	3.3	7	0.7	6914	1729	3.4				
Glycine (SID)	2.6	7	0.3	2046	511	2.5				
Proline (SID)						6.6				
Alanine (SID)	5.9	7	0.6	1589	397	5.2				
Phenylalanine (SID)	4.1	7	0.3	843	211	3.4				
Aspartic acid (SID)	4.5	7	0.4	1214	304	4.0				
Glu. acid/glu. (SID)	14.8	7	1.2	1010	253	13.5				

DDGS (corn)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	864		891.5	711	8.7	890			892.91	663	14.26
ME												
AME (MJ)				9.97	711	0.74						
AMEn (MJ)	10.93	259					11.3					
Net energy	8.69											
Crude protein	269.1	864		290.4	711	16.1	275			271.05	850	24.24
Ether extract	102.0	259		91.1	711	10.1				101.97	667	20.62
Ash	43.3	259		44	711	3.0	44			42.23	662	7.18
Crude fibre	62.6	259		71.7	711	6.2	66			64.27	663	7.31
Acid detergent fibre	122.2	259					117			175.43	7	15.54
Neutral detergent fibre	378.9	259					300			283.14	7	23.59
Starch	46.8	259					40					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				90.08			890	332	14	755.7
ME				11.51						11.5
AME (MJ)				11.51						10.7
AMEn (MJ)							12.3			11.5
Net energy							9.76			9.2
Crude protein	256	6	2.6	291.6			331.5	347	18	283.5
Ether extract				49.5			124.7	265	22	93.9
Ash				49.8			60.7	283	10	47.3
Crude fibre				77.3			88.8	228	9	71.8
Acid detergent fibre				127			152.8	143	42	138.9
Neutral detergent fibre				289.4			384.3	113	68	327.1
Starch				119			104.5	121	30	77.6
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

DDGS (corn)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.3	259					0.6			1.4	14	1.21
Digestible calcium												
Total phosphorus	7.5	259					7.4			8.91	46	0.83
Available phosphorus				1.6	711	0.2						
Phytate phosphorus	1.9	259		3.2	711	0.6						
Phytate	6.74									10.09	5	0.15
Linoleic acid										552.55	4	7.56
Sodium	1.9	259					2.2			2.74	14	0.95
Chloride							1.5			2.45	4	0.21
Potassium	9.8	259					9.5			7.96	10	2.1
Magnesium	2.9	259					3.0					
Manganese							0.18			0.0259	7	0.01
Zinc							0.7			0.0757	7	0.017
Copper							0.006			0.0912	7	0.086
Iron							0.11			0.0982	5	0.019
Selenium							0.00034					
Cobalt							0.0001					
Molybdenum							0.0015					
Choline												
Sulphur							6.5			7.86	43	3.09
Total lysine	7.5	864		8.4	711	0.4	7.7			9.22	821	1.3
Total methionine	5.4	864		5.6	711	0.3	5.5			5.33	821	0.79
Total threonine	9.9	864		11.2	711	0.5	10.0			10.19	821	1.14
Total cysteine	5.2	864		5.5	711	0.3	5.1			5.13	821	0.74
Total tryptophan	2.1	441		2.5	711	0.1	2.2			2.07	823	0.34
Total arginine	11.6	864		12.4	711	0.7				12.42	799	1.46
Total valine	1.29	864		14.4	711	0.8	13.5			13.89	821	1.69
Total isoleucine	9.6	864		11.1	711	0.7	10.2			10.51	821	1.27
Total leucine	30.8	864		33.7	711	2.2	31.6			31.01	819	4.31
Total histidine	7.1	864		7.2	711	0.4	7.3			7.41	821	0.88
Total serine	12.6	864					12.7			11.92	799	1.83
Total glycine	10.5	864					10.7			10.89	821	1.77
Total proline	22	864					22.4			19.87	821	3.15
Total alanine	19.3	864								18.83	821	2.45
Total phenylalanine	12.8	864								13.33	799	1.82
Total aspartic acid	17.1	864					17.9			17.26	821	2.07
Total glu. acid/glu.	46.0	864					45.4			38.98	821	8.97
Lysine (SID)	4.9			5.8	711	0.8	4.9					
Methionine (SID)	4.7			5.1	711	0.4	4.6					
Threonine (SID)	7.1			9.5	711	0.8	6.9					
Cysteine (SID)	4.2			3.9	711	0.5	3.9					
Tryptophan (SID)	1.7			2.1	711	0.2	1.7					
Arginine (SID)	9.5			11.4	711	1.0	9.5					
Valine (SID)	10.1			13	711	1.0	10.1					
Isoleucine (SID)	7.7			9.8	711	0.7	7.8					
Leucine (SID)	26.5			31.8	711	2.4	26.9					
Histidine (SID)	5.3			6.3	711	0.5	5.4					
Serine (SID)							9.9					
Glycine (SID)							7.6					
Proline (SID)							17.2					
Alanine (SID)												
Phenylalanine (SID)	10.3											
Aspartic acid (SID)							14.7					
Glu. acid/glu.(SID)							37.2					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				0.4			1.6	104	1.6	0.9
Digestible calcium										
Total phosphorus				9.0			7.9	138	1.0	8.1
Available phosphorus				5.5						3.6
Phytate phosphorus				2.1						2.4
Phytate										8.4
Linoleic acid										552.6
Sodium				2.3			2.4	72	1.8	2.3
Chloride										2.0
Potassium				10.8			10.3	68	1.1	9.7
Magnesium				2.9			3.3	70	0.4	3.0
Manganese				0.022			0.021	61	0.008	0.1
Zinc				0.06			0.062	61	0.016	0.2
Copper				0.006			0.006	60	0.002	0.0
Iron				0.26			0.123	61	0.041	0.1
Selenium				0.0003						0.0
Cobalt				0.0001						0.0
Molybdenum				0.002						0.0
Choline				2.0						2.0
Sulphur				3.2						5.9
Total lysine	7.5	6	1.1	9.2			9.9	107	0.994	8.5
Total methionine	4.9	6	0.3	6.1			6.6	97	0.663	5.6
Total threonine	9.4	6	0.4	10.9			12.3	97	0.332	10.6
Total cysteine	4.6	6	0.3	4.9			6.6	93	0.995	5.3
Total tryptophan	2.1	6	0.3	2.3			2.7	89	0.331	2.3
Total arginine	11.0	6	0.8	12.4			14.3	97	0.995	12.3
Total valine	12.5	6	0.7	14.7			16.9	96	0.995	12.5
Total isoleucine	9.2	6	0.7	11.7			12.6	96	0.995	10.7
Total leucine	29.6	6	0.4	25.7			38.5	95	1.989	31.6
Total histidine	6.6	6	0.3	6.7			9.0	95	0.663	7.3
Total serine	12.2	6	0.7	10.6			15.6	59	1.658	12.6
Total glycine	9.9	6	1.0	9.9			13.3	59	0.663	10.9
Total proline	20.6	6	2.8	18.8			25.5	59	1.989	21.5
Total alanine	18.4	6	0.7	16.6			23.5	59	1.658	19.3
Total phenylalanine	12.4	6	0.9	11.0			15.9	95	0.663	13.1
Total aspartic acid	16.3	6	0.8	15.5			22.5	59	1.326	17.8
Total glu. acid/glu.	43.5	6	9.3	36.3			52.7	59	8.619	43.8
Lysine (SID)				5.3						5.2
Methionine (SID)				4.5						4.7
Threonine (SID)				7.7						7.8
Cysteine (SID)				3.2						3.8
Tryptophan (SID)				1.9						1.9
Arginine (SID)				10.2						10.2
Valine (SID)				11.0						11.1
Isoleucine (SID)				9.0						8.6
Leucine (SID)										28.4
Histidine (SID)										5.7
Serine (SID)										9.9
Glycine (SID)										7.6
Proline (SID)										17.2
Alanine (SID)										
Phenylalanine (SID)										10.3
Aspartic acid (SID)										14.7
Glu. acid/glu. (SID)										37.2

DDGS (corn)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No Data*			755.7	2570	12.3	41	10
ME						11.5				
AME (MJ)						10.7	711	0.7	730	182
AMEn (MJ)						11.5	259			
Net energy						9.2				
Crude protein						283.5	2778	15.2	444	111
Ether extract						93.9	1902	17.6	5387	1347
Ash						47.3	1915	6.7	3103	776
Crude fibre						71.8	1861	7.5	1679	420
Acid detergent fibre						138.9	409	28.8	6594	1648
Neutral detergent fibre						327.1	379	45.8	3011	753
Starch						77.6	380	30.0	22981	5745
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No Data*			0.9	377	1.4	410136	102534
Digestible calcium										
Total phosphorus						8.1	443	0.9	1941	485
Available phosphorus						3.6	711	0.2	488	122
Phytate phosphorus						2.4	970	0.6	9604	2401
Phytate						8.4	5	0.2	49	12
Linoleic acid						552.6	4	7.6	29	7
Sodium						2.3	345	1.4	54539	13635
Chloride						2.0	4	0.2	1737	434
Potassium						9.7	337	1.6	4205	1051
Magnesium						3.0	329	0.4	2687	672
Manganese						0.1	68	0.0	3161	790
Zinc						0.2	68	0.0	813	203
Copper						0.0	67	0.0	399315	99829
Iron						0.1	66	0.0	6355	1589
Selenium						0.0				
Cobalt						0.0				
Molybdenum						0.0				
Choline						2.0				
Sulphur						5.9	43	3.1	42824	10706
Total lysine						8.5	2509	0.9	1916	479
Total methionine						5.6	2499	0.5	1274	318
Total threonine						10.6	2499	0.6	485	121
Total cysteine						5.3	2495	0.6	1867	467
Total tryptophan						2.3	2070	0.3	2131	533
Total arginine						12.3	2477	1.0	985	246
Total valine						12.5	2498	1.0	1084	271
Total isoleucine						10.7	2498	0.9	1126	282
Total leucine						31.6	2495	2.2	764	191
Total histidine						7.3	2497	0.6	901	225
Total serine						12.6	1728	1.4	1886	471
Total glycine						10.9	1750	1.1	1707	427
Total proline						21.5	1750	2.6	2321	580
Total alanine						19.3	1750	1.6	1056	264
Total phenylalanine						13.1	1764	1.1	1141	285
Total aspartic acid						17.8	1750	1.4	952	238
Total glu. acid/glu.						43.8	1750	9.0	6430	1608
Lysine (SID)						5.2	711	0.8	3602	901
Methionine (SID)						4.7	711	0.4	1101	275
Threonine (SID)						7.8	711	0.8	1616	404
Cysteine (SID)						3.8	711	0.5	2660	665
Tryptophan (SID)						1.9	711	0.2	1796	449
Arginine (SID)						10.2	711	1.0	1492	373
Valine (SID)						11.1	711	1.0	1258	315
Isoleucine (SID)						8.6	711	0.7	1024	256
Leucine (SID)						28.4	711	2.4	1097	274
Histidine (SID)						5.7	711	0.5	1196	299
Serine (SID)						9.9				
Glycine (SID)						7.6				
Proline (SID)						17.2				
Alanine (SID)										
Phenylalanine (SID)						10.3				
Aspartic acid (SID)						14.7				
Glu. acid/glu. (SID)						37.2				

DDGS (sorghum)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Average of the mean
	Mean	n	SD	
Dry matter				
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein				
Ether extract				
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP	220.0	11	20.2	220.0
Soluble NSP	50.1	11	17.6	50.1
Insoluble NSP	169.9	11	11.6	169.9
Oligosaccharides	40.6	5	2.5	40.6
Total NSP: Rhamnose	0.71	10	0.15	0.71
Total NSP: Fucose	0.72	10	0.26	0.72
Total NSP: Ribose	0.31	9	0.26	0.31
Total NSP: Arabinose	54.39	10	5.49	54.39
Total NSP: Xylose	80.98	10	13.04	80.98
Total NSP: Mannose	9.18	10	1.18	9.18
Total NSP: Galactose	15.01	10	4.30	15.01
Total NSP: Glucose	60.75	10	4.24	60.75
Soluble NSP: Rhamnose	0.06	10	0.03	0.06
Soluble NSP: Fucose	0.14	10	0.04	0.14
Soluble NSP: Ribose	0.13	8	0.10	0.13
Soluble NSP: Arabinose	13.16	10	6.16	13.16
Soluble NSP: Xylose	23.41	10	11.67	23.41
Soluble NSP: Mannose	2.14	10	0.89	2.14
Soluble NSP: Galactose	6.00	10	1.58	6.00
Soluble NSP: Glucose	3.81	10	1.47	3.81
Insoluble NSP: Rhamnose	0.65	10	0.13	0.65
Insoluble NSP: Fucose	0.58	10	0.25	0.58
Insoluble NSP: Ribose	0.22	8	0.21	0.22
Insoluble NSP: Arabinose	41.23	10	1.68	41.23
Insoluble NSP: Xylose	57.57	10	2.89	57.57
Insoluble NSP: Mannose	7.04	10	0.86	7.04
Insoluble NSP: Galactose	9.01	10	3.18	9.01
Insoluble NSP: Glucose	56.94	10	3.82	56.94
Oligo. NSP: Rhamnose	0.13	5	0.03	0.13
Oligo. NSP: Fucose	0.08	5	0.03	0.08
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose	6.19	5	0.67	6.19
Oligo. NSP: Xylose	8.42	5	1.03	8.42
Oligo. NSP: Mannose	4.79	5	0.25	4.79
Oligo. NSP: Galactose	3.52	5	0.38	3.52
Oligo. NSP: Glucose	17.49	5	1.39	17.49

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine				
Total methionine				
Total threonine				
Total cysteine				
Total tryptophan				
Total arginine				
Total valine				
Total isoleucine				
Total leucine				
Total histidine				
Total serine				
Total glycine				
Total proline				
Total alanine				
Total phenylalanine				
Total aspartic acid				
Total glu. acid/glu.				
Lysine (SID)				
Methionine (SID)				
Threonine (SID)				
Cysteine (SID)				
Tryptophan (SID)				
Arginine (SID)				
Valine (SID)				
Isoleucine (SID)				
Leucine (SID)				
Histidine (SID)				
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				
Glu. acid/glu. (SID)				

DDGS (sorghum)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Average of the mean
	Mean	n	SD	
Dry matter	899.0	18	13	
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein	372.6	19	36	372.6
Ether extract	104.6	17	15	104.6
Ash	50.1	17	23	50.1
Crude fibre	90.1	12	14	90.1
Acid detergent fibre	220.2	10	103	220.2
Neutral detergent fibre	428.3	12	119	428.3
Starch	899.0	18	13	899.0
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Average of the mean
	Mean	n	SD	
Total calcium	0.8	7	0.3	0.8
Digestible calcium				
Total phosphorus	7.4	10	1.1	7.4
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium	3.5	1		3.5
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine	10.81	8	1.490	10.81
Total methionine	6.71	6	0.373	6.71
Total threonine	13.41	8	1.118	13.41
Total cysteine	12.67	6	3.353	12.67
Total tryptophan	2.98	8	0.745	2.98
Total arginine	16.02	8	2.608	16.02
Total valine	20.49	8	1.490	20.49
Total isoleucine	16.02	8	1.863	16.02
Total leucine	49.18	8	4.844	49.18
Total histidine	9.315	8	0.745	9.315
Total serine	16.02	1		16.02
Total glycine	11.55	1		11.55
Total proline	28.32	1		28.32
Total alanine	33.16	1		33.16
Total phenylalanine	19.00	6	1.118	19.00
Total aspartic acid	24.59	1		24.59
Total glu. acid/glu.	71.91	1		71.91
Lysine (SID)				
Methionine (SID)				
Threonine (SID)				
Cysteine (SID)				
Tryptophan (SID)				
Arginine (SID)				
Valine (SID)				
Isoleucine (SID)				
Leucine (SID)				
Histidine (SID)				
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				
Glu. acid/glu.(SID)				

DDGS (sorghum)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter						899.0	18	13.0	32	8
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein						372.6	19	36.0	1434	359
Ether extract						104.6	17	15.0	3160	790
Ash						50.1	17	23.0	32386	8096
Crude fibre						90.1	12	14.0	3710	928
Acid detergent fibre						220.2	10	103.0	33621	8405
Neutral detergent fibre						428.3	12	119.0	11862	2966
Starch										
Total NSP	220.0	11	20.2	1300	325					
Soluble NSP	50.1	11	17.6	19033	4758					
Insoluble NSP	169.9	11	11.6	711	178					
Oligosaccharides	40.6	5	2.5	593	148					
Total NSP: Rhamnose	0.7	10	0.2	6985	1746					
Total NSP: Fucose	0.7	10	0.3	20138	5034					
Total NSP: Ribose	0.3	9	0.3	106782	26695					
Total NSP: Arabinose	54.4	10	5.5	1566	392					
Total NSP: Xylose	81.0	10	13.0	3984	996					
Total NSP: Mannose	9.2	10	1.2	2523	631					
Total NSP: Galactose	15.0	10	4.3	12596	3149					
Total NSP: Glucose	60.7	10	4.2	749	187					
Soluble NSP: Rhamnose	0.1	10	0.0	37000	9250					
Soluble NSP: Fucose	0.1	10	0.0	11793	2948					
Soluble NSP: Ribose	0.1	8	0.1	103850	25963					
Soluble NSP: Arabinose	13.2	10	6.2	33654	8413					
Soluble NSP: Xylose	23.4	10	11.7	38185	9546					
Soluble NSP: Mannose	2.1	10	0.9	26510	6627					
Soluble NSP: Galactose	6.0	10	1.6	10619	2655					
Soluble NSP: Glucose	3.8	10	1.5	23036	5759					
Insoluble NSP: Rhamnose	0.6	10	0.1	6420	1605					
Insoluble NSP: Fucose	0.6	10	0.2	27633	6908					
Insoluble NSP: Ribose	0.2	8	0.2	137165	34291					
Insoluble NSP: Arabinose	41.2	10	1.7	257	64					
Insoluble NSP: Xylose	57.6	10	2.9	386	97					
Insoluble NSP: Mannose	7.0	10	0.9	2306	576					
Insoluble NSP: Galactose	9.0	10	3.2	19104	4776					
Insoluble NSP: Glucose	56.9	10	3.8	693	173					
Oligo. NSP: Rhamnose	0.1	5	0.0	6236	1559					
Oligo. NSP: Fucose	0.1	5	0.0	19204	4801					
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose	6.2	5	0.7	1786	447					
Oligo. NSP: Xylose	8.4	5	1.0	2286	571					
Oligo. NSP: Mannose	4.8	5	0.2	406	101					
Oligo. NSP: Galactose	3.5	5	0.4	1766	442					
Oligo. NSP: Glucose	17.5	5	1.4	976	244					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No Data*			0.8	7	0.3	21609	5402
Digestible calcium										
Total phosphorus						7.4	10	1.1	3395	849
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium										
Chloride										
Potassium						3.5	1			
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine						10.8	8	1.5	2923	731
Total methionine						6.7	6	0.4	474	119
Total threonine						13.4	8	1.1	1067	267
Total cysteine						12.7	6	3.4	10767	2692
Total tryptophan						3.0	8	0.7	9604	2401
Total arginine						16.0	8	2.6	4072	1018
Total valine						20.5	8	1.5	813	203
Total isoleucine						16.0	8	1.9	2078	519
Total leucine						49.2	8	4.8	1490	373
Total histidine						9.3	8	0.7	983	246
Total serine						16.0	1			
Total glycine						11.6	1			
Total proline						28.3	1			
Total alanine						33.2	1			
Total phenylalanine						19.0	6	1.1	532	133
Total aspartic acid						24.6	1			
Total glu. acid/glu.						71.9	1			
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

DDGS (wheat)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Average of the mean
	Mean	n	SD	
Dry matter				
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein				
Ether extract				
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP	163.2	13	43.2	163.2
Soluble NSP	65.3	13	9.5	65.3
Insoluble NSP	97.9	13	45.7	97.9
Oligosaccharides	39.5	3	2.0	39.5
Total NSP: Rhamnose	0.27	11	0.26	0.27
Total NSP: Fucose	0.08	11	0.06	0.08
Total NSP: Ribose	0.17	10	0.13	0.17
Total NSP: Arabinose	32.64	11	7.61	32.64
Total NSP: Xylose	53.30	11	19.84	53.30
Total NSP: Mannose	13.87	11	3.32	13.87
Total NSP: Galactose	11.09	11	1.16	11.09
Total NSP: Glucose	45.52	11	18.42	45.52
Soluble NSP: Rhamnose	0.03	9	0.05	0.03
Soluble NSP: Fucose	0.10	9	0.05	0.10
Soluble NSP: Ribose	0.05	8	0.08	0.05
Soluble NSP: Arabinose	17.80	11	4.39	17.80
Soluble NSP: Xylose	25.78	11	8.04	25.78
Soluble NSP: Mannose	5.46	11	1.73	5.46
Soluble NSP: Galactose	6.09	11	1.57	6.09
Soluble NSP: Glucose	10.68	11	4.43	10.68
Insoluble NSP: Rhamnose	0.30	9	0.26	0.30
Insoluble NSP: Fucose				
Insoluble NSP: Ribose	0.16	8	0.07	0.16
Insoluble NSP: Arabinose	14.84	11	10.42	14.84
Insoluble NSP: Xylose	27.52	11	18.54	27.52
Insoluble NSP: Mannose	8.41	11	2.15	8.41
Insoluble NSP: Galactose	5.00	11	0.57	5.00
Insoluble NSP: Glucose	34.84	11	16.96	34.84
Oligo. NSP: Rhamnose	0.05	3	0.04	0.05
Oligo. NSP: Fucose	0.10	3	0.05	0.10
Oligo. NSP: Ribose	0.16	3	0.11	0.16
Oligo. NSP: Arabinose	4.54	3	3.21	4.54
Oligo. NSP: Xylose	7.60	3	0.25	7.60
Oligo. NSP: Mannose	2.93	3	0.23	2.93
Oligo. NSP: Galactose	5.21	3	0.31	5.21
Oligo. NSP: Glucose	18.87	3	0.78	18.87

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine				
Total methionine				
Total threonine				
Total cysteine				
Total tryptophan				
Total arginine				
Total valine				
Total isoleucine				
Total leucine				
Total histidine				
Total serine				
Total glycine				
Total proline				
Total alanine				
Total phenylalanine				
Total aspartic acid				
Total glu. acid/glu.				
Lysine (SID)				
Methionine (SID)				
Threonine (SID)				
Cysteine (SID)				
Tryptophan (SID)				
Arginine (SID)				
Valine (SID)				
Isoleucine (SID)				
Leucine (SID)				
Histidine (SID)				
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				
Glu. acid/glu. (SID)				

DDGS (wheat)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Feedipedia			Premier Nutrition			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880	75					906	182	13	916			900.7
ME													
AME (MJ)							9.9	24	0.7				9.9
AMEn (MJ)	11.13	16					9.5	20	0.8	10.03			10.2
Net energy	8.66						7.13						7.9
Crude protein	295.3	75		329	44	50.26	419.1	175	17	324			341.9
Ether extract	53.8	16					56.2	76	7				55.0
Ash	48.7	16					66.3	125	8	42			52.3
Crude fibre	49.6	16					86.5	131	11	75			70.4
Acid detergent fibre	108.2	16					162.9	29	36	160			143.7
Neutral detergent fibre	386.7	16					382	31	68	320			362.9
Starch	72.8	16					47.2	113	12	30			50.0
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Feedipedia			Premier Nutrition			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	1.2	16					2.1	32	1.0	1.5			1.6
Digestible calcium													
Total phosphorus	6.4	16					9.1	36	1.4	8.0			7.8
Available phosphorus													
Phytate phosphorus										2.2			2.2
Phytate													
Linoleic acid													
Sodium	1.7	16					4.9	17	3.3	3.0			3.2
Chloride										2.1			2.1
Potassium	12.7	16					10.9	13	2.9	10.5			11.4
Magnesium	2.3	16					3.7	4	1.0	3.0			3.0
Manganese							0.087	2		0.07			0.1
Zinc							0.13	2		0.1			0.1
Copper							0.01	2		0.012			0.0
Iron							0.14	10	0.067	0.15			0.1
Selenium										0.0001			0.0
Cobalt										0.00006			0.0
Molybdenum													
Choline													
Sulphur										3.5			3.5
Total lysine	6.3	75		6.5	44	1.77	9.64	23	2.51	6.8			7.3
Total methionine	4.4	75		4.7	44	0.75	6.29	18	0.84	4.9			5.1
Total threonine	9.1	75		9.7	44	1.28	12.57	19	0.84	9.9			10.3
Total cysteine	5.7	75		5.9	44	1.09	7.96	17	0.84	6.2			6.4
Total tryptophan	3.1	37		3.4	44	0.48	4.19	17	0.84	3.3			3.5
Total arginine	12.3	75		12.9	44	2.42	16.76	18	1.68	13.3			13.8
Total valine	13.0	75		14.1	44	1.94	18.02	18	0.42	14.1			14.8
Total isoleucine	10.3	75		11.3	44	1.84	14.67	18	0.42	11.3			11.9
Total leucine	20.3	75		21.7	44	4.0	27.66	18	0.84	22.7			23.1
Total histidine	6.2	75		6.5	44	0.97	8.80	18	0.42	6.8			7.1
Total serine	13.2	75		14.4	44	2.34	18.44	18	1.26	14.5			15.1
Total glycine	12.0	75		13.0	44	1.65	16.76	18	0.84	13.0			13.7
Total proline	26.9	75		28.2	44	5.79	35.62	17	2.51	29.5			30.1
Total alanine	11.6	75		12.3	44	1.94	15.93	18	3.35				13.3
Total phenylalanine	13.5	75		14.7	44	2.59	18.86	18	0.42				15.7
Total aspartic acid	15.2	75		16.0	44	1.66	20.536	18	2.10	16.8			17.1
Total glu. acid/glu.	75.7	75		85.4	44	18.47	108.13	18	14.67	82.9			88.0
Lysine (SID)	2.6									3.4			3.0
Methionine (SID)	3.4									3.4			3.4
Threonine (SID)	5.8									6.3			6.1
Cysteine (SID)	3.8									4.0			3.9
Tryptophan (SID)										2.4			2.4
Arginine (SID)	8.8									9.8			9.3
Valine (SID)	9.0									9.9			9.5
Isoleucine (SID)	7.6									7.9			7.8
Leucine (SID)	15.4									17.0			16.2
Histidine (SID)	4.2									4.8			4.5
Serine (SID)										10.3			10.3
Glycine (SID)										8.4			8.4
Proline (SID)										24.2			24.2
Alanine (SID)													
Phenylalanine (SID)	11.0												11.0
Aspartic acid (SID)										14.0			14.0
Glu. acid/glu.(SID)										68.8			68.8

DDGS (wheat)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter						900.7	257	13.0	32	8
ME										
AME (MJ)						9.9	24	0.7	768	192
AMEn (MJ)						10.2	36	0.8	942	235
Net energy						7.9				
Crude protein						341.9	294	33.6	1487	372
Ether extract						55.0	92	7.0	2489	622
Ash						52.3	141	8.0	3591	898
Crude fibre						70.4	147	11.0	3755	939
Acid detergent fibre						143.7	45	36.0	9644	2411
Neutral detergent fibre						362.9	47	68.0	5395	1349
Starch						50.0	129	12.0	8851	2213
Total NSP	163.2	13	43.2	10764	2691					
Soluble NSP	65.3	13	9.5	3247	812					
Insoluble NSP	97.9	13	45.7	33416	8354					
Oligosaccharides	39.5	3	2.0	397	99					
Total NSP: Rhamnose	0.3	11	0.3	147702	36925					
Total NSP: Fucose	0.1	11	0.1	79841	19960					
Total NSP: Ribose	0.2	10	0.1	90978	22745					
Total NSP: Arabinose	32.6	11	7.6	8344	2086					
Total NSP: Xylose	53.3	11	19.8	21283	5321					
Total NSP: Mannose	13.9	11	3.3	8785	2196					
Total NSP: Galactose	11.1	11	1.2	1689	422					
Total NSP: Glucose	45.5	11	18.4	25166	6292					
Soluble NSP: Rhamnose	0.0	9	0.0	369140	92285					
Soluble NSP: Fucose	0.1	9	0.0	37386	9346					
Soluble NSP: Ribose	0.1	8	0.1	298541	74635					
Soluble NSP: Arabinose	17.8	11	4.4	9355	2339					
Soluble NSP: Xylose	25.8	11	8.0	14948	3737					
Soluble NSP: Mannose	5.5	11	1.7	15463	3866					
Soluble NSP: Galactose	6.1	11	1.6	10204	2551					
Soluble NSP: Glucose	10.7	11	4.4	26471	6618					
Insoluble NSP: Rhamnose	0.3	9	0.3	119736	29934					
Insoluble NSP: Fucose										
Insoluble NSP: Ribose	0.2	8	0.1	28157	7039					
Insoluble NSP: Arabinose	14.8	11	10.4	75732	18933					
Insoluble NSP: Xylose	27.5	11	18.5	69739	17435					
Insoluble NSP: Mannose	8.4	11	2.1	10005	2501					
Insoluble NSP: Galactose	5.0	11	0.6	1980	495					
Insoluble NSP: Glucose	34.8	11	17.0	36390	9097					
Oligo. NSP: Rhamnose	0.0	3	0.0	76832	19208					
Oligo. NSP: Fucose	0.1	3	0.1	38568	9642					
Oligo. NSP: Ribose	0.2	3	0.1	76832	19208					
Oligo. NSP: Arabinose	4.5	3	3.2	76832	19208					
Oligo. NSP: Xylose	7.6	3	0.2	161	40					
Oligo. NSP: Mannose	2.9	3	0.2	970	242					
Oligo. NSP: Galactose	5.2	3	0.3	559	140					
Oligo. NSP: Glucose	18.9	3	0.8	259	65					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						1.6	48	1.0	60025	15006
Digestible calcium										
Total phosphorus						7.8	52	1.4	4908	1227
Available phosphorus										
Phytate phosphorus						2.2				
Phytate										
Linoleic acid										
Sodium						3.2	33	3.3	163418	40855
Chloride						2.1				
Potassium						11.4	29	2.9	10002	2501
Magnesium						3.0	20	1.0	17074	4268
Manganese						0.1	2			
Zinc						0.1	2			
Copper						0.0	2			
Iron						0.1	10	0.1	32808	8202
Selenium						0.0				
Cobalt						0.0				
Molybdenum										
Choline										
Sulphur						3.5				
Total lysine						7.3	142	2.1	13198	3300
Total methionine						5.1	137	0.8	3767	942
Total threonine						10.3	138	1.1	1619	405
Total cysteine						6.4	136	1.0	3443	861
Total tryptophan						3.5	98	0.7	5456	1364
Total arginine						13.8	137	2.0	3377	844
Total valine						14.8	137	1.2	975	244
Total isoleucine						11.9	137	1.1	1386	347
Total leucine						23.1	137	2.4	1687	422
Total histidine						7.1	137	0.7	1481	370
Total serine						15.1	137	1.8	2170	543
Total glycine						13.7	137	1.2	1269	317
Total proline						30.1	136	4.2	2933	733
Total alanine						13.3	137	2.6	6107	1527
Total phenylalanine						15.7	137	1.5	1414	353
Total aspartic acid						17.1	137	1.9	1846	461
Total glu. acid/glu.						88.0	137	16.6	5444	1361
Lysine (SID)						3.0				
Methionine (SID)						3.4				
Threonine (SID)						6.1				
Cysteine (SID)						3.9				
Tryptophan (SID)						2.4				
Arginine (SID)						9.3				
Valine (SID)						9.5				
Isoleucine (SID)						7.8				
Leucine (SID)						16.2				
Histidine (SID)						4.5				
Serine (SID)						10.3				
Glycine (SID)						8.4				
Proline (SID)						24.2				
Alanine (SID)										
Phenylalanine (SID)						11.0				
Aspartic acid (SID)						14.0				
Glu. acid/glu. (SID)						68.8				

Millrun

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter				921	1		921.0
ME							
AME (MJ)							
AMEn (MJ)							
Net energy							
Crude protein				151	1		151.0
Ether extract							
Ash							
Crude fibre							
Acid detergent fibre							
Neutral detergent fibre							
Starch							
Total NSP	271.4	25	61.0				271.4
Soluble NSP	20.9	25	8.41				20.9
Insoluble NSP	246.6	25	53.0				246.6
Oligosaccharides	42.4	8	6.5				42.4
Total NSP: Rhamnose	0.82	13	0.59				0.82
Total NSP: Fucose	0.16	13	0.15				0.16
Total NSP: Ribose	0.35	13	0.26				0.35
Total NSP: Arabinose	76.07	14	26.04				76.07
Total NSP: Xylose	129.41	14	20.28				129.41
Total NSP: Mannose	3.72	14	1.15				3.72
Total NSP: Galactose	9.24	14	4.71				9.24
Total NSP: Glucose	64.01	14	19.86				64.01
Soluble NSP: Rhamnose	0.11	13	0.05				0.11
Soluble NSP: Fucose	0.06	13	0.07				0.06
Soluble NSP: Ribose	0.20	13	0.23				0.20
Soluble NSP: Arabinose	4.58	14	2.89				4.58
Soluble NSP: Xylose	10.73	14	4.47				10.73
Soluble NSP: Mannose	1.03	14	0.52				1.03
Soluble NSP: Galactose	3.20	14	4.76				3.20
Soluble NSP: Glucose	3.02	14	1.73				3.02
Insoluble NSP: Rhamnose	0.78	13	0.55				0.78
Insoluble NSP: Fucose	0.12	13	0.11				0.12
Insoluble NSP: Ribose	0.18	13	0.16				0.18
Insoluble NSP: Arabinose	71.49	14	25.88				71.49
Insoluble NSP: Xylose	118.68	14	20.11				118.68
Insoluble NSP: Mannose	2.69	14	1.32				2.69
Insoluble NSP: Galactose	6.04	14	1.06				6.04
Insoluble NSP: Glucose	61.00	14	19.15				61.00
Oligo. NSP: Rhamnose	0.21	8	0.14				0.21
Oligo. NSP: Fucose	0.01	8	0.02				0.01
Oligo. NSP: Ribose	0.19	8	0.18				0.19
Oligo. NSP: Arabinose	0.66	8	0.27				0.66
Oligo. NSP: Xylose	0.68	8	0.39				0.68
Oligo. NSP: Mannose	6.81	8	1.68				6.81
Oligo. NSP: Galactose	3.95	8	0.67				3.95
Oligo. NSP: Glucose	29.91	8	5.05				29.91

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium							
Digestible calcium							
Total phosphorus							
Available phosphorus							
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium							
Chloride							
Potassium							
Magnesium							
Manganese							
Zinc							
Copper							
Iron							
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine				5.7	1		5.7
Total methionine				2.1	1		2.1
Total threonine				4.9	1		4.9
Total cysteine							
Total tryptophan				2.1	1		2.1
Total arginine				9.2	1		9.2
Total valine				7.0	1		7.0
Total isoleucine				5.1	1		5.1
Total leucine				8.9	1		8.9
Total histidine				4.0	1		4.0
Total serine				6.9	1		6.9
Total glycine				7.6	1		7.6
Total proline							
Total alanine				6.8	1		6.8
Total phenylalanine				5.8	1		5.8
Total aspartic acid				9.7	1		9.7
Total glu. acid/glu.				30.7	1		30.7
Lysine (SID)				4.2	1		4.2
Methionine (SID)				1.7	1		1.7
Threonine (SID)				3.2	1		3.2
Cysteine (SID)							
Tryptophan (SID)				1.6	1		1.6
Arginine (SID)				6.8	1		6.8
Valine (SID)				5.0	1		5
Isoleucine (SID)				3.8	1		3.8
Leucine (SID)				6.8	1		6.8
Histidine (SID)				2.9	1		2.9
Serine (SID)				5.0	1		5.0
Glycine (SID)				5.2	1		5.2
Proline (SID)							
Alanine (SID)				4.9	1		4.9
Phenylalanine (SID)				4.5	1		4.5
Aspartic acid (SID)				6.9	1		6.9
Glu. acid/glu. (SID)				26.7	1		26.7

Millrun

Global

Nutrient (g/kg as fed, unless otherwise specified)	RCI			Average of the mean
	Mean	n	SD	
Dry matter	871			871
ME	8.37			8.37
AME (MJ)	8.38			8.38
AMEn (MJ)				
Net energy				
Crude protein	150			150
Ether extract	40			40
Ash	55			55
Crude fibre	90			90
Acid detergent fibre	90			90
Neutral detergent fibre	310			310
Starch	311			311
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Nutrient (g/kg as fed, unless otherwise specified)	RCI			Average of the mean
	Mean	n	SD	
Total calcium	1.0			1.0
Digestible calcium				
Total phosphorus	10.0			10.0
Available phosphorus	3.0			3.0
Phytate phosphorus	6.4			6.4
Phytate				
Linoleic acid				
Sodium	0.6			0.6
Chloride				
Potassium	10.0			10.0
Magnesium				
Manganese	0.102			0.102
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine	6.5			6.5
Total methionine	2.1			2.1
Total threonine	5.1			5.1
Total cysteine	2.4			2.4
Total tryptophan	1.4			1.4
Total arginine	10.0			10
Total valine	7.2			7.2
Total isoleucine	4.7			4.7
Total leucine	9.5			9.5
Total histidine	4.1			4.1
Total serine	9.5			9.5
Total glycine	7.5			7.5
Total proline	10.4			10.4
Total alanine	6.9			6.9
Total phenylalanine	6.2			6.2
Total aspartic acid	10.3			10.3
Total glu. acid/glu.	31.4			31.4
Lysine (SID)	5.43			5.43
Methionine (SID)	1.68			1.68
Threonine (SID)	3.79			3.79
Cysteine (SID)	1.69			1.69
Tryptophan (SID)	1.17			1.17
Arginine (SID)	9.3			9.3
Valine (SID)	6.15			6.15
Isoleucine (SID)	3.85			3.85
Leucine (SID)	7.6			7.6
Histidine (SID)	3.2			3.2
Serine (SID)	7.5			7.5
Glycine (SID)	5.7			5.7
Proline (SID)	8.6			8.6
Alanine (SID)	5.3			5.3
Phenylalanine (SID)	5.0			5.0
Aspartic acid (SID)	7.9			7.9
Glu. acid/glu.(SID)	28.0			28.0

Millrun

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	921.0	1				87.1				
ME						8.4				
AME (MJ)						8.4				
AMEn (MJ)										
Net energy										
Crude protein	151.0	1				150.0				
Ether extract						40.0				
Ash						55.0				
Crude fibre						90.0				
Acid detergent fibre						90.0				
Neutral detergent fibre						310.0				
Starch						311.0				
Total NSP	271.4	25	61.0	7772	1943					
Soluble NSP	20.9	25	8.4	24773	6193					
Insoluble NSP	246.6	25	53.0	7108	1777					
Oligosaccharides	42.4	8	6.5	3628	907					
Total NSP: Rhamnose	0.8	13	0.6	80481	20120					
Total NSP: Fucose	0.2	13	0.2	129592	32398					
Total NSP: Ribose	0.4	13	0.3	81932	20483					
Total NSP: Arabinose	76.1	14	26.0	18005	4501					
Total NSP: Xylose	129.4	14	20.3	3773	943					
Total NSP: Mannose	3.7	14	1.1	14627	3657					
Total NSP: Galactose	9.2	14	4.7	39905	9976					
Total NSP: Glucose	64.0	14	19.9	14792	3698					
Soluble NSP: Rhamnose	0.1	13	0.0	31143	7786					
Soluble NSP: Fucose	0.1	13	0.1	228074	57018					
Soluble NSP: Ribose	0.2	13	0.2	193743	48436					
Soluble NSP: Arabinose	4.6	14	2.9	61128	15282					
Soluble NSP: Xylose	10.7	14	4.5	26662	6665					
Soluble NSP: Mannose	1.0	14	0.5	39568	9892					
Soluble NSP: Galactose	3.2	14	4.8	341470	85367					
Soluble NSP: Glucose	3.0	14	1.7	50854	12713					
Insoluble NSP: Rhamnose	0.8	13	0.6	77635	19409					
Insoluble NSP: Fucose	0.1	13	0.1	124614	31153					
Insoluble NSP: Ribose	0.2	13	0.2	118510	29627					
Insoluble NSP: Arabinose	71.5	14	25.9	20139	5035					
Insoluble NSP: Xylose	118.7	14	20.1	4413	1103					
Insoluble NSP: Mannose	2.7	14	1.3	36872	9218					
Insoluble NSP: Galactose	6.0	14	1.1	4711	1178					
Insoluble NSP: Glucose	61.0	14	19.1	15142	3785					
Oligo. NSP: Rhamnose	0.2	8	0.1	69120	17280					
Oligo. NSP: Fucose	0.0	8	0.0	1075648	268912					
Oligo. NSP: Ribose	0.2	8	0.2	134824	33706					
Oligo. NSP: Arabinose	0.7	8	0.3	24949	6237					
Oligo. NSP: Xylose	0.7	8	0.4	49465	12366					
Oligo. NSP: Mannose	6.8	8	1.7	9409	2352					
Oligo. NSP: Galactose	4.0	8	0.7	4430	1108					
Oligo. NSP: Glucose	29.9	8	5.1	4387	1097					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						1.0				
Digestible calcium										
Total phosphorus						10.0				
Available phosphorus						3.0				
Phytate phosphorus						6.4				
Phytate										
Linoleic acid										
Sodium						0.6				
Chloride										
Potassium						10.0				
Magnesium										
Manganese						0.1				
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine	5.7	1				6.5				
Total methionine	2.1	1				2.1				
Total threonine	4.9	1				5.1				
Total cysteine						2.4				
Total tryptophan	2.1	1				1.4				
Total arginine	9.2	1				10.0				
Total valine	7.0	1				7.2				
Total isoleucine	5.1	1				4.7				
Total leucine	8.9	1				9.5				
Total histidine	4.0	1				4.1				
Total serine	6.9	1				9.5				
Total glycine	7.6	1				7.5				
Total proline						10.4				
Total alanine	6.8	1				6.9				
Total phenylalanine	5.8	1				6.2				
Total aspartic acid	9.7	1				10.3				
Total glu. acid/glu.	30.7	1				31.4				
Lysine (SID)	4.2	1				5.4				
Methionine (SID)	1.7	1				1.7				
Threonine (SID)	3.2	1				3.8				
Cysteine (SID)						1.7				
Tryptophan (SID)	1.6	1				1.2				
Arginine (SID)	6.8	1				9.3				
Valine (SID)	5.0	1				6.2				
Isoleucine (SID)	3.8	1				3.9				
Leucine (SID)	6.8	1				7.6				
Histidine (SID)	2.9	1				3.2				
Serine (SID)	5.0	1				7.5				
Glycine (SID)	5.2	1				5.7				
Proline (SID)						8.6				
Alanine (SID)	4.9	1				5.3				
Phenylalanine (SID)	4.5	1				5.0				
Aspartic acid (SID)	6.9	1				7.9				
Glu. acid/glu. (SID)	26.7	1				28.0				

Oats

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880	8								880
ME										
AME (MJ)										
AMEn (MJ)	11.91	8								11.91
Net energy	9.66									9.66
Crude protein	93.5	8								93.5
Ether extract	64.4	8								64.4
Ash	27.0	8								27.0
Crude fibre	90.5	8								90.5
Acid detergent fibre	108.1	8								108.1
Neutral detergent fibre	283.6	8								283.6
Starch	389.3	8								389.3
Total NSP				151.7	11	35.9				151.7
Soluble NSP				30.4	11	15.8				30.4
Insoluble NSP				121.3	11	42.0				121.3
Oligosaccharides				8.9	5	1.3				8.9
Total NSP: Rhamnose				0.85	11	1.33				0.85
Total NSP: Fucose				0.24	11	0.26				0.24
Total NSP: Ribose				0.52	10	0.23				0.52
Total NSP: Arabinose				11.53	11	4.18				11.53
Total NSP: Xylose				73.96	11	24.34				73.96
Total NSP: Mannose				4.12	11	1.74				4.12
Total NSP: Galactose				4.76	11	1.35				4.76
Total NSP: Glucose				57.21	11	12.37				57.21
Soluble NSP: Rhamnose				0.70	10	1.30				0.70
Soluble NSP: Fucose				0.16	10	0.28				0.16
Soluble NSP: Ribose				0.22	9	0.06				0.22
Soluble NSP: Arabinose				2.10	11	0.58				2.10
Soluble NSP: Xylose				1.43	11	0.69				1.43
Soluble NSP: Mannose				1.55	11	0.42				1.55
Soluble NSP: Galactose				1.34	11	0.53				1.34
Soluble NSP: Glucose				24.20	11	13.27				24.20
Insoluble NSP: Rhamnose				0.24	10	0.17				0.24
Insoluble NSP: Fucose				0.10	10	0.07				0.10
Insoluble NSP: Ribose				0.36	9	0.12				0.36
Insoluble NSP: Arabinose				9.43	11	3.96				9.43
Insoluble NSP: Xylose				72.53	11	24.14				72.53
Insoluble NSP: Mannose				2.48	11	1.58				2.48
Insoluble NSP: Galactose				3.33	11	1.03				3.33
Insoluble NSP: Glucose				33.01	11	8.82				33.01
Oligo. NSP: Rhamnose				0.16	5	0.20				0.16
Oligo. NSP: Fucose				0.18	5	0.15				0.18
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose				0.08	5	0.09				0.08
Oligo. NSP: Xylose				0.06	5	0.02				0.06
Oligo. NSP: Mannose				0.64	5	0.22				0.64
Oligo. NSP: Galactose				2.01	5	0.14				2.01
Oligo. NSP: Glucose				5.74	5	0.79				5.74

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	0.4	8								0.4
Digestible calcium										
Total phosphorus	2.1	8					2.43	2	2.43	2.3
Available phosphorus										
Phytate phosphorus	1.2	8					2.1	2	2.1	1.7
Phytate	4.2552						7.45		7.45	5.9
Linoleic acid										
Sodium	0.1	8								0.1
Chloride										
Potassium	3.5	8								3.5
Magnesium	0.9	8								0.9
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine	3.7	8								3.7
Total methionine	1.6	8								1.6
Total threonine	3.1	8								3.1
Total cysteine	2.8	8								2.8
Total tryptophan	1.2	8								1.2
Total arginine	5.9	8								5.9
Total valine	4.6	8								4.6
Total isoleucine	3.4	8								3.4
Total leucine	6.7	8								6.7
Total histidine	2.0	8								2.0
Total serine	4.3	8								4.3
Total glycine	4.5	8								4.5
Total proline	4.8	8								4.8
Total alanine	4.3	8								4.3
Total phenylalanine	4.5	8								4.5
Total aspartic acid	7.2	8								7.2
Total glu. acid/glu.	18.0	8								18.0
Lysine (SID)	3.3									3.3
Methionine (SID)	1.4									1.4
Threonine (SID)	2.6									2.6
Cysteine (SID)	2.3									2.3
Tryptophan (SID)	1.0									1.0
Arginine (SID)	5.5									5.5
Valine (SID)	4.1									4.1
Isoleucine (SID)	3.0									3.0
Leucine (SID)	6.0									6.0
Histidine (SID)	1.9									1.9
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)	4.2									4.2
Aspartic acid (SID)										
Glu. acid/glu. (SID)										0.4

Oats

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	407					870			901.32	11	8.55
ME							9.88					
AME (MJ)												
AMEn (MJ)	10.93	247					10.04					
Net energy	8.81											
Crude protein	104.9	407		121	4	7.24	95.0			100.4	11	9.67
Ether extract	50.1	248								47.27	11	8.83
Ash	25.1	248					24.0			23.38	11	2.51
Crude fibre	102.4	247					110.0			102.21	11	9.27
Acid detergent fibre	129.7	247					110.0					
Neutral detergent fibre	304.0	247					230.0					
Starch	397.4	248					370.0					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	857			879	1676	14	876	819	24	878.9
ME	11.21									11.2
AME (MJ)	11.2									11.2
AMEn (MJ)				11.9	16	3	9.4			10.6
Net energy				9.60			7.58			9.0
Crude protein	111			110	1641	14	94	956	11	107.9
Ether extract	26			54	1143	9	47	246	8	44.9
Ash	21			30	793	4	25	180	3	24.8
Crude fibre	39			139	1793	19	116	865	17	92.3
Acid detergent fibre	46			162	161	20	143	196	27	117.0
Neutral detergent fibre	110			355	161	46	314	190	45	266.7
Starch	530			879	1676	14	368	462	42	424.9
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Oats

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.6	248					1.0					
Digestible calcium												
Total phosphorus	2.6	248					3.0					
Available phosphorus												
Phytate phosphorus	1.4	248										
Phytate	4.96	248										
Linoleic acid												
Sodium	0.1	248					0.1					
Chloride							0.7					
Potassium	4.0	248					3.6					
Magnesium	1.0	248					1.2					
Manganese							0.04					
Zinc							0.025					
Copper							0.006					
Iron							0.076					
Selenium							0.00008					
Cobalt							0.00004					
Molybdenum							0.0006					
Choline												
Sulphur							2.0					
Total lysine	4.2	407		4.9	4	0.15	3.8			4.43	11	0.2
Total methionine	1.7	407		1.9	4	0.17	1.6			1.67	11	0.14
Total threonine	3.5	407		4.0	4	0.18	3.2			3.32	11	0.21
Total cysteine	3.0	407		3.5	4	0.26	2.7			2.84	11	0.21
Total tryptophan	1.4	407		1.7	4	0.06	1.2			0.96	11	0.11
Total arginine	6.8	407		7.5	4	0.27	3.2			6.44	11	0.34
Total valine	5.3	407		6.0	4	0.36	4.8			5.11	11	0.33
Total isoleucine	3.8	407		4.3	4	0.22	3.5			3.73	11	0.22
Total leucine	7.5	407		8.6	4	0.47	6.9			7.27	11	0.49
Total histidine	2.3	407		2.5	4	0.11	2.1			2.15	11	0.12
Total serine	4.9	407		5.5	4	0.22	4.5			4.26	11	0.55
Total glycine	5.1	407		5.9	4	0.18	4.7			4.91	11	0.31
Total proline	5.5	407		5.6	4	0.39	5.0			5.07	11	0.38
Total alanine	4.9	407		5.6	4	0.27				4.73	11	0.25
Total phenylalanine	5.2	407		5.9	4	0.36				4.96	11	0.37
Total aspartic acid	8.3	407		9.2	4	0.5	7.6			7.83	11	0.63
Total glu. acid/glu.	20.3	407		23	4	1.77	18.2			19.25	11	1.6
Lysine (SID)	3.6						3.2					
Methionine (SID)	1.5						1.3					
Threonine (SID)	2.9						2.6					
Cysteine (SID)	2.5						2.3					
Tryptophan (SID)	1.1						1.0					
Arginine (SID)	6.4						5.7					
Valine (SID)	4.6						4.1					
Isoleucine (SID)	3.4						3.1					
Leucine (SID)	6.8						6.1					
Histidine (SID)	2.1						1.9					
Serine (SID)							3.6					
Glycine (SID)							3.6					
Proline (SID)							4.3					
Alanine (SID)												
Phenylalanine (SID)	4.8											
Aspartic acid (SID)							6.4					
Glu. acid/glu.(SID)							15.3					

Nutrient (g/kg as fed, unless otherwise specified)	RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	0.9			1.1	232	0.3	1	264	0.3	0.9
Digestible calcium										
Total phosphorus	2.9			3.6	2.2	0.3	3.1	315	0.4	3.2
Available phosphorus	0.8									1.5
Phytate phosphorus	1.6						1.7	25	0.3	1.6
Phytate							6.03			5.6
Linoleic acid							16	7	3.9	16.1
Sodium	0.07			0.1	24	0.1	0.12	33	0.08	0.1
Chloride										0.9
Potassium	3.7			4.9	16	0.5	4.5	34	0.9	4.2
Magnesium	0.9			1.0	22	0.1	0.9	31	0.1	1.1
Manganese	0.032			0.043	19	0.008	0.041	25	0.017	0.0
Zinc	0.026			0.026	18	0.002	0.024	28	0.004	0.0
Copper	0.003			0.003	17	0.001	0.003	28	0.001	0.0
Iron				0.11	7	0.062	0.096	11	0.049	0.1
Selenium	0.00009						0.0002			0.0
Cobalt	0.00001						0.00008			0.0
Molybdenum	0.0002						0.0008			0.0
Choline	0.571									0.6
Sulphur	1.3						1.6	6	0.2	1.6
Total lysine	4.6			4.3	53	0.3	4	64	0.7	4.4
Total methionine	1.9			1.8	29	0.2	1.7	34	0.3	1.8
Total threonine	3.9			3.4	30	0.2	3.3	35	0.6	3.6
Total cysteine	3.5			29	24	0.3	3.1	29	0.4	6.4
Total tryptophan	1.4			1.3	18	0.1	1.2	22	0.2	1.3
Total arginine	7.6			6.7	29	0.5	6.3	33	1.3	6.6
Total valine	5.8			5.2	29	0.4	5	34	1.1	5.5
Total isoleucine	4.2			3.7	30	0.2	3.6	34	0.7	4.0
Total leucine	8.2			7.2	29	0.5	6.9	33	1.2	7.7
Total histidine	2.4			2.4	26	0.3	2	29	0.4	2.3
Total serine	5.4			4.8	28	0.3	4.6	33	0.8	5.0
Total glycine	5.5			5.0	29	0.3	4.8	33	0.8	5.3
Total proline	6.9			5.6	15	0.9	5.8	16	1.1	5.8
Total alanine	5.2			4.8	27	0.4	4.5	32	0.7	5.1
Total phenylalanine	5.6			5.0	29	0.3	4.7	32	0.9	5.4
Total aspartic acid	9.6			8.1	28	0.5	8.2	30	1.7	8.1
Total glu. acid/glu.	19.6			19.4	28	1.2	16.1	31	3.8	18.3
Lysine (SID)	4.1						3.3			3.7
Methionine (SID)	1.8						1.5			1.6
Threonine (SID)	3.1						2.5			2.9
Cysteine (SID)	2.5						2.1			2.5
Tryptophan (SID)	1.1						0.9			1.1
Arginine (SID)	6.9						5.3			6.5
Valine (SID)	5.1						4.1			4.7
Isoleucine (SID)	3.8						3			3.5
Leucine (SID)	7.3						5.8			6.8
Histidine (SID)	2.1						1.6			2.0
Serine (SID)	4.4						3.5			4.1
Glycine (SID)	4.5						3.7			4.2
Proline (SID)	5.4						4.3			5.1
Alanine (SID)	4.4						3.6			4.3
Phenylalanine (SID)	5.2						4.1			5.0
Aspartic acid (SID)	7.9						6.2			6.4
Glu. acid/glu. (SID)	17.2						13.2			16.9

Oats

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	880.0	8				878.9	2948	12.5	31	8
ME						11.2	3	1.8	4036	1009
AME (MJ)						11.2				
AMEn (MJ)	11.9	8				10.6	263			
Net energy	9.7					9.0				
Crude protein	93.5	8				107.9	3054	13.7	2470	618
Ether extract	64.4	8				44.9	1683	8.6	5669	1417
Ash	27.0	8				24.8	1264	3.4	2841	710
Crude fibre	90.5	8				92.3	2947	18.7	6289	1572
Acid detergent fibre	108.1	8				117.0	607	39.2	17293	4323
Neutral detergent fibre	283.6	8				266.7	612	41.1	3650	913
Starch	389.3	8				424.9	715	70.4	4219	1055
Total NSP	151.7	11	35.9	8618	2155					
Soluble NSP	30.4	11	15.8	41432	10358					
Insoluble NSP	121.3	11	42.0	18452	4613					
Oligosaccharides	8.9	5	1.3	3087	772					
Total NSP: Rhamnose	0.8	11	1.3	376847	94212					
Total NSP: Fucose	0.2	11	0.3	181339	45335					
Total NSP: Ribose	0.5	10	0.2	30411	7603					
Total NSP: Arabinose	11.5	11	4.2	20211	5053					
Total NSP: Xylose	74.0	11	24.3	16638	4160					
Total NSP: Mannose	4.1	11	1.7	27268	6817					
Total NSP: Galactose	4.8	11	1.4	12432	3108					
Total NSP: Glucose	57.2	11	12.4	7189	1797					
Soluble NSP: Rhamnose	0.7	10	1.3	536780	134195					
Soluble NSP: Fucose	0.2	10	0.3	494309	123577					
Soluble NSP: Ribose	0.2	9	0.1	13331	3333					
Soluble NSP: Arabinose	2.1	11	0.6	11795	2949					
Soluble NSP: Xylose	1.4	11	0.7	36225	9056					
Soluble NSP: Mannose	1.6	11	0.4	11102	2775					
Soluble NSP: Galactose	1.3	11	0.5	23992	5998					
Soluble NSP: Glucose	24.2	11	13.3	46189	11547					
Insoluble NSP: Rhamnose	0.2	10	0.2	81777	20444					
Insoluble NSP: Fucose	0.1	10	0.1	79973	19993					
Insoluble NSP: Ribose	0.4	9	0.1	16883	4221					
Insoluble NSP: Arabinose	9.4	11	4.0	27019	6755					
Insoluble NSP: Xylose	72.5	11	24.1	17026	4257					
Insoluble NSP: Mannose	2.5	11	1.6	62297	15574					
Insoluble NSP: Galactose	3.3	11	1.0	14852	3713					
Insoluble NSP: Glucose	33.0	11	8.8	10959	2740					
Oligo. NSP: Rhamnose	0.2	5	0.2	257820	64455					
Oligo. NSP: Fucose	0.2	5	0.1	110510	27628					
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose	0.1	5	0.1	188384	47096					
Oligo. NSP: Xylose	0.1	5	0.0	24287	6072					
Oligo. NSP: Mannose	0.6	5	0.2	18546	4636					
Oligo. NSP: Galactose	2.0	5	0.1	728	182					
Oligo. NSP: Glucose	5.7	5	0.8	2915	729					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	0.4	8				0.9	762	0.3	14004	3501
Digestible calcium										
Total phosphorus	2.3	10				3.2	575	0.7	6811	1703
Available phosphorus						1.5				
Phytate phosphorus	1.7	10				1.6	275	0.2	1394	348
Phytate	5.9					5.6	248			
Linoleic acid						16.1	8	3.9	9073	2268
Sodium	0.1	8				0.1	307	0.1	57210	14303
Chloride						0.9	1			
Potassium	3.5	8				4.2	300	0.6	2820	705
Magnesium	0.9	8				1.1	304	0.3	14548	3637
Manganese						0.0	44	0.0	15786	3946
Zinc						0.0	46	0.0	2169	542
Copper						0.0	45	0.0	10927	2732
Iron						0.1	18	0.1	53568	13392
Selenium						0.0				
Cobalt						0.0				
Molybdenum						0.0				
Choline						0.6				
Sulphur						1.6	6	0.2	2304	576
Total lysine	3.7	8				4.4	539	0.3	892	223
Total methionine	1.6	8				1.8	485	0.2	1953	488
Total threonine	3.1	8				3.6	487	0.3	1041	260
Total cysteine	2.8	8				6.4	475	0.3	318	79
Total tryptophan	1.2	8				1.3	462	0.1	1173	293
Total arginine	5.9	8				6.6	484	0.6	1264	316
Total valine	4.6	8				5.5	485	0.5	1536	384
Total isoleucine	3.4	8				4.0	486	0.3	1103	276
Total leucine	6.7	8				7.7	484	0.7	1136	284
Total histidine	2.0	8				2.3	477	0.2	1528	382
Total serine	4.3	8				5.0	483	0.5	1339	335
Total glycine	4.5	8				5.3	484	0.4	872	218
Total proline	4.8	8				5.8	453	0.7	2165	541
Total alanine	4.3	8				5.1	481	0.4	967	242
Total phenylalanine	4.5	8				5.4	483	0.5	1223	306
Total aspartic acid	7.2	8				8.1	480	0.8	1632	408
Total glu. acid/glu.	18.0	8				18.3	481	2.1	2005	501
Lysine (SID)	3.3					3.7				
Methionine (SID)	1.4					1.6				
Threonine (SID)	2.6					2.9				
Cysteine (SID)	2.3					2.5				
Tryptophan (SID)	1.0					1.1				
Arginine (SID)	5.5					6.5				
Valine (SID)	4.1					4.7				
Isoleucine (SID)	3.0					3.5				
Leucine (SID)	6.0					6.8				
Histidine (SID)	1.9					2.0				
Serine (SID)						4.1				
Glycine (SID)						4.2				
Proline (SID)						5.1				
Alanine (SID)						4.3				
Phenylalanine (SID)	4.2					5.0				
Aspartic acid (SID)						6.4				
Glu. acid/glu. (SID)						16.9				

Sorghum

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Feed Grain Partnership			Poultry Hub Australia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	15		876.0	26	5.0						
ME												
AME (MJ)							13.91	19	0.15			
AMEn (MJ)	13.63	13										
Net energy	10.97											
Crude protein	88.7	15		104.2	26	4.0	105	19	5.87			
Ether extract	34.6	13		37.1	26	3.0						
Ash	13.3	13		15.0	26	1.0						
Crude fibre	22.8	13		21.3	26	2.0						
Acid detergent fibre	43.5	13										
Neutral detergent fibre	103.3	13										
Starch	647.1	13										
Total NSP										53.944	43	7.537
Soluble NSP										5.425	43	3.150
Insoluble NSP										49.480	43	8.682
Oligosaccharides										9.452	5	1.628
Total NSP: Rhamnose										0.099	36	0.279
Total NSP: Fucose										0.005	36	0.011
Total NSP: Ribose										2.567	10	4.517
Total NSP: Arabinose										11.857	36	3.763
Total NSP: Xylose										11.567	36	2.019
Total NSP: Mannose										2.325	36	1.570
Total NSP: Galactose										2.985	36	0.848
Total NSP: Glucose										24.255	36	4.995
Soluble NSP: Rhamnose										0.088	36	0.275
Soluble NSP: Fucose										0.005	36	0.011
Soluble NSP: Ribose										0.127	10	0.115
Soluble NSP: Arabinose										0.804	36	0.778
Soluble NSP: Xylose										0.601	36	0.971
Soluble NSP: Mannose										1.036	36	1.018
Soluble NSP: Galactose										0.797	36	0.493
Soluble NSP: Glucose										1.933	36	2.153
Insoluble NSP: Rhamnose										0.039	36	0.175
Insoluble NSP: Fucose												
Insoluble NSP: Ribose										2.440	10	4.558
Insoluble NSP: Arabinose										11.109	36	3.670
Insoluble NSP: Xylose										10.966	36	2.324
Insoluble NSP: Mannose										1.234	36	1.219
Insoluble NSP: Galactose										2.188	36	0.710
Insoluble NSP: Glucose										22.295	36	4.802
Oligo. NSP: Rhamnose										0.074	5	0.091
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose										0.213	5	0.140
Oligo. NSP: Xylose										0.049	5	0.047
Oligo. NSP: Mannose										1.071	5	0.222
Oligo. NSP: Galactose										0.666	5	0.075
Oligo. NSP: Glucose										7.378	5	1.484

Nutrient (g/kg as fed, unless otherwise specified)	DuPont			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				898	2	6.4				884.7
ME										
AME (MJ)										13.9
AMEn (MJ)										13.6
Net energy										11.0
Crude protein				90.2	2	3.8				97.0
Ether extract										35.9
Ash										14.2
Crude fibre										22.1
Acid detergent fibre										43.5
Neutral detergent fibre										103.3
Starch										647.1
Total NSP										53.9
Soluble NSP										5.4
Insoluble NSP										49.5
Oligosaccharides										9.5
Total NSP: Rhamnose										0.1
Total NSP: Fucose										0.0
Total NSP: Ribose										2.6
Total NSP: Arabinose										11.9
Total NSP: Xylose										11.6
Total NSP: Mannose										2.3
Total NSP: Galactose										3.0
Total NSP: Glucose										24.3
Soluble NSP: Rhamnose										0.1
Soluble NSP: Fucose										0.0
Soluble NSP: Ribose										0.1
Soluble NSP: Arabinose										0.8
Soluble NSP: Xylose										0.6
Soluble NSP: Mannose										1.0
Soluble NSP: Galactose										0.8
Soluble NSP: Glucose										1.9
Insoluble NSP: Rhamnose										0.0
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										2.4
Insoluble NSP: Arabinose										11.1
Insoluble NSP: Xylose										11.0
Insoluble NSP: Mannose										1.2
Insoluble NSP: Galactose										2.2
Insoluble NSP: Glucose										22.3
Oligo. NSP: Rhamnose										0.1
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										0.2
Oligo. NSP: Xylose										0.0
Oligo. NSP: Mannose										1.1
Oligo. NSP: Galactose										0.7
Oligo. NSP: Glucose										7.4

Sorghum

Australia (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Feed Grain Partnership			Poultry Hub Australia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium												
Digestible calcium												
Total phosphorus												
Available phosphorus				0.6	26	0.1						
Phytate phosphorus				2.1	26	0.2						
Phytate												
Linoleic acid												
Sodium												
Chloride												
Potassium												
Magnesium												
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine	2.0	15		2.2	26	0.1						
Total methionine	1.4	15		1.7	26	0.1						
Total threonine	2.8	15		3.3	26	0.2						
Total cysteine	1.6	15		1.9	26	0.1						
Total tryptophan	1.0	4		1.3	26	0.1						
Total arginine	3.4	15		3.8	26	0.2						
Total valine	4.4	15		5.2	26	0.3						
Total isoleucine	3.5	15		4.1	26	0.2						
Total leucine	11.6	15		14.2	26	0.8						
Total histidine	2.0	15		2.3	26	0.1						
Total serine	4.0	15										
Total glycine	2.9	15										
Total proline	7.1	15										
Total alanine	8.0	15										
Total phenylalanine	4.6	15										
Total aspartic acid	6.0	15										
Total glu. acid/glu.	17.7	15										
Lysine (SID)	1.8			1.7	26	0.1						
Methionine (SID)	1.3			1.5	26	0.1						
Threonine (SID)	2.4			2.6	26	0.1						
Cysteine (SID)	1.2			1.5	26	0.1						
Tryptophan (SID)	0.9			1.1	26	0.1						
Arginine (SID)	0.3			3.4	26	0.2						
Valine (SID)	3.8			4.4	26	0.2						
Isoleucine (SID)	3.1			3.6	26	0.2						
Leucine (SID)	10.2			13.0	26	0.7						
Histidine (SID)	1.7			2.0	26	0.1						
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	4.1											
Aspartic acid (SID)												
Glu. acid/glu. (SID)												

Nutrient (g/kg as fed, unless otherwise specified)	DuPont			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus	2.6	10					2.92	15	0.6	2.8
Available phosphorus										0.6
Phytate phosphorus	2.27	10					2.41	15	0.541	2.3
Phytate	8.05						8.56			8.3
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine				1.6	2	0.1				1.9
Total methionine				1.1	2	0				1.4
Total threonine				2.6	2	0.1				2.9
Total cysteine										1.8
Total tryptophan										1.2
Total arginine				2.7	2	0				3.3
Total valine				3.7	2					4.4
Total isoleucine				3	2	0.1				3.5
Total leucine				10.3	2	0				12.0
Total histidine				1.9	2	0.1				2.1
Total serine				3.9	2	0.1				4.0
Total glycine				2.3	2	0.1				2.6
Total proline										7.1
Total alanine				6.9	2	0.1				7.5
Total phenylalanine				3.8	2	0.1				4.2
Total aspartic acid				4.8	2	0				5.4
Total glu. acid/glu.				16.1	2	0.1				16.9
Lysine (SID)				1.2	2	0				1.6
Methionine (SID)				0.9	2	0				1.2
Threonine (SID)				1.7	2	0				2.2
Cysteine (SID)										1.4
Tryptophan (SID)										1.0
Arginine (SID)				2.1	2	0				1.9
Valine (SID)				2.8	2	0.1				3.7
Isoleucine (SID)				2.4	2	0.1				3.0
Leucine (SID)				8.6	2	0.2				10.6
Histidine (SID)				1.2	2	0.1				1.6
Serine (SID)				2.9	2	0				2.9
Glycine (SID)				1.6	2	0.1				1.6
Proline (SID)										
Alanine (SID)				5.7	2	0.3				5.7
Phenylalanine (SID)				3.1	2	0				3.6
Aspartic acid (SID)				3.7	2	0.1				3.7
Glu. acid/glu.				13.5	2	0.3				13.5

Sorghum

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	342		861.4	28	2.4	870			865.4	1	
ME							13.16					
AME (MJ)												
AMEn (MJ)	13.6	153					13.5					
Net energy	10.94											
Crude protein	91.6	342		80.8	28	3.2	95			80.45	2	5.55
Ether extract	33.7	153		34.9	28	1.0				32.4	1	
Ash	50.5	153		13.3	28	1.0	20			12.9	1	
Crude fibre	22.7	153		20.6	28	2.0	23			13.3	1	
Acid detergent fibre	50.5	153					25					
Neutral detergent fibre	116.1	153					80					
Starch	650.1	153					62					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				87.8			874	1634	21	879	669	48	773.6
ME				12.72									13.1
AME (MJ)				12.73									12.7
AMEn (MJ)							15.7	2		13.6	6	0.8	14.1
Net energy							12.596			10.92			11.3
Crude protein	98	2	14.2	110			123.6	1648	11	92	869	9	95.4
Ether extract				17			38.9	552	4	29	193	4	31.3
Ash				20			24	777	9	19	307	7	21.7
Crude fibre				24			32	700	6	25	176	5	23.7
Acid detergent fibre				33			49.2	86	11	38	67	1	41.4
Neutral detergent fibre				129			125.8	86	17	97	67	18	110.0
Starch				601			852	736	19	646	490	25	579.5
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Sorghum

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.1	153					0.3			0.15	2	0.01
Digestible calcium												
Total phosphorus	2.4	153					2.8			2.37	2	0.03
Available phosphorus				0.2	28	0.1						
Phytate phosphorus	1.7	153		2.1	28	0.1	2.1					
Phytate	6.0282						7.4466					
Linoleic acid												
Sodium	0	152					0.2			0.03	2	0.01
Chloride							0.7			0.67	3	0.09
Potassium	3.3	153					3.5			2.83	5	0.04
Magnesium	1.1	153					1.4					
Manganese							0.015			0.01585	2	0.00085
Zinc							0.02			0.0246	3	0.004526
Copper							0.005					
Iron							0.045			0.04175	2	0.01175
Selenium							0.0002			0.0123	3	0.0009
Cobalt							0.00022					
Molybdenum							0.001					
Choline												
Sulphur							0.08					
Total lysine	2.1	342		2.0	28	0.1	2.2			2.15	18	0.16
Total methionine	1.6	342		1.5	28	0.1	1.7			1.39	18	0.16
Total threonine	3.0	342		3.0	28	0.1	3.1			2.62	18	0.18
Total cysteine	1.7	342		1.6	28	0.1	1.7			1.3	10	0
Total tryptophan	1.2	114		1.1	28	0.1	1.0			0.7	9	0.09
Total arginine	3.6	342		3.4	28	0.1	3.6			3.13	17	0.14
Total valine	4.6	342		4.4	28	0.2	4.7			4.01	15	0.15
Total isoleucine	3.6	342		3.6	28	0.1	3.7			3.16	18	0.29
Total leucine	11.6	342		11.3	28	0.5	12.3			10.48	18	0.75
Total histidine	2.1	342		2.0	28	0.1	2.2			1.8	11	0
Total serine	4.1	342					4.3			3.44	18	0.29
Total glycine	3.0	342					3.2			2.7	10	0
Total proline	7.2	342					7.9			6.33	18	0.44
Total alanine	8.1	342								7.21	18	0.44
Total phenylalanine	4.6	342								4.11	18	0.32
Total aspartic acid	6.3	342					6.5			5.5	18	0.34
Total glu. acid/glu.	18.1	342					18.7			15.91	18	1.2
Lysine (SID)	1.9			1.6	28	0.1	1.9					
Methionine (SID)	1.5			1.3	28	0.1	1.5					
Threonine (SID)	2.5			2.3	28	0.1	2.5					
Cysteine (SID)	1.3			1.2	28	0.1	1.4					
Tryptophan (SID)	1.0			0.9	28	0.1	0.8					
Arginine (SID)	3.1			3.0	28	0.1	3.1					
Valine (SID)	4.0			3.8	28	0.2	4.1					
Isoleucine (SID)	3.2			3.2	28	0.1	3.3					
Leucine (SID)	10.2			10.5	28	0.6	10.9					
Histidine (SID)	1.7			1.7	28	0.1	1.7					
Serine (SID)							3.8					
Glycine (SID)							2.6					
Proline (SID)							7.2					
Alanine (SID)												
Phenylalanine (SID)	4.1											
Aspartic acid (SID)							5.7					
Glu. acid/glu.(SID)							16.7					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				0.5			0.3	181	0.2	0.3	165	0.2	0.28
Digestible calcium													
Total phosphorus				3.0			3.3	229	0.4	3	251	0.5	2.74
Available phosphorus				1.2									0.49
Phytate phosphorus				2.0						2.1			1.93
Phytate													6.38
Linoleic acid										8.8			9.65
Sodium				0.4			0.2	23	0.1	0.16	37	0.14	0.17
Chloride													0.66
Potassium				3.8			4.3	72	0.6	3.7	77	0.6	3.58
Magnesium				1.0			1.8	97	0.4	1.5	71	0.4	1.37
Manganese				0.03			0.012	16	0.004	0.012	14	0.011	0.016
Zinc				0.027			0.024	18	0.007	0.022	16	0.01	0.028
Copper				0.004			0.005	19	0.004	0.005	16	0.004	0.005
Iron				0.049			0.12	11	0.145	0.088	12	0.112	0.067
Selenium				0.0001						0.0004	3		0.003
Cobalt				0.00002						0.0002	7		0.0001
Molybdenum				0.0005						0.0001	5	0.0006	0.001
Choline				0.77									0.77
Sulphur				1.5						0.9			0.83
Total lysine	2.1	2	0.2	3.3			2.719	83	0.247	2.2	74	0.4	2.3
Total methionine	1.6	2	0.25	1.9			2.101	59	0.247	1.5	64	0.3	1.6
Total threonine	3.1	2	0.35	3.3			4.079	68	0.247	3	57	0.5	3.1
Total cysteine	1.6	2	0.15	2.5			2.348	52	0.371	1.8	40	0.3	1.8
Total tryptophan	1.1	2	0.18	1.5			1.236	35	0.124	1	31	0.2	1.1
Total arginine	3.4	2	0.35	5.2			4.944	63	0.494	3.8	53	0.6	3.8
Total valine	4.8	2	0.65	4.6			6.056	57	0.371	5	51	0.9	4.7
Total isoleucine	3.9	2	0.65	4.5			4.944	68	0.371	3.9	53	0.7	3.9
Total leucine	12.8	2	2.3	7.4			16.44	66	0.989	12.6	54	2.3	11.8
Total histidine	2.0	2	0.3	2.5			2.843	57	0.247	2.1	49	0.3	2.2
Total serine	4.2	2	0.6	5.4			5.562	58	0.247	4.3	48	0.8	4.4
Total glycine	2.9	2	0.3	4.5			3.955	61	0.371	2.9	50	0.5	3.3
Total proline	7.2	2	1.35	10.9			10.38	39	0.865	7.9	22	1.5	8.2
Total alanine	8.9	2	1.55	4.0			11.12	53	0.618	8.5	48	1.6	8.0
Total phenylalanine	4.9	2	0.8	5.1			6.551	61	0.371	4.9	51	0.9	5.0
Total aspartic acid	6.4	2	0.9	5.7			8.528	53	0.494	1.8			5.5
Total glu. acid/glu.	19.7	2	3.55	31.4			25.83	53	0.124	19.3	46	3.6	21.2
Lysine (SID)				2.84						1.9			2.0
Methionine (SID)				1.73						1.3			1.4
Threonine (SID)				2.87						2.5			2.5
Cysteine (SID)				1.91						1.6			1.5
Tryptophan (SID)				1.29						0.8			0.9
Arginine (SID)				4.42						3.3			3.3
Valine (SID)				4.14						4.4			4.1
Isoleucine (SID)				4.23						3.5			3.5
Leucine (SID)				6.6						11.2			10.1
Histidine (SID)				2.1						1.7			1.8
Serine (SID)				4.8						3.8			3.9
Glycine (SID)				3.8						2.4			2.8
Proline (SID)				10.2						7.3			8.0
Alanine (SID)				3.3						7.6			6.2
Phenylalanine (SID)				4.6						4.4			4.4
Aspartic acid (SID)				4.7						1.6			3.6
Glu. acid/glu. (SID)				29.9						17.2			20.8

Sorghum

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	884.7	43	5.7	6	2	773.6	2764	21.5	118	30
ME						13.1	10	0.3	92	23
AME (MJ)	13.9	19	0.2	18	4	12.7				
AMEn (MJ)	13.6	13				14.1	161	0.8	495	124
Net energy	11.0					11.3				
Crude protein	97.0	62	4.6	339	85	95.4	3180	8.9	1324	331
Ether extract	35.9	39	3.0	1076	269	31.3	971	3.4	1808	452
Ash	14.2	39	1.0	767	192	21.7	1332	5.2	8749	2187
Crude fibre	22.1	39	2.0	1264	316	23.7	1123	4.6	5670	1417
Acid detergent fibre	43.5	13				41.4	317	6.5	3797	949
Neutral detergent fibre	103.3	13				110.0	317	15.7	3131	783
Starch	647.1	13				579.5	1389	29.5	397	99
Total NSP	53.9	43	7.5	3000	750					
Soluble NSP	5.4	43	3.2	51807	12952					
Insoluble NSP	49.5	43	8.7	4731	1183					
Oligosaccharides	9.5	5	1.6	4557	1139					
Total NSP: Rhamnose	0.1	36	0.3	1221679	305420					
Total NSP: Fucose	0.0	36	0.0	941773	235443					
Total NSP: Ribose	2.6	10	4.5	475888	118972					
Total NSP: Arabinose	11.9	36	3.8	15475	3869					
Total NSP: Xylose	11.6	36	2.0	4680	1170					
Total NSP: Mannose	2.3	36	1.6	70049	17512					
Total NSP: Galactose	3.0	36	0.8	12394	3099					
Total NSP: Glucose	24.3	36	5.0	6517	1629					
Soluble NSP: Rhamnose	0.1	36	0.3	1497424	374356					
Soluble NSP: Fucose	0.0	36	0.0	941773	235443					
Soluble NSP: Ribose	0.1	10	0.1	126747	31687					
Soluble NSP: Arabinose	0.8	36	0.8	143772	35943					
Soluble NSP: Xylose	0.6	36	1.0	400306	100076					
Soluble NSP: Mannose	1.0	36	1.0	148507	37127					
Soluble NSP: Galactose	0.8	36	0.5	58756	14689					
Soluble NSP: Glucose	1.9	36	2.2	190691	47673					
Insoluble NSP: Rhamnose	0.0	36	0.2	3134342	783585					
Insoluble NSP: Fucose										
Insoluble NSP: Ribose	2.4	10	4.6	536072	134018					
Insoluble NSP: Arabinose	11.1	36	3.7	16770	4192					
Insoluble NSP: Xylose	11.0	36	2.3	6900	1725					
Insoluble NSP: Mannose	1.2	36	1.2	150039	37510					
Insoluble NSP: Galactose	2.2	36	0.7	16169	4042					
Insoluble NSP: Glucose	22.3	36	4.8	7128	1782					
Oligo. NSP: Rhamnose	0.1	5	0.1	230498	57624					
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose	0.2	5	0.1	65901	16475					
Oligo. NSP: Xylose	0.0	5	0.0	141898	35474					
Oligo. NSP: Mannose	1.1	5	0.2	6603	1651					
Oligo. NSP: Galactose	0.7	5	0.1	1937	484					
Oligo. NSP: Glucose	7.4	5	1.5	6213	1553					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						0.28	512	0.1	32190	8047
Digestible calcium										
Total phosphorus	2.8	25	0.6	7262	1816	2.74	654	0.4	2998	749
Available phosphorus	0.6	26	0.1	4268	1067	0.49	28	0.1	6400	1600
Phytate phosphorus	2.3	51	0.4	4130	1032	1.93	186	0.2	925	231
Phytate	8.3					6.38				
Linoleic acid						9.65	2			
Sodium						0.17	220	0.1	40709	10177
Chloride						0.66	6	0.1	7492	1873
Potassium						3.58	313	0.4	2274	569
Magnesium						1.37	322	0.4	13163	3291
Manganese						0.016	33	0.0	16843	4211
Zinc						0.028	38	0.0	10164	2541
Copper						0.005	36	0.0	101569	25392
Iron						0.067	26	0.1	272740	68185
Selenium						0.003	7	0.0	17460	4365
Cobalt						0.0001	7			
Molybdenum						0.001	5	0.0	194481	48620
Choline						0.77				
Sulphur						0.83				
Total lysine	1.9	43	0.1	411	103	2.3	547	0.2	1415	354
Total methionine	1.4	43	0.1	196	49	1.6	513	0.2	2543	636
Total threonine	2.9	43	0.2	411	103	3.1	515	0.3	1205	301
Total cysteine	1.8	41	0.1	502	125	1.8	474	0.2	1639	410
Total tryptophan	1.2	30	0.1	1162	290	1.1	219	0.1	2476	619
Total arginine	3.3	43	0.1	141	35	3.8	505	0.3	1182	295
Total valine	4.4	43	0.3	704	176	4.7	495	0.5	1417	354
Total isoleucine	3.5	43	0.2	277	69	3.9	511	0.4	1831	458
Total leucine	12.0	43	0.4	170	42	11.8	510	1.4	2048	512
Total histidine	2.1	43	0.1	360	90	2.2	489	0.2	1170	292
Total serine	4.0	17	0.1	98	25	4.4	468	0.5	1861	465
Total glycine	2.6	17	0.1	227	57	3.3	465	0.3	1222	306
Total proline	7.1	15				8.2	423	1.0	2480	620
Total alanine	7.5	17	0.1	28	7	8.0	463	1.1	2654	663
Total phenylalanine	4.2	17	0.1	87	22	5.0	474	0.6	2226	557
Total aspartic acid	5.4	17	0.0	0	0	5.5	415	0.6	1688	422
Total glu. acid/glu.	16.9	17	0.1	5	1	21.2	461	2.1	1537	384
Lysine (SID)	1.6	28	0.1	157	39	2.0	28	0.1	388	97
Methionine (SID)	1.2	28	0.1	253	63	1.4	28	0.1	743	186
Threonine (SID)	2.2	28	0.1	77	19	2.5	28	0.1	240	60
Cysteine (SID)	1.4	26	0.1	843	211	1.5	28	0.1	713	178
Tryptophan (SID)	1.0	26	0.1	1537	384	0.9	28	0.1	1709	427
Arginine (SID)	1.9	28	0.1	411	103	3.3	28	0.1	138	35
Valine (SID)	3.7	28	0.2	257	64	4.1	28	0.2	367	92
Isoleucine (SID)	3.0	28	0.2	376	94	3.5	28	0.1	129	32
Leucine (SID)	10.6	28	0.5	277	69	10.1	28	0.6	542	136
Histidine (SID)	1.6	28	0.1	576	144	1.8	28	0.1	474	119
Serine (SID)	2.9	2				3.9				
Glycine (SID)	1.6	2	0.1	600	150	2.8				
Proline (SID)						8.0				
Alanine (SID)	5.7	2	0.3	426	106	6.2				
Phenylalanine (SID)	3.6	2				4.4				
Aspartic acid (SID)	3.7	2	0.1	112	28	3.6				
Glu. acid/glu. (SID)	13.5	2	0.3	76	19	20.8				

Triticale

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter				906	3	56	906
ME							
AME (MJ)							
AMEn (MJ)							
Net energy							
Crude protein				105	3	2.6	105
Ether extract							
Ash							
Crude fibre							
Acid detergent fibre							
Neutral detergent fibre							
Starch							
Total NSP	100.9	13	33.49				100.9
Soluble NSP	17.8	13	7.81				17.8
Insoluble NSP	83.1	13	31.54				83.1
Oligosaccharides	26.0	8	14.57				26.0
Total NSP: Rhamnose	0.83	10	0.32				0.83
Total NSP: Fucose	0.73	10	0.98				0.73
Total NSP: Ribose	0.36	10	0.23				0.36
Total NSP: Arabinose	28.25	10	11.52				28.25
Total NSP: Xylose	21.21	10	13.77				21.21
Total NSP: Mannose	3.54	10	0.73				3.54
Total NSP: Galactose	4.42	10	2.67				4.42
Total NSP: Glucose	32.09	10	6.97				32.09
Soluble NSP: Rhamnose	0.08	10	0.08				0.08
Soluble NSP: Fucose	0.34	10	0.51				0.34
Soluble NSP: Ribose	0.12	10	0.04				0.12
Soluble NSP: Arabinose	6.70	10	4.59				6.70
Soluble NSP: Xylose	5.01	10	2.29				5.01
Soluble NSP: Mannose	1.66	10	0.46				1.66
Soluble NSP: Galactose	1.86	10	1.33				1.86
Soluble NSP: Glucose	1.65	10	0.30				1.65
Insoluble NSP: Rhamnose	0.74	10	0.29				0.74
Insoluble NSP: Fucose	0.39	10	0.52				0.39
Insoluble NSP: Ribose	0.24	10	0.22				0.24
Insoluble NSP: Arabinose	21.55	10	9.81				21.55
Insoluble NSP: Xylose	16.20	10	13.90				16.20
Insoluble NSP: Mannose	1.88	10	0.52				1.88
Insoluble NSP: Galactose	2.56	10	1.39				2.56
Insoluble NSP: Glucose	30.44	10	7.02				30.44
Oligo. NSP: Rhamnose	0.24	8	0.10				0.24
Oligo. NSP: Fucose	0.10	8	0.09				0.10
Oligo. NSP: Ribose	0.12	8	0.14				0.12
Oligo. NSP: Arabinose	0.22	8	0.05				0.22
Oligo. NSP: Xylose	0.10	8	0.06				0.10
Oligo. NSP: Mannose	2.43	8	1.50				2.43
Oligo. NSP: Galactose	5.74	8	6.86				5.74
Oligo. NSP: Glucose	17.03	8	6.64				17.03

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium							
Digestible calcium							
Total phosphorus							
Available phosphorus							
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium							
Chloride							
Potassium							
Magnesium							
Manganese							
Zinc							
Copper							
Iron							
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine				3.7	3	0	3.7
Total methionine				1.5	3	0.1	1.5
Total threonine				3.5	3	0.2	3.5
Total cysteine							
Total tryptophan				1.0	3	0.1	1.0
Total arginine				5.4	3	0.3	5.4
Total valine				4.9	3	0.3	4.9
Total isoleucine				3.8	3	0.3	3.8
Total leucine				7.0	3	0.3	7.0
Total histidine				2.6	3	0.1	2.6
Total serine				5.1	3	0.4	5.1
Total glycine				4.4	3	0.2	4.4
Total proline							
Total alanine				4.3	3	0.1	4.3
Total phenylalanine				4.9	3	0.3	4.9
Total aspartic acid				6.3	3	0.3	6.3
Total glu. acid/glu.				27.1	3	0.8	27.1
Lysine (SID)				2.8	3	0.2	2.8
Methionine (SID)				1.3	3	0.1	1.3
Threonine (SID)				2.4	3	0.1	2.4
Cysteine (SID)							
Tryptophan (SID)							
Arginine (SID)				4.1	3	0.3	4.1
Valine (SID)				3.9	3	0.2	3.9
Isoleucine (SID)				3.0	3	0.3	3.0
Leucine (SID)				5.7	3	0.3	5.7
Histidine (SID)				2.0	3	0	2.0
Serine (SID)				4.1	3	0.1	4.1
Glycine (SID)				3.3	3	0.2	3.3
Proline (SID)							
Alanine (SID)				3.2	3	0.1	3.2
Phenylalanine (SID)				4.1	3	0.3	4.1
Aspartic acid (SID)				4.7	3	0.2	4.7
Glu. acid/glu. (SID)				24.5	3	0.8	24.5

Triticale

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	154					870			905.5	23	12.41
ME												
AME (MJ)												
AMEn (MJ)	12.69	113					12.59					
Net energy	10.13											
Crude protein	102.2	154		106	29	6.56	110			119.9	24	8.61
Ether extract	17.2	113								17.52	23	1.43
Ash	16.8	113					17			13.47	23	0.82
Crude fibre	21.3	113					23			28.84	23	2.33
Acid detergent fibre	32.6	113					30					
Neutral detergent fibre	122.5	113					110					
Starch	607.5	113					588					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	871	2637	13	868	2086	23	884	8	5.9	879.7
ME							12.42	3	0.452	12.4
AME (MJ)										
AMEn (MJ)				11.7	3					12.3
Net energy				9.32			9.9			9.8
Crude protein	134.3	2622	13	100	2583	9	123	9	14.6	113.6
Ether extract	17.2	822	3	12	486	2	15.8	7	1.8	15.9
Ash	24.1	748	2	18	504	2	18.7	5	2.2	18.0
Crude fibre	31	1225	4	25	644	4	25.9	5	2.1	25.8
Acid detergent fibre	42.5	163	4	33	178	4	38.7	4	2.9	35.4
Neutral detergent fibre	167.6	155	16	130	181	13	126	4	1.2	131.2
Starch	776.1	1820	21	588	1894	19	603	6	46.8	632.5
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Triticale

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.4	113					1.1					
Digestible calcium												
Total phosphorus	2.8	113					3.2					
Available phosphorus												
Phytate phosphorus	1.8	113					2.1					
Phytate	6.38						7.45					
Linoleic acid												
Sodium	0	113					0.1					
Chloride							1.0					
Potassium	4.6	113					5.0					
Magnesium	1.0	113					1.1					
Manganese							0.025					
Zinc							0.04					
Copper							0.008					
Iron							0.05					
Selenium							0.0001					
Cobalt												
Molybdenum							0.0005					
Choline												
Sulphur							0.0002					
Total lysine	3.4	154		3.6	29	0.21	3.7			4.29	24	0.24
Total methionine	1.7	154		1.8	29	0.12	1.9			2.0	24	0.18
Total threonine	3.1	154		3.3	29	0.19	3.4			3.67	24	0.26
Total cysteine	2.3	154		2.3	29	0.13	2.6			2.58	24	0.22
Total tryptophan	1.2	73		1.2	29	0.09	1.3			1.26	24	0.13
Total arginine	5.1	154		5.1	29	0.27	5.6			5.92	24	0.41
Total valine	4.5	154		4.7	29	0.25	5.1			5.41	24	0.37
Total isoleucine	3.4	154		3.6	29	0.23	3.7			4.19	24	0.32
Total leucine	6.6	154		6.9	29	0.44	7.0			7.83	24	0.58
Total histidine	2.3	154		2.4	29	0.16	2.5			2.78	24	0.2
Total serine	4.5	154		4.7	29	0.32	5.0			4.79	24	0.5
Total glycine	4.3	154		4.4	29	0.29	4.6			4.96	24	0.36
Total proline	9.7	154		9.7	29	0.93	10.6			10.22	24	1.01
Total alanine	4.0	154		4.2	29	0.21				4.8	24	0.29
Total phenylalanine	4.6	154		4.7	29	0.32				5.36	24	0.44
Total aspartic acid	6.2	154		6.2	29	0.35	6.7			6.89	24	0.49
Total glu. acid/glu.	26	154		26.6	29	2.36	27.8			28.96	24	3.15
Lysine (SID)	2.9						3.1					
Methionine (SID)	1.5						1.7					
Threonine (SID)	2.7						3.0					
Cysteine (SID)	2.0						2.1					
Tryptophan (SID)	1.0						1.0					
Arginine (SID)	4.3						4.8					
Valine (SID)	3.9						4.3					
Isoleucine (SID)	3.1						3.3					
Leucine (SID)	5.8						6.4					
Histidine (SID)	2.0						2.3					
Serine (SID)							4.2					
Glycine (SID)							3.6					
Proline (SID)							9.4					
Alanine (SID)												
Phenylalanine (SID)	3.9											
Aspartic acid (SID)							6.2					
Glu. acid/glu.(SID)							25.6					

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	0.7	175	0.3	1.4	232	3.6	0.5	6	0.1	0.8
Digestible calcium										
Total phosphorus	3.9	252	0.3	3.3	118	0.4	2.9	7	0.5	3.2
Available phosphorus							1.1			1.1
Phytate phosphorus				2.6			2.9	7	0.5	2.4
Phytate				9.22			10.28			8.3
Linoleic acid				5.5			5.0	3	0.7	5.3
Sodium	0.1	29	0	0.06	33	0.06	0.2	4	0.1	0.1
Chloride							0.5	4	0.3	0.8
Potassium	5.8	17	0.8	5.0	17	0.8	4.6	4	0.2	5.0
Magnesium	1.2	19	0.3	1.1	20	0.3	1.0	1		1.1
Manganese	0.024	17	0.014	0.02	16	0.012	0.045	1		0.0
Zinc	0.027	17	0.011	0.024	18	0.01	0.064	1		0.0
Copper	0.006	16	0.003	0.005	18	0.012	0.022	1		0.0
Iron	0.039	6	0.015	0.04	10	0.013	0.156	1		0.1
Selenium										0.0
Cobalt				0.0001	2					0.0
Molybdenum				0.0005	5	0.0002				0.0
Choline				0.445						0.4
Sulphur				1.4	5	0.3	1.4	2	0.1	0.9
Total lysine	4.70	90	0.403	3.9	111	0.5	4.1			4.0
Total methionine	2.15	55	0.134	1.7	76	0.3	2.0			1.9
Total threonine	4.30	60	0.269	3.3	77	0.6	3.7			3.5
Total cysteine	3.22	53	0.269	2.6	72	0.4	2.8			2.6
Total tryptophan	1.61	30	0.134	1.3	49	0.2	1.4			1.3
Total arginine	6.98	54	0.403	5.3	70	0.8	6.2			5.7
Total valine	6.18	57	0.269	4.8	72	1	5.2			5.1
Total isoleucine	4.70	57	0.403	3.8	73	0.9	4.2			3.9
Total leucine	8.60	57	0.403	6.4	73	1.4	7.9			7.3
Total histidine	3.09	55	0.134	2.4	73	0.5	3.0			2.6
Total serine	6.04	45	0.134	4.5	60	0.9	5.7			5.0
Total glycine	5.64	47	0.269	4.4	60	0.8	5.6			4.8
Total proline	12.62	24	0.672	8.7	37	2.5	11.8			10.5
Total alanine	5.51	40	0.403	4.2	54	0.7	5.1			4.6
Total phenylalanine	5.91	56	0.403	4.3	71	1.2	5.6			5.1
Total aspartic acid	8.19	41	0.672	6.6	55	1	4.1			6.4
Total glu. acid/glu.	34.65	42	2.283	24.0	58	6.7	36.6			29.2
Lysine (SID)				3.2			3.4			3.2
Methionine (SID)				1.6			1.7			1.6
Threonine (SID)				2.6			3.0			2.8
Cysteine (SID)				2.0			2.2			2.1
Tryptophan (SID)				1.0			1.2			1.1
Arginine (SID)				4.3			5.2			4.7
Valine (SID)				4.1			4.2			4.1
Isoleucine (SID)				3.1			3.6			3.3
Leucine (SID)				5.4			6.6			6.1
Histidine (SID)				1.9			2.5			2.2
Serine (SID)				3.8			4.4			4.1
Glycine (SID)				3.5			5.0			4.0
Proline (SID)				7.8						8.6
Alanine (SID)				3.4						3.4
Phenylalanine (SID)				3.8			4.6			4.1
Aspartic acid (SID)				5.1						5.7
Glu. acid/glu. (SID)				22.3						24.0

Triticale

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	906.0	3	56.0	587	147	879.7	4908	13.6	37	9
ME						12.4	3	0.5	204	51
AME (MJ)										
AMEn (MJ)						12.3	116			
Net energy						9.8				
Crude protein	105.0	3	2.6	94	24	113.6	5421	10.4	1276	319
Ether extract						15.9	1451	2.1	2559	640
Ash						18.0	1393	1.8	1459	365
Crude fibre						25.8	2010	3.1	2222	556
Acid detergent fibre						35.4	458	3.6	1622	406
Neutral detergent fibre						131.2	453	10.1	904	226
Starch						632.5	3833	28.9	322	80
Total NSP	100.9	13	33.5	16933	4233					
Soluble NSP	17.8	13	7.8	29431	7358					
Insoluble NSP	83.1	13	31.5	22154	5539					
Oligosaccharides	26.0	8	14.6	48316	12079					
Total NSP: Rhamnose	0.8	10	0.3	22659	5665					
Total NSP: Fucose	0.7	10	1.0	275741	68935					
Total NSP: Ribose	0.4	10	0.2	63030	15757					
Total NSP: Arabinose	28.3	10	11.5	25547	6387					
Total NSP: Xylose	21.2	10	13.8	64707	16177					
Total NSP: Mannose	3.5	10	0.7	6539	1635					
Total NSP: Galactose	4.4	10	2.7	56096	14024					
Total NSP: Glucose	32.1	10	7.0	7244	1811					
Soluble NSP: Rhamnose	0.1	10	0.1	141018	35254					
Soluble NSP: Fucose	0.3	10	0.5	353925	88481					
Soluble NSP: Ribose	0.1	10	0.0	15585	3896					
Soluble NSP: Arabinose	6.7	10	4.6	72294	18073					
Soluble NSP: Xylose	5.0	10	2.3	32099	8025					
Soluble NSP: Mannose	1.7	10	0.5	11539	2885					
Soluble NSP: Galactose	1.9	10	1.3	78405	19601					
Soluble NSP: Glucose	1.6	10	0.3	5174	1293					
Insoluble NSP: Rhamnose	0.7	10	0.3	24007	6002					
Insoluble NSP: Fucose	0.4	10	0.5	275322	68830					
Insoluble NSP: Ribose	0.2	10	0.2	125024	31256					
Insoluble NSP: Arabinose	21.6	10	9.8	31821	7955					
Insoluble NSP: Xylose	16.2	10	13.9	113189	28297					
Insoluble NSP: Mannose	1.9	10	0.5	11725	2931					
Insoluble NSP: Galactose	2.6	10	1.4	44932	11233					
Insoluble NSP: Glucose	30.4	10	7.0	8168	2042					
Oligo. NSP: Rhamnose	0.2	8	0.1	27108	6777					
Oligo. NSP: Fucose	0.1	8	0.1	121678	30419					
Oligo. NSP: Ribose	0.1	8	0.1	183151	45788					
Oligo. NSP: Arabinose	0.2	8	0.1	7876	1969					
Oligo. NSP: Xylose	0.1	8	0.1	56941	14235					
Oligo. NSP: Mannose	2.4	8	1.5	58308	14577					
Oligo. NSP: Galactose	5.7	8	6.9	219451	54863					
Oligo. NSP: Glucose	17.0	8	6.6	23329	5832					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	3.7	3				0.8	526	1.3	406277	101569
Digestible calcium	1.5	3	0.1	683	171					
Total phosphorus	3.5	3	0.2	502	125	3.2	490	0.4	2371	593
Available phosphorus						1.1				
Phytate phosphorus	1.0	3	0.1	1537	384	2.4	120	0.5	6956	1739
Phytate	5.4	3	0.3	474	119	8.3				
Linoleic acid	4.9	3	0.3	576	144	5.3	3	0.7	2732	683
Sodium	3.8	3	0.3	958	239	0.1	179	0.1	51641	12910
Chloride	7.0	3	0.3	282	71	0.8	4	0.3	24586	6147
Potassium	2.6	3	0.1	227	57	5.0	151	0.6	2213	553
Magnesium	5.1	3	0.4	945	236	1.1	153	0.3	11857	2964
Manganese	4.4	3	0.2	317	79	0.0	34	0.0	32198	8049
Zinc						0.0	36	0.0	11268	2817
Copper	4.3	3	0.1	83	21	0.0	35	0.0	83080	20770
Iron	4.9	3	0.3	576	144	0.1	17	0.0	5933	1483
Selenium	6.3	3	0.3	348	87	0.0				
Cobalt	27.1	3	0.8	134	33	0.0	2			
Molybdenum	2.8	3	0.2	784	196	0.0	5	0.0	24586	6147
Choline	1.3	3	0.1	909	227	0.4				
Sulphur	2.4	3	0.1	267	67	0.9	7	0.2	7055	1764
Total lysine						4.0	408	0.3	1123	281
Total methionine						1.9	338	0.2	1446	361
Total threonine	4.1	3	0.3	823	206	3.5	344	0.3	1334	333
Total cysteine	3.9	3	0.2	404	101	2.6	332	0.3	1442	360
Total tryptophan	3.0	3	0.3	1537	384	1.3	205	0.1	1682	421
Total arginine	5.7	3	0.3	426	106	5.7	331	0.5	1032	258
Total valine	2.0	3				5.1	336	0.5	1303	326
Total isoleucine	4.1	3	0.1	91	23	3.9	337	0.5	2122	531
Total leucine	3.3	3	0.2	564	141	7.3	337	0.7	1429	357
Total histidine						2.6	335	0.2	1364	341
Total serine	3.2	3	0.1	150	38	5.0	312	0.5	1303	326
Total glycine	4.1	3	0.3	823	206	4.8	314	0.4	1209	302
Total proline	4.7	3	0.2	278	70	10.5	268	1.3	2286	571
Total alanine	24.5	3	0.8	164	41	4.6	301	0.4	1149	287
Total phenylalanine	3.7	3				5.1	334	0.6	2079	520
Total aspartic acid	1.5	3	0.1	683	171	6.4	303	0.6	1474	368
Total glu. acid/glu.	3.5	3	0.2	502	125	29.2	307	3.6	2361	590
Lysine (SID)						3.2				
Methionine (SID)	1.0	3	0.1	1537	384	1.6				
Threonine (SID)	5.4	3	0.3	474	119	2.8				
Cysteine (SID)	4.9	3	0.3	576	144	2.1				
Tryptophan (SID)	3.8	3	0.3	958	239	1.1				
Arginine (SID)	7.0	3	0.3	282	71	4.7				
Valine (SID)	2.6	3	0.1	227	57	4.1				
Isoleucine (SID)	5.1	3	0.4	945	236	3.3				
Leucine (SID)	4.4	3	0.2	317	79	6.1				
Histidine (SID)						2.2				
Serine (SID)	4.3	3	0.1	83	21	4.1				
Glycine (SID)	4.9	3	0.3	576	144	4.0				
Proline (SID)	6.3	3	0.3	348	87	8.6				
Alanine (SID)	27.1	3	0.8	134	33	3.4				
Phenylalanine (SID)	2.8	3	0.2	784	196	4.1				
Aspartic acid (SID)	1.3	3	0.1	909	227	5.7				
Glu. acid/glu. (SID)	2.4	3	0.1	267	67	24.0				

Wheat

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Feed Grain Partnership			Poultry Hub Australia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	11		898.0	206	7.0	895	148	9.9			
ME												
AME (MJ)				12.13	206	0.29	12.5	148	0.21			
AMEn (MJ)												
Net energy												
Crude protein	118.3	11		101.0	206	0.9	108	148	19			
Ether extract				22.0	206	0.2	18	148	1.3			
Ash				15.0	206	0.1	11	148	1.9			
Crude fibre				20.0	206	0.3	24	148	4.1			
Acid detergent fibre												
Neutral detergent fibre												
Starch							632	148	16.6			
Total NSP										104.71	89	38.39
Soluble NSP										20.29	89	12.05
Insoluble NSP										85.12	89	33.64
Oligosaccharides										19.93	10	4.67
Total NSP: Rhamnose										0.06	51	0.22
Total NSP: Fucose										0.01	51	0.03
Total NSP: Ribose										0.23	10	0.24
Total NSP: Arabinose										20.71	51	6.34
Total NSP: Xylose										34.89	51	7.97
Total NSP: Mannose										3.67	51	4.98
Total NSP: Galactose										4.15	51	1.30
Total NSP: Glucose										26.62	51	4.05
Soluble NSP: Rhamnose										0.00	51	0.02
Soluble NSP: Fucose										0.01	51	0.03
Soluble NSP: Ribose										0.13	10	0.13
Soluble NSP: Arabinose										4.41	51	1.98
Soluble NSP: Xylose										7.04	51	2.99
Soluble NSP: Mannose										1.10	51	0.86
Soluble NSP: Galactose										1.72	51	1.13
Soluble NSP: Glucose										4.27	51	3.51
Insoluble NSP: Rhamnose										0.07	51	0.25
Insoluble NSP: Fucose												
Insoluble NSP: Ribose										0.10	10	0.15
Insoluble NSP: Arabinose										16.33	51	5.76
Insoluble NSP: Xylose										27.91	51	7.25
Insoluble NSP: Mannose										2.57	51	4.80
Insoluble NSP: Galactose										2.43	51	0.88
Insoluble NSP: Glucose										22.43	51	3.48
Oligo. NSP: Rhamnose										0.07	10	0.08
Oligo. NSP: Fucose												
Oligo. NSP: Ribose										0.03	10	0.04
Oligo. NSP: Arabinose										0.28	10	0.15
Oligo. NSP: Xylose										0.09	10	0.09
Oligo. NSP: Mannose										3.13	10	0.77
Oligo. NSP: Galactose										2.00	10	0.40
Oligo. NSP: Glucose										14.33	10	4.36

Nutrient (g/kg as fed, unless otherwise specified)	DuPont			Selle 2003			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter										896.8
ME										
AME (MJ)										12.3
AMEn (MJ)										
Net energy										
Crude protein										111.6
Ether extract										20.0
Ash										13.0
Crude fibre										22.0
Acid detergent fibre										
Neutral detergent fibre										
Starch										632.0
Total NSP										104.7
Soluble NSP										20.3
Insoluble NSP										85.1
Oligosaccharides										19.9
Total NSP: Rhamnose										0.1
Total NSP: Fucose										0.0
Total NSP: Ribose										0.2
Total NSP: Arabinose										20.7
Total NSP: Xylose										34.9
Total NSP: Mannose										3.7
Total NSP: Galactose										4.2
Total NSP: Glucose										26.6
Soluble NSP: Rhamnose										0.0
Soluble NSP: Fucose										0.0
Soluble NSP: Ribose										0.1
Soluble NSP: Arabinose										4.4
Soluble NSP: Xylose										7.0
Soluble NSP: Mannose										1.1
Soluble NSP: Galactose										1.7
Soluble NSP: Glucose										4.3
Insoluble NSP: Rhamnose										0.1
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										0.1
Insoluble NSP: Arabinose										16.3
Insoluble NSP: Xylose										27.9
Insoluble NSP: Mannose										2.6
Insoluble NSP: Galactose										2.4
Insoluble NSP: Glucose										22.4
Oligo. NSP: Rhamnose										0.1
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										0.0
Oligo. NSP: Arabinose										0.3
Oligo. NSP: Xylose										0.1
Oligo. NSP: Mannose										3.1
Oligo. NSP: Galactose										2.0
Oligo. NSP: Glucose										14.3

Wheat

Australia (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Feed Grain Partnership			Poultry Hub Australia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium												
Digestible calcium												
Total phosphorus												
Available phosphorus				1.40	206	0.30						
Phytate phosphorus				2.3	206	0.2						
Phytate												
Linoleic acid												
Sodium												
Chloride												
Potassium												
Magnesium												
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine	3.3	11		3.15	206	0.255						
Total methionine	1.8	11		1.75	206	0.158						
Total threonine	3.4	11		3.25	206	0.25						
Total cysteine	2.7	11		2.25	206	0.3						
Total tryptophan	1.6	3		1.50	206	0.10						
Total arginine	5.5	11		5.25	206	0.45						
Total valine	5.0	11		4.70	206	0.45						
Total isoleucine	3.9	11		3.65	206	0.45						
Total leucine	7.7	11		7.10	206	0.71						
Total histidine	2.7	11		2.40	206	0.22						
Total serine	5.3	11										
Total glycine	4.9	11										
Total proline	11.5	11										
Total alanine	4.2	11										
Total phenylalanine	5.3	11										
Total aspartic acid	5.9	11										
Total glu. acid/glu.	32.5	11										
Lysine (SID)	2.8			2.45	206	0.20						
Methionine (SID)	1.7			1.60	206	0.16						
Threonine (SID)	3.0			2.55	206	0.30						
Cysteine (SID)				1.95	206	0.20						
Tryptophan (SID)	1.4			1.30	206	0.10						
Arginine (SID)	5.1			4.65	206	0.41						
Valine (SID)	4.4			3.95	206	0.45						
Isoleucine (SID)	3.5			3.35	206	0.40						
Leucine (SID)	6.9			6.65	206	0.85						
Histidine (SID)	2.4			2.15	206	0.20						
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	4.8											
Aspartic acid (SID)												
Glu. acid/glu. (SID)	3.3											

Nutrient (g/kg as fed, unless otherwise specified)	DuPont			Selle 2003			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus	2.95	8		3.08	37	0.556				3.0
Available phosphorus										1.4
Phytate phosphorus	2.24	8		2.2	37	0.192				2.2
Phytate	7.94			7.80						7.9
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine							3.7	5	0.2	3.4
Total methionine							1.6	5	0.3	1.7
Total threonine							3.8	5	0.3	3.5
Total cysteine										2.5
Total tryptophan							1.3	5		1.5
Total arginine							6.0	5	0.4	5.6
Total valine							5.6	5	0.3	5.1
Total isoleucine							4.6	5	0.4	4.1
Total leucine							8.7	5	0.5	7.8
Total histidine							3.2	5	0.1	2.8
Total serine							6.4	5	1.4	5.9
Total glycine							5.3	5	0.3	5.1
Total proline										11.5
Total alanine							4.7	5	5	4.5
Total phenylalanine							6.0	5	0.2	5.7
Total aspartic acid							6.4	5	0.4	6.2
Total glu. acid/glu.							37.6	5	6.1	35.1
Lysine (SID)							2.9	5	0.2	2.7
Methionine (SID)							1.3	5	0.2	1.5
Threonine (SID)							2.9	5	0.3	2.8
Cysteine (SID)										2.0
Tryptophan (SID)							0.1	5		0.9
Arginine (SID)							4.8	5	0.2	4.9
Valine (SID)							4.6	5	0.3	4.3
Isoleucine (SID)							3.9	5	0.3	3.6
Leucine (SID)							7.5	5	0.4	7.0
Histidine (SID)							2.6	5	0.1	2.4
Serine (SID)							5.4	5	1.2	5.4
Glycine (SID)							4.3	5	0.2	4.3
Proline (SID)										
Alanine (SID)							3.8	5	0.2	3.8
Phenylalanine (SID)							5.2	5	0.4	5.0
Aspartic acid (SID)							5.0	5	0.7	5.0
Glu. acid/glu.							34.6	5	7.5	34.6

Wheat

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	831		898.0	206	7.0	870			888	173	14.49
ME							12.73					
AME (MJ)				12.13	206	0.29						
AMEn (MJ)	12.91	256					13.00					
Net energy												
Crude protein	116.8	831		101.0	206	0.9	107.0			111.6	187	17.51
Ether extract				22.0	206	0.2				17.18	173	6.91
Ash				15.0	206	0.1	15.0			16.8	172	6.53
Crude fibre				20.0	206	0.3	22.0			26.01	173	14.76
Acid detergent fibre							32.0					
Neutral detergent fibre							95.0					
Starch							615.0					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				878			870	41570	13	878	173	23	878.0
ME				12.72									12.7
AME (MJ)				12.73									12.5
AMEn (MJ)							13.8	28	0.4	12.1			13.0
Net energy										9.59			9.9
Crude protein	112	114	12.86	110			144.8	34649	13	143	145	13	119.2
Ether extract				17			19.54	8597	3	18	35	3	18.6
Ash				20			20.69	9013	2	19	44	3	17.5
Crude fibre				24			29.9	13440	4	27	52	5	25.6
Acid detergent fibre				33			41.4	1026	5	36			34.7
Neutral detergent fibre				129			159.8	1006	17	139			127.2
Starch				601			794.3	25431	19	563	113	30	628.1
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Wheat

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.4	256					0.400			0.330	22	0.040
Digestible calcium												
Total phosphorus	2.6	256					2.500			3.420	23	0.160
Available phosphorus				1.26	1943	0.91						
Phytate phosphorus	1.7	256		2.32	1943	0.52	1.900					
Phytate	6.0282						6.737					
Linoleic acid												
Sodium	0	224					0.0			0.030	10	0.010
Chloride							0.900			0.730	14	0.100
Potassium	3.6	256					4.100			3.890	22	0.250
Magnesium	1.0	256					1.400					
Manganese							0.030			0.045	13	0.016
Zinc							0.030			0.024	13	0.003
Copper							0.004			0.007	13	0.008
Iron							0.055			0.037	10	0.004
Selenium							0.0			0.000	3	0.000
Cobalt							0.0					
Molybdenum							0.0					
Choline												
Sulphur							0.0					
Total lysine	3.3	831		3.26	1943	0.57	3.2			3.770	203	0.800
Total methionine	1.8	831		1.83	1943	0.35	1.7			1.840	203	0.270
Total threonine	3.3	831		3.39	1943	0.69	3.2			3.470	200	0.620
Total cysteine	2.6	831		2.50	1943	0.41	2.5			2.650	200	0.470
Total tryptophan	1.5	831		1.52	1943	0.35	1.4			1.630	217	0.220
Total arginine	5.6	831		5.50	1943	1.08	5.2			5.970	200	1.300
Total valine	4.9	831		5.02	1943	0.98	4.6			5.400	199	1.200
Total isoleucine	3.9	831		3.92	1943	0.85	3.6			4.190	200	0.700
Total leucine	7.7	831		7.34	1943	2.03	7.1			8.010	200	1.250
Total histidine	2.6	831		2.53	1943	0.60	2.5			2.790	200	0.490
Total serine	5.3	831					4.9			5.010	200	0.950
Total glycine	4.8	831					4.4			5.110	200	1.020
Total proline	11.2	831					10.2			10.450	197	2.050
Total alanine	4.2	831								4.360	200	1.100
Total phenylalanine	5.3	831								5.430	200	0.920
Total aspartic acid	6.0	831					5.6			6.350	200	1.320
Total glu. acid/glu.	32.1	831					29.4			32.590	201	6.090
Lysine (SID)	2.8			2.61	1943	0.52	2.7					
Methionine (SID)	1.7			1.67	1943	0.35	1.5					
Threonine (SID)	2.9			2.77	1943	0.69	2.6					
Cysteine (SID)	2.4			2.19	1943	0.54	2.2					
Tryptophan (SID)	1.3			1.37	1943	0.35	1.2					
Arginine (SID)	4.8			4.94	1943	1.04	4.5					
Valine (SID)	4.5			4.31	1943	0.96	3.8					
Isoleucine (SID)	3.7			3.60	1943	0.84	3.0					
Leucine (SID)	7.0			6.89	1943	2.16	6.0					
Histidine (SID)	2.4			2.29	1943	0.51	2.0					
Serine (SID)							4.3					
Glycine (SID)							3.7					
Proline (SID)							9.5					
Alanine (SID)												
Phenylalanine (SID)	4.8											
Aspartic acid (SID)							5.2					
Glu. acid/glu.(SID)							27.4			0.330		

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				0.5			0.700	1523	0.300	0.700	15	0.5	0.5
Digestible calcium													
Total phosphorus				3.0			3.600	2951	0.400	3.400	21	0.5	3.1
Available phosphorus				1.2						2.000			1.9
Phytate phosphorus				2.0						2.200			2.1
Phytate										7.801			7.1
Linoleic acid										7.500			7.2
Sodium				0.4			0.000	178	0.000	0.100			0.1
Chloride													0.8
Potassium				3.8			4.600	71	0.600	4.300			4.0
Magnesium				1.0			1.200	66	0.200	1.100			1.2
Manganese				0.030			0.040	42	0.014	0.031			0.0
Zinc				0.027			0.031	41	0.004	0.027			0.0
Copper				0.004			0.006	33	0.004	0.004			0.0
Iron				0.049			0.078	20	0.046	0.049			0.1
Selenium				0.0						0.000			0.0
Cobalt				0.0						0.000			0.0
Molybdenum				0.001						0.001			0.0
Choline				0.770									0.8
Sulphur				1.500						1.5			1.1
Total lysine	3.2	114	0.31	3.3			4.199	457	0.290	3.7			3.5
Total methionine	1.7	114	0.18	1.9			2.317	213	0.145	2.2			1.9
Total threonine	3.2	114	0.33	3.3			4.199	200	0.290	4.2			3.5
Total cysteine	2.4	114	0.25	2.5			3.186	180	0.290	3.1			2.7
Total tryptophan	1.4	114	0.15	1.5			1.738	104	0.145	1.6			1.5
Total arginine	5.2	114	0.55	5.2			6.806	177	0.434	6.9			5.8
Total valine	4.6	114	0.5	4.6			6.226	195	0.434	6.1			5.2
Total isoleucine	3.6	114	0.44	4.5			4.923	196	0.290	5.2			4.2
Total leucine	7.2	114	0.81	7.4			9.412	197	0.434	9.7			8.0
Total histidine	2.5	114	0.29	2.5			3.330	138	0.290	3.2			2.8
Total serine	5.0	114	0.58	5.4			6.516	179	0.290	7.2			5.6
Total glycine	4.5	114	0.48	4.5			5.792	180	0.290	5.7			5.0
Total proline	9.9	114	1.55	10.9			13.901	90	1.158	15			11.8
Total alanine	3.9	114	0.39	4.0			5.213	179	0.434	4.9			4.4
Total phenylalanine	4.9	114	0.65	5.1			6.516	190	0.290	6.9			5.7
Total aspartic acid	5.6	114	0.55	5.7			7.385	178	0.434	7.1			5.9
Total glu. acid/glu.	30.3	114	4.4	31.4			40.254	179	2.462	44			34.4
Lysine (SID)				2.84						3.1			2.8
Methionine (SID)				1.73						2			1.7
Threonine (SID)				2.87						3.5			2.9
Cysteine (SID)				1.91						2.7			2.3
Tryptophan (SID)				1.29						1.4			1.3
Arginine (SID)				4.42						5.7			4.9
Valine (SID)				4.14						5.3			4.4
Isoleucine (SID)				4.23						4.6			3.8
Leucine (SID)				6.60						8.6			7.1
Histidine (SID)				2.10						2.7			2.3
Serine (SID)				4.80						6.3			5.1
Glycine (SID)				3.80						4.8			4.2
Proline (SID)				10.20						14.1			11.5
Alanine (SID)				3.30						4			3.5
Phenylalanine (SID)				4.60						10.1			6.2
Aspartic acid (SID)				4.70						5.8			4.7
Glu. acid/glu. (SID)				29.9						41.8			33.5

Wheat

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	896.75	370	10.73	22	6	878.02	44695	12.18	30	7
ME						12.72	4	0.31	88	22
AME (MJ)	12.32	354	0.25	63	16	12.46	1943	0.86	738	184
AMEn (MJ)						12.95	284	0.40	147	37
Net energy						9.86				
Crude protein	111.58	370	7.56	706	176	119.19	37874	14.19	2177	544
Ether extract	20.00	354	0.76	222	55	18.59	10753	4.90	10665	2666
Ash	13.00	354	1.00	906	226	17.50	11177	3.42	5874	1469
Crude fibre	22.00	354	2.19	1524	381	25.60	15613	7.59	13520	3380
Acid detergent fibre						34.66	1031	4.10	2150	538
Neutral detergent fibre						127.20	1011	15.45	2267	567
Starch	632.00	148	16.60	106	27	628.06	25548	26.67	277	69
Total NSP	104.71	89	38.39	20656	5164					
Soluble NSP	20.29	89	12.05	54172	13543					
Insoluble NSP	85.12	89	33.64	23995	5999					
Oligosaccharides	19.93	10	4.67	8439	2110					
Total NSP: Rhamnose	0.06	51	0.22	2210830	552707					
Total NSP: Fucose	0.01	51	0.03	1999760	499940					
Total NSP: Ribose	0.23	10	0.24	165480	41370					
Total NSP: Arabinose	20.71	51	6.34	14403	3601					
Total NSP: Xylose	34.89	51	7.97	8015	2004					
Total NSP: Mannose	3.67	51	4.98	282235	70559					
Total NSP: Galactose	4.15	51	1.30	15033	3758					
Total NSP: Glucose	26.62	51	4.05	3552	888					
Soluble NSP: Rhamnose	0.00	51	0.02	2354334	588583					
Soluble NSP: Fucose	0.01	51	0.03	1999760	499940					
Soluble NSP: Ribose	0.13	10	0.13	158706	39677					
Soluble NSP: Arabinose	4.41	51	1.98	31128	7782					
Soluble NSP: Xylose	7.04	51	2.99	27753	6938					
Soluble NSP: Mannose	1.10	51	0.86	95458	23864					
Soluble NSP: Galactose	1.72	51	1.13	67046	16762					
Soluble NSP: Glucose	4.27	51	3.51	103964	25991					
Insoluble NSP: Rhamnose	0.07	51	0.25	1814374	453593					
Insoluble NSP: Fucose										
Insoluble NSP: Ribose	0.10	10	0.15	365808	91452					
Insoluble NSP: Arabinose	16.33	51	5.76	19129	4782					
Insoluble NSP: Xylose	27.91	51	7.25	10375	2594					
Insoluble NSP: Mannose	2.57	51	4.80	532978	133244					
Insoluble NSP: Galactose	2.43	51	0.88	20019	5005					
Insoluble NSP: Glucose	22.43	51	3.48	3687	922					
Oligo. NSP: Rhamnose	0.07	10	0.08	246774	61694					
Oligo. NSP: Fucose										
Oligo. NSP: Ribose	0.03	10	0.04	261882	65470					
Oligo. NSP: Arabinose	0.28	10	0.15	41817	10454					
Oligo. NSP: Xylose	0.09	10	0.09	152850	38213					
Oligo. NSP: Mannose	3.13	10	0.77	9185	2296					
Oligo. NSP: Galactose	2.00	10	0.40	6176	1544					
Oligo. NSP: Glucose	14.33	10	4.36	14195	3549					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						0.52	1821	0.26	38628	9657
Digestible calcium										
Total phosphorus	3.02	45	0.56	5226	1306	3.09	3251	0.35	2014	503
Available phosphorus	1.40	206	0.30	7056	1764	1.92	1948	0.51	10707	2677
Phytate phosphorus	2.25	251	0.20	1170	292	2.05	2203	0.31	3502	876
Phytate	7.87					7.09				
Linoleic acid						7.15	2			
Sodium						0.09	417	0.00	211	53
Chloride						0.81	18	0.10	2342	586
Potassium						4.03	354	0.42	1645	411
Magnesium						1.15	326	0.20	4648	1162
Manganese						0.03	57	0.01	13756	3439
Zinc						0.03	56	0.00	2357	589
Copper						0.01	48	0.00	103656	25914
Iron						0.06	32	0.02	17358	4339
Selenium						0.00	3	0.00	10124	2531
Cobalt						0.00				
Molybdenum						0.00				
Choline						0.77				
Sulphur						1.13	3	0.10	1214	304
Total lysine	3.38	222	0.23	695	174	3.49	3548	0.49	3043	761
Total methionine	1.72	222	0.23	2736	684	1.92	3304	0.24	2305	576
Total threonine	3.48	222	0.28	975	244	3.54	3288	0.48	2841	710
Total cysteine	2.48	217	0.30	2258	564	2.69	3268	0.36	2678	669
Total tryptophan	1.47	214	0.10	714	179	1.53	3209	0.22	3034	759
Total arginine	5.58	222	0.43	896	224	5.81	3265	0.84	3217	804
Total valine	5.10	222	0.38	837	209	5.19	3282	0.78	3463	866
Total isoleucine	4.05	222	0.43	1703	426	4.25	3284	0.57	2762	690
Total leucine	7.83	222	0.60	912	228	8.03	3285	1.13	3046	761
Total histidine	2.77	222	0.16	526	131	2.77	3226	0.42	3482	871
Total serine	5.85	16	1.40	8801	2200	5.60	1324	0.61	1801	450
Total glycine	5.10	16	0.30	532	133	5.03	1325	0.60	2165	541
Total proline	11.50	11				11.81	1232	1.59	2773	693
Total alanine	4.45	16	5.00	193996	48499	4.41	1324	0.64	3251	813
Total phenylalanine	5.65	16	0.20	193	48	5.69	1335	0.62	1822	456
Total aspartic acid	6.15	16	0.40	650	163	5.90	1323	0.77	2601	650
Total glu. acid/glu.	35.05	16	6.10	4654	1164	34.37	1325	4.32	2425	606
Lysine (SID)	2.72	211	0.20	833	208	2.83	1943	0.52	5198	1300
Methionine (SID)	1.53	211	0.18	2095	524	1.73	1943	0.35	6141	1535
Threonine (SID)	2.82	211	0.30	1743	436	2.94	1943	0.69	8537	2134
Cysteine (SID)	1.95	206	0.20	1616	404	2.32	1943	0.54	8304	2076
Tryptophan (SID)	0.93	211	0.10	1764	441	1.29	1943	0.35	11033	2758
Arginine (SID)	4.85	211	0.31	612	153	4.94	1943	1.04	6852	1713
Valine (SID)	4.32	211	0.38	1168	292	4.44	1943	0.96	7243	1811
Isoleucine (SID)	3.58	211	0.35	1466	366	3.84	1943	0.84	7301	1825
Leucine (SID)	7.02	211	0.63	1222	306	7.10	1943	2.16	14182	3545
Histidine (SID)	2.38	211	0.15	609	152	2.35	1943	0.51	7246	1811
Serine (SID)	5.40	5	1.20	7588	1897	5.1				
Glycine (SID)	4.3	5	0.2	332	83	4.2				
Proline (SID)						11.5				
Alanine (SID)	3.8	5	0.2	426	106	3.5				
Phenylalanine (SID)	5.0	5	0.4	983	246	6.2				
Aspartic acid (SID)	5.0	5	0.7	3012	753	4.7				
Glu. acid/glu. (SID)	34.6	5	7.5	7220	1805	33.5				

Protein meals

Blood meal (batch dried)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Average of the mean
	Mean	n	SD	
Dry matter	923	2	5.7	923
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein	905	2	11.3	905
Ether extract				
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine	90.9	2	9.8	90.9
Total methionine	13.5	2	0.2	13.5
Total threonine	52.3	2	0.8	52.3
Total cysteine				
Total tryptophan	13.2	2	0.5	13.2
Total arginine	38.3	2	0.6	38.3
Total valine	84	2	1.5	84
Total isoleucine	8.9	2	0.1	8.9
Total leucine	118	2	0	118
Total histidine	60.4	2	1.0	60.4
Total serine	56.8	2	0.1	56.8
Total glycine	39.1	2	0.1	39.1
Total proline				
Total alanine	71.2	2	2.9	71.2
Total phenylalanine	65.6	2	0.1	65.6
Total aspartic acid	99.1	2	0.6	99.1
Total glu. acid/glu.	82.1	2	1.6	82.1
Lysine (SID)	79.4	2	6.6	79.4
Methionine (SID)	11.4	2	0.4	11.4
Threonine (SID)	42.9	2	2.9	42.9
Cysteine (SID)				
Tryptophan (SID)	1.8	2		1.8
Arginine (SID)	31.6	2	1.3	31.6
Valine (SID)	72.2	2	1.1	72.2
Isoleucine (SID)	4.9	2	0.8	4.9
Leucine (SID)	102.7	2	3.3	102.7
Histidine (SID)	52.8	2	1.3	52.8
Serine (SID)	47.4	2	1.3	47.4
Glycine (SID)	31.8	2	0.8	31.8
Proline (SID)				
Alanine (SID)	61.2	2	1.5	61.2
Phenylalanine (SID)	57.4	2	2.2	57.4
Aspartic acid (SID)	84.2	2	4.7	84.2
Glu. acid/glu. (SID)	66.5	2	1.3	66.5

Blood meal (batch dried)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	910	284		907.65	7	23.55				93.5		
ME										12.6		
AME (MJ)										12.6		
AMEn (MJ)	13.37	67										
Net energy	9.32932											
Crude protein	891.1	284		850.4	7	39	710	51	13.35	800		
Ether extract	13.3	67		5.74	7	5.68				10		
Ash	25.1	73		39.2	7	27.09				45		
Crude fibre				1.4	6	0.95				13		
Acid detergent fibre												
Neutral detergent fibre												
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	938	124	26	935	174	72	927	5	9.6	785.2
ME							11.95	3	0	12.3
AME (MJ)										12.6
AMEn (MJ)	13.5			12.7						13.2
Net energy	9.23			8.83			9.07			9.1
Crude protein	1003.2	142	39	879	188	62	858	6	29.8	856.0
Ether extract	8.5	25	7	19	53	21	6.0	5	3.36	10.4
Ash	32	116	15	30	146	17	34.5	5	0.3	34.3
Crude fibre	5.3	18	4	13	23	19				8.2
Acid detergent fibre										
Neutral detergent fibre	136.5	1								136.5
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Blood meal (batch dried)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Anjinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.4	78		1.1	1					2.8		
Digestible calcium												
Total phosphorus	3.3	80		12.4	1					4.0		
Available phosphorus										4.0		
Phytate phosphorus												
Phytate												
Linoleic acid												
Sodium	4.7	80								1.5		
Chloride												
Potassium	2.3	80								3.9		
Magnesium	0.3	80								0.2		
Manganese				0.0009	1					0.005		
Zinc				0.0112	1					0.023		
Copper				0.012	1					0.011		
Iron				0.043	1					2.058		
Selenium										0.0006		
Cobalt										0.0001		
Molybdenum										0.0002		
Choline										0.99		
Sulphur												
Total lysine	77.9	284		76.5	6	12	78.9	2	1.95	83.0		
Total methionine	9.8	284		10.11	6	2.71	9.3	2	2.19	10.0		
Total threonine	37.5	284		39.15	6	5.23	37.3	2	5.1	41.0		
Total cysteine	8.7	284		12.43	6	7.16	10.5	2	1.56	12.0		
Total tryptophan	15.1	95		8.46	8	3.23	16.1	2	0.9	10.0		
Total arginine	39.0	284		40.58	6	5.64	43.2	2	4.1	23.5		
Total valine	72.7	284		71.77	6	12.87	71.2	2	10.6	56.0		
Total isoleucine	13.6	284		15.52	6	11.77	23.9	2	14.6	20.0		
Total leucine	110.2	284		105.85	6	19.07	108.5	2	12.2	107.0		
Total histidine	55.9	284		48.47	6	1.478	55.0	2	8.05	55.4		
Total serine	41.3	284		41.57	6	8.56	39.5	2	2.5	43.6		
Total glycine	39.2	284		37.67	6	4.75	38.5	2	4.2	39.4		
Total proline	34.0	284		37.65	6	7.6	34.5	2	0.35	33.4		
Total alanine	69.6	284		63.42	6	11.42	69.9	2	3.75	69.4		
Total phenylalanine	59.8	284		57.5	6	8.03	57.0	2	3.9	60.7		
Total aspartic acid	93.9	284		87.52	6	12.03	92.9	2	12.85	95.0		
Total glu. acid/glu.	79.9	284		83.1	6	14.06	84.9	2	3.15	82.8		
Lysine (SID)	67.0									73.1		
Methionine (SID)	8.9									8.5		
Threonine (SID)	33.0									34.03		
Cysteine (SID)	6.6									8.88		
Tryptophan (SID)	12.8									8.4		
Arginine (SID)	34.0									19.15		
Valine (SID)	63.9									48.16		
Isoleucine (SID)	10.6									12.0		
Leucine (SID)	99.2											
Histidine (SID)	46.9											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	52.6											
Aspartic acid (SID)												
Glu. acid/glu.(SID)										2.8		

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	1.3	44	1	3.2	53	12.5	2	5	0.6	2.1
Digestible calcium										
Total phosphorus	2.2	51	0.9	2.1	61	1.1	2.4	5	0.5	4.4
Available phosphorus							2.4			3.2
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium	4.5	11	2.2	3.71	17	2.09	5.7	3	1.8	4.0
Chloride							3.6	1		3.6
Potassium	3.8	7	3.4	3.9	11	2.8	2.3	4	0.5	3.2
Magnesium	0.2	7	0	0.2	11	0.05	1	1		0.4
Manganese	0.001	1		0.005	2		0.073	1		0.0
Zinc	0.024	8	0.002	0.023	11	0.004	0.361	1		0.1
Copper	0.006	5	0	0.011	8	0.019	0.138	1		0.0
Iron	2.186	22	0.298	2.058	29	0.464	16.642	1		4.6
Selenium				0.0006	5	0.0001	0.0058	1		0.0
Cobalt				0.0001						0.0
Molybdenum				0.0002						0.0
Choline										1.0
Sulphur				6.8	8	1.6				6.8
Total lysine	87.28	54	7.022	76.5	52	9.2	77			79.6
Total methionine	12.04	31	2.006	10.1	45	2.3	10.6			10.3
Total threonine	47.15	49	4.013	40.7	46	6.4	41.4			40.6
Total cysteine	11.04	26	2.006	9.9	36	2	6.4			10.1
Total tryptophan	14.04	10	4.013	12.8	15	3	14.6			13.0
Total arginine	42.13	31	3.010	38.1	46	6.3	34.7			37.3
Total valine	85.27	31	7.022	74.9	46	10.4	74.9			72.4
Total isoleucine	11.04	49	4.013	10.8	46	3.9	6.9			14.5
Total leucine	121.39	49	10.03	107.0	46	12.7	112			110.3
Total histidine	62.20	31	10.03	55.4	46	9.8	53.2			55.1
Total serine	49.16	23	4.013	43.6	39	4.9	44.8			43.4
Total glycine	45.14	25	4.013	39.4	38	4.1	36.2			39.4
Total proline	40.13	13	4.013	33.4	24	5.4				35.5
Total alanine	79.25	23	4.013	69.4	39	9	71.9			70.4
Total phenylalanine	69.22	30	5.016	60.7	46	7	62.7			61.1
Total aspartic acid	107.34	22	7.022	95.0	38	10.7	53.4			89.3
Total glu. acid/glu.	95.30	22	4.013	82.8	38	8.6	76.4			83.6
Lysine (SID)							60.8			67.0
Methionine (SID)							8.4			8.6
Threonine (SID)							32.7			33.2
Cysteine (SID)							4.8			6.8
Tryptophan (SID)							11.7			11.0
Arginine (SID)							28.6			27.3
Valine (SID)							59.6			57.2
Isoleucine (SID)							5.0			9.2
Leucine (SID)							91.8			95.5
Histidine (SID)							42.3			44.6
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)							54.6			54.6
Phenylalanine (SID)							51.2			51.9
Aspartic acid (SID)										
Glu. acid/glu. (SID)										2.1

Blood meal (batch dried)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	923.0	2	5.7	6	1	785.2	594	32.8	268	67
ME						12.3	3			
AME (MJ)						12.6				
AMEn (MJ)						13.2	67			
Net energy						9.1				
Crude protein	905.0	2	11.3	24	6	856.0	678	36.6	281	70
Ether extract						10.4	157	9.3	121278	30319
Ash						34.3	347	14.8	28793	7198
Crude fibre						8.2	47	8.0	146543	36636
Acid detergent fibre										
Neutral detergent fibre						136.5	1			
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						2.1	181	4.7	745848	186462
Digestible calcium										
Total phosphorus						4.4	198	0.8	5512	1378
Available phosphorus						3.2				
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium						4.0	111	2.0	39145	9786
Chloride						3.6	1			
Potassium						3.2	102	2.2	73011	18253
Magnesium						0.4	99	0.0	665	166
Manganese						0.0	5			
Zinc						0.1	21	0.0	177	44
Copper						0.0	15	0.0	10943	2736
Iron						4.6	53	0.4	1055	264
Selenium						0.0	6	0.0	181	45
Cobalt						0.0				
Molybdenum						0.0				
Choline						1.0				
Sulphur						6.8	8	1.6	8507	2127
Total lysine	90.9	2	9.8	1786	447	79.6	398	7.5	1380	345
Total methionine	13.5	2	0.2	34	8	10.3	368	2.3	7705	1926
Total threonine	52.3	2	0.8	36	9	40.6	387	5.2	2507	627
Total cysteine						10.1	354	3.2	15135	3784
Total tryptophan	13.2	2	0.5	220	55	13.0	130	2.8	7040	1760
Total arginine	38.3	2	0.6	38	9	37.3	369	4.8	2503	626
Total valine	84.0	2	1.5	49	12	72.4	369	10.2	3065	766
Total isoleucine	8.9	2	0.1	19	5	14.5	387	8.6	53418	13354
Total leucine	118.0	2	0.0			110.3	387	13.5	2303	576
Total histidine	60.4	2	1.0	42	11	55.1	369	7.3	2729	682
Total serine	56.8	2	0.1	1	1	43.4	354	5.0	2038	509
Total glycine	39.1	2	0.1	1	1	39.4	355	4.3	1805	451
Total proline						35.5	329	4.3	2296	574
Total alanine	71.2	2	2.9	255	64	70.4	354	7.0	1539	385
Total phenylalanine	65.6	2	0.1	1	1	61.1	368	6.0	1476	369
Total aspartic acid	99.1	2	0.6	6	1	89.3	352	10.7	2186	547
Total glu. acid/glu.	82.1	2	1.6	58	15	83.6	352	7.5	1222	306
Lysine (SID)	79.4	2	6.6	1062	265	67.0				
Methionine (SID)	11.4	2	0.4	189	47	8.6				
Threonine (SID)	42.9	2	2.9	702	176	33.2				
Cysteine (SID)						6.8				
Tryptophan (SID)	1.8	2				11.0				
Arginine (SID)	31.6	2	1.3	260	65	27.3				
Valine (SID)	72.2	2	1.1	36	9	57.2				
Isoleucine (SID)	4.9	2	0.8	4096	1024	9.2				
Leucine (SID)	102.7	2	3.3	159	40	95.5				
Histidine (SID)	52.8	2	1.3	93	23	44.6				
Serine (SID)	47.4	2	1.3	116	29					
Glycine (SID)	31.8	2	0.8	97	24					
Proline (SID)										
Alanine (SID)	61.2	2	1.5	92	23	54.6				
Phenylalanine (SID)	57.4	2	2.2	226	56	51.9				
Aspartic acid (SID)	84.2	2	4.7	479	120					
Glu. acid/glu. (SID)	66.5	2	1.3	59	15					

Blood meal (ring dried)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Average of the mean
	Mean	n	SD	
Dry matter	923	2	5.7	923
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein	905	2	11.3	905
Ether extract				
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine	90.9	2	9.8	90.9
Total methionine	13.5	2	0.2	13.5
Total threonine	52.3	2	0.8	52.3
Total cysteine				
Total tryptophan	13.2	2	0.5	13.2
Total arginine	38.3	2	0.6	38.3
Total valine	84.0	2	1.5	84
Total isoleucine	8.9	2	0.1	8.9
Total leucine	118	2	0	118
Total histidine	60.4	2	1.0	60.4
Total serine	56.8	2	0.1	56.8
Total glycine	39.1	2	0.1	39.1
Total proline				
Total alanine	71.2	2	2.9	71.2
Total phenylalanine	65.6	2	0.1	65.6
Total aspartic acid	99.1	2	0.6	99.1
Total glu. acid/glu.	82.1	2	1.6	82.1
Lysine (SID)	79.4	2	6.6	79.4
Methionine (SID)	11.4	2	0.4	11.4
Threonine (SID)	42.9	2	2.9	42.9
Cysteine (SID)				
Tryptophan (SID)	1.8	2		1.8
Arginine (SID)	31.6	2	1.3	31.6
Valine (SID)	72.2	2	1.1	72.2
Isoleucine (SID)	4.9	2	0.8	4.9
Leucine (SID)	102.7	2	3.3	102.7
Histidine (SID)	52.8	2	1.3	52.8
Serine (SID)	47.4	2	1.3	47.4
Glycine (SID)	31.8	2	0.8	31.8
Proline (SID)				
Alanine (SID)	61.2	2	1.5	61.2
Phenylalanine (SID)	57.4	2	2.2	57.4
Aspartic acid (SID)	84.2	2	4.7	84.2
Glu. acid/glu. (SID)	66.5	2	1.3	66.5

Blood meal (ring dried)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	910.0	284		907.7	7	23.55				938.0	124	26
ME												
AME (MJ)												
AMEn (MJ)	13.37	67								13.5		
Net energy	9.33									9.23		
Crude protein	891.1	284		850.4	7	39.0	710	51	13.35	1003.2	142	39
Ether extract	13.3	67		5.74	7	5.68				8.5	25	7
Ash	25.1	73		39.2	7	27.09				32.0	116	15
Crude fibre				1.4	6	0.95				5.3	18	4
Acid detergent fibre												
Neutral detergent fibre										136.5	1	
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	935.0	174	72	927.0	5	9.6	923.5
ME				11.95	3	0	12.0
AME (MJ)							
AMEn (MJ)	12.7						13.2
Net energy	8.83			9.07			9.1
Crude protein	879.0	188	62	858.0	6	29.8	865.3
Ether extract	19.0	53	21	6.0	5	3.36	10.5
Ash	30.0	146	17	34.5	5	0.3	32.2
Crude fibre	13.0	23	19				6.6
Acid detergent fibre							
Neutral detergent fibre							136.5
Starch							
Total NSP							
Soluble NSP							
Insoluble NSP							
Oligosaccharides							
Total NSP: Rhamnose							
Total NSP: Fucose							
Total NSP: Ribose							
Total NSP: Arabinose							
Total NSP: Xylose							
Total NSP: Mannose							
Total NSP: Galactose							
Total NSP: Glucose							
Soluble NSP: Rhamnose							
Soluble NSP: Fucose							
Soluble NSP: Ribose							
Soluble NSP: Arabinose							
Soluble NSP: Xylose							
Soluble NSP: Mannose							
Soluble NSP: Galactose							
Soluble NSP: Glucose							
Insoluble NSP: Rhamnose							
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							
Insoluble NSP: Xylose							
Insoluble NSP: Mannose							
Insoluble NSP: Galactose							
Insoluble NSP: Glucose							
Oligo. NSP: Rhamnose							
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							

Blood meal (ring dried)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.4	78		1.1	1					1.3	44	1
Digestible calcium												
Total phosphorus	3.3	80		12.4	1					2.2	51	0.9
Available phosphorus												
Phytate phosphorus												
Phytate												
Linoleic acid												
Sodium	4.7	80								4.5	11	2.2
Chloride												
Potassium	2.3	80								3.8	7	3.4
Magnesium	0.3	80								0.2	7	0
Manganese				0.00091	1					0.001	1	
Zinc				0.0112	1					0.024	8	0.002
Copper				0.012	1					0.006	5	0
Iron				0.043	1					2.186	22	0.298
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine	77.9	284		76.5	6	12.0	78.9	2	1.95	87.3	54	7.02
Total methionine	9.8	284		10.11	6	2.71	9.3	2	2.19	12.0	31	2.01
Total threonine	37.5	284		39.15	6	5.23	37.3	2	5.1	47.2	49	4.01
Total cysteine	8.7	284		12.43	6	7.16	10.5	2	1.56	11.0	26	2.01
Total tryptophan	15.1	95		8.46	8	3.23	16.1	2	0.9	14.0	10	4.01
Total arginine	39.0	284		40.58	6	5.64	43.2	2	4.1	42.1	31	3.01
Total valine	72.7	284		71.77	6	12.87	71.2	2	10.6	85.3	31	7.02
Total isoleucine	13.6	284		15.52	6	11.77	23.9	2	14.6	11.0	49	4.01
Total leucine	110.2	284		105.85	6	19.07	108.5	2	12.2	121.4	49	10.03
Total histidine	55.9	284		48.47	6	1.478	55.0	2	8.05	62.2	31	10.03
Total serine	41.3	284		41.57	6	8.56	39.5	2	2.5	49.2	23	4.01
Total glycine	39.2	284		37.67	6	4.75	38.5	2	4.2	45.1	25	4.01
Total proline	34.0	284		37.65	6	7.6	34.5	2	0.35	40.1	13	4.01
Total alanine	69.6	284		63.42	6	11.42	69.9	2	3.75	79.3	23	4.01
Total phenylalanine	59.8	284		57.5	6	8.03	57.0	2	3.9	69.2	30	5.02
Total aspartic acid	93.9	284		87.52	6	12.03	92.9	2	12.85	107.3	22	7.02
Total glu. acid/glu.	79.9	284		83.1	6	14.06	84.9	2	3.15	95.3	22	4.01
Lysine (SID)	67.0											
Methionine (SID)	8.9											
Threonine (SID)	33.0											
Cysteine (SID)	6.6											
Tryptophan (SID)	12.8											
Arginine (SID)	34.0											
Valine (SID)	63.9											
Isoleucine (SID)	10.6											
Leucine (SID)	99.2											
Histidine (SID)	46.9											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	52.6											
Aspartic acid (SID)												
Glu. acid/glu.(SID)												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium	3.2	53	12.5	2.0	5	0.6	2.0
Digestible calcium							
Total phosphorus	2.1	61	1.1	2.4	5	0.5	4.5
Available phosphorus				2.4			2.4
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium	3.71	17	2.09	5.7	3	1.8	4.7
Chloride				3.6	1		3.6
Potassium	3.9	11	2.8	2.3	4	0.5	3.1
Magnesium	0.2	11	0.05	1.0	1		0.4
Manganese	0.005	2		0.073	1		0.0
Zinc	0.023	11	0.004	0.361	1		0.1
Copper	0.011	8	0.019	0.138	1		0.0
Iron	2.058	29	0.464	16.642	1		5.2
Selenium	0.0006	5	0.0001	0.0058	1		0.0
Cobalt	0.0001						0.0
Molybdenum	0.0002						0.0
Choline							
Sulphur	6.8	8	1.6				6.8
Total lysine	76.5	52	9.2	77.0			79.0
Total methionine	10.1	45	2.3	10.6			10.3
Total threonine	40.7	46	6.4	41.4			40.5
Total cysteine	9.9	36	2.0	6.4			9.8
Total tryptophan	12.8	15	3.0	14.6			13.5
Total arginine	38.1	46	6.3	34.7			39.6
Total valine	74.9	46	10.4	74.9			75.1
Total isoleucine	10.8	46	3.9	6.9			13.6
Total leucine	107.0	46	12.7	112			110.8
Total histidine	55.4	46	9.8	53.2			55.0
Total serine	43.6	39	4.9	44.8			43.3
Total glycine	39.4	38	4.1	36.2			39.4
Total proline	33.4	24	5.4				35.9
Total alanine	69.4	39	9.0	71.9			70.6
Total phenylalanine	60.7	46	7.0	62.7			61.2
Total aspartic acid	95.0	38	10.7	53.4			88.3
Total glu. acid/glu.	82.8	38	8.6	76.4			83.7
Lysine (SID)				60.8			63.9
Methionine (SID)				8.4			8.7
Threonine (SID)				32.7			32.9
Cysteine (SID)				4.8			5.7
Tryptophan (SID)				11.7			12.3
Arginine (SID)				28.6			31.3
Valine (SID)				59.6			61.8
Isoleucine (SID)				5.0			7.8
Leucine (SID)				91.8			95.5
Histidine (SID)				42.3			44.6
Serine (SID)							
Glycine (SID)							
Proline (SID)							
Alanine (SID)				54.6			54.6
Phenylalanine (SID)				51.2			51.9
Aspartic acid (SID)							
Glu. acid/glu. (SID)							2.0

Blood meal (ring dried)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	923.0	2	5.7	6	1	923.5	594	32.8	194	48
ME						12.0	3			
AME (MJ)										
AMEn (MJ)						13.2	67			
Net energy						9.1				
Crude protein	905.0	2	11.3	24	6	865.3	678	36.6	275	69
Ether extract						10.5	157	9.3	119331	29833
Ash						32.2	347	14.8	32753	8188
Crude fibre						6.6	47	8.0	227118	56779
Acid detergent fibre										
Neutral detergent fibre						136.5	1			
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						2.0	181	4.7	848609	212152
Digestible calcium										
Total phosphorus						4.5	198	0.8	5317	1329
Available phosphorus						2.4				
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium						4.7	111	2.0	29254	7314
Chloride						3.6	1			
Potassium						3.1	102	2.2	81057	20264
Magnesium						0.4	99	0.0	532	133
Manganese						0.0	5			
Zinc						0.1	21	0.0	126	31
Copper						0.0	15	0.0	7956	1989
Iron						5.2	53	0.4	815	204
Selenium						0.0	6	0.0	96	24
Cobalt						0.0				
Molybdenum						0.0				
Choline										
Sulphur						6.8	8	1.6	8507	2127
Total lysine	90.9	2	9.8	1786	447	79.0	398	7.5	1400	350
Total methionine	13.5	2	0.2	34	8	10.3	368	2.3	7636	1909
Total threonine	52.3	2	0.8	36	9	40.5	387	5.2	2515	629
Total cysteine						9.8	354	3.2	16106	4026
Total tryptophan	13.2	2	0.5	220	55	13.5	130	2.8	6526	1632
Total arginine	38.3	2	0.6	38	9	39.6	369	4.8	2220	555
Total valine	84.0	2	1.5	49	12	75.1	369	10.2	2846	711
Total isoleucine	8.9	2	0.1	19	5	13.6	387	8.6	60796	15199
Total leucine	118.0	2	0.0	0	0	110.8	387	13.5	2280	570
Total histidine	60.4	2	1.0	42	11	55.0	369	7.3	2734	683
Total serine	56.8	2	0.1	0	0	43.3	354	5.0	2041	510
Total glycine	39.1	2	0.1	1	0	39.4	355	4.3	1806	451
Total proline						35.9	329	4.3	2242	561
Total alanine	71.2	2	2.9	255	64	70.6	354	7.0	1531	383
Total phenylalanine	65.6	2	0.1	0	0	61.2	368	6.0	1473	368
Total aspartic acid	99.1	2	0.6	6	1	88.3	352	10.7	2233	558
Total glu. acid/glu.	82.1	2	1.6	58	15	83.7	352	7.5	1218	305
Lysine (SID)	79.4	2	6.6	1062	265	63.9				
Methionine (SID)	11.4	2	0.4	189	47	8.7				
Threonine (SID)	42.9	2	2.9	702	176	32.9				
Cysteine (SID)						5.7				
Tryptophan (SID)	1.8	2				12.3				
Arginine (SID)	31.6	2	1.3	260	65	31.3				
Valine (SID)	72.2	2	1.1	36	9	61.8				
Isoleucine (SID)	4.9	2	0.8	4096	1024	7.8				
Leucine (SID)	102.7	2	3.3	159	40	95.5				
Histidine (SID)	52.8	2	1.3	93	23	44.6				
Serine (SID)	47.4	2	1.3	116	29					
Glycine (SID)	31.8	2	0.8	97	24					
Proline (SID)										
Alanine (SID)	61.2	2	1.5	92	23	54.6				
Phenylalanine (SID)	57.4	2	2.2	226	56	51.9				
Aspartic acid (SID)	84.2	2	4.7	479	120					
Glu. acid/glu. (SID)	66.5	2	1.3	59	15					

Blood meal (spray dried)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Average of the mean
	Mean	n	SD	
Dry matter	923	2	5.7	923
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein	905	2	11.3	905
Ether extract				
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine	90.9	2	9.8	90.9
Total methionine	13.5	2	0.2	13.5
Total threonine	52.3	2	0.8	52.3
Total cysteine				
Total tryptophan	13.2	2	0.5	13.2
Total arginine	38.3	2	0.6	38.3
Total valine	84.0	2	1.5	84.0
Total isoleucine	8.9	2	0.1	8.9
Total leucine	118	2	0	118.0
Total histidine	60.4	2	1.0	60.4
Total serine	56.8	2	0.1	56.8
Total glycine	39.1	2	0.1	39.1
Total proline				
Total alanine	71.2	2	2.9	71.2
Total phenylalanine	65.6	2	0.1	65.6
Total aspartic acid	99.1	2	0.6	99.1
Total glu. acid/glu.	82.1	2	1.6	82.1
Lysine (SID)	79.4	2	6.6	79.4
Methionine (SID)	11.4	2	0.4	11.4
Threonine (SID)	42.9	2	2.9	42.9
Cysteine (SID)				
Tryptophan (SID)	1.8	2		1.8
Arginine (SID)	31.6	2	1.3	31.6
Valine (SID)	72.2	2	1.1	72.2
Isoleucine (SID)	4.9	2	0.8	4.9
Leucine (SID)	102.7	2	3.3	102.7
Histidine (SID)	52.8	2	1.3	52.8
Serine (SID)	47.4	2	1.3	47.4
Glycine (SID)	31.8	2	0.8	31.8
Proline (SID)				
Alanine (SID)	61.2	2	1.5	61.2
Phenylalanine (SID)	57.4	2	2.2	57.4
Aspartic acid (SID)	84.2	2	4.7	84.2
Glu. acid/glu.	66.5	2	1.3	66.5

Blood meal (spray dried)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	910.0	284		907.7	7	23.55				938.0	124	26
ME												
AME (MJ)												
AMEn (MJ)	13.37	67								13.5		
Net energy	9.33									9.23		
Crude protein	891.1	284		850.4	7	39.0	710	51	13.35	1003.2	142	39
Ether extract	13.3	67		5.74	7	5.68				8.5	25	7
Ash	25.1	73		39.2	7	27.09				32	116	15
Crude fibre				1.4	6	0.95				5.3	18	4
Acid detergent fibre												
Neutral detergent fibre										136.5	1	
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Premier Nutrition			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	935	174	72	927	5	9.6	910			921.3
ME				11.95	3	0				12.0
AME (MJ)										
AMEn (MJ)	12.7						12.2			12.9
Net energy	8.83			9.07						9.1
Crude protein	879	188	62	858	6	29.8	880			867.4
Ether extract	19	53	21	6	5	3.36				10.5
Ash	30	146	17	34.5	5	0.3	2			27.1
Crude fibre	13	23	19							4.9
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Blood meal (spray dried)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.4	78		1.1	1					1.3	44	1.0
Digestible calcium												
Total phosphorus	3.3	80		12.4	1					2.2	51	0.9
Available phosphorus												
Phytate phosphorus												
Phytate												
Linoleic acid												
Sodium	4.7	80								4.5	11	2.2
Chloride												
Potassium	2.3	80								3.8	7	3.4
Magnesium	0.3	80								0.2	7	0
Manganese				0.0009	1					0.001	1	
Zinc				0.0112	1					0.024	8	0.002
Copper				0.012	1					0.006	5	0
Iron				0.043	1					2.186	22	0.298
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine	77.9	284		76.5	6	12.0	78.9	2	1.95	87.28	54	7.02
Total methionine	9.8	284		10.11	6	2.71	9.3	2	2.19	12.04	31	2.01
Total threonine	37.5	284		39.15	6	5.23	37.3	2	5.1	47.15	49	4.01
Total cysteine	8.7	284		12.43	6	7.16	10.5	2	1.56	11.04	26	2.01
Total tryptophan	15.1	95		8.46	8	3.23	16.1	2	0.9	14.04	10	4.01
Total arginine	39.0	284		40.58	6	5.64	43.2	2	4.1	42.13	31	3.01
Total valine	72.7	284		71.77	6	12.87	71.2	2	10.6	85.27	31	7.02
Total isoleucine	13.6	284		15.52	6	11.77	23.9	2	14.6	11.04	49	4.01
Total leucine	110.2	284		105.85	6	19.07	108.5	2	12.2	121.39	49	10.03
Total histidine	55.9	284		48.47	6	1.478	55.0	2	8.05	62.20	31	10.03
Total serine	41.3	284		41.57	6	8.56	39.5	2	2.5	49.16	23	4.01
Total glycine	39.2	284		37.67	6	4.75	38.5	2	4.2	45.14	25	4.01
Total proline	34.0	284		37.65	6	7.6	34.5	2	0.35	40.13	13	4.01
Total alanine	69.6	284		63.42	6	11.42	69.9	2	3.75	79.25	23	4.01
Total phenylalanine	59.8	284		57.5	6	8.03	57.0	2	3.9	69.22	30	5.02
Total aspartic acid	93.9	284		87.52	6	12.03	92.9	2	12.85	107.34	22	7.02
Total glu. acid/glu.	79.9	284		83.1	6	14.06	84.9	2	3.15	95.30	22	4.01
Lysine (SID)	67.0											
Methionine (SID)	8.9											
Threonine (SID)	33.0											
Cysteine (SID)	6.6											
Tryptophan (SID)	12.8											
Arginine (SID)	34.0											
Valine (SID)	63.9											
Isoleucine (SID)	10.6											
Leucine (SID)	99.2											
Histidine (SID)	46.9											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	52.6											
Aspartic acid (SID)												
Glu. acid/glu.(SID)												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Premier Nutrition			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	3.2	53	12.5	2	5	0.6	0.7			1.8
Digestible calcium										
Total phosphorus	2.1	61	1.1	2.4	5	0.5	1.9			4.1
Available phosphorus				2.4						2.4
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium	3.71	17	2.09	5.7	3	1.8	4.2			4.6
Chloride				3.6	1		3.4			3.5
Potassium	3.9	11	2.8	2.3	4	0.5	2.6			3.0
Magnesium	0.2	11	0.05	1.0	1		0.3			0.4
Manganese	0.005	2		0.073	1		0.003			0.0
Zinc	0.023	11	0.004	0.361	1		0.036			0.1
Copper	0.011	8	0.019	0.138	1		0.01			0.0
Iron	2.058	29	0.464	16.642	1		2.3			4.6
Selenium	0.0006	5	0.00008	0.0058	1		0.0005			0.0
Cobalt	0.0001						0.0001			0.0
Molybdenum	0.0002									0.0
Choline										
Sulphur	6.8	8	1.6							6.8
Total lysine	76.5	52	9.2	77.0			78.3			78.9
Total methionine	10.1	45	2.3	10.6			11			10.4
Total threonine	40.7	46	6.4	41.4			40.5			40.5
Total cysteine	9.9	36	2.0	6.4			9.2			9.7
Total tryptophan	12.8	15	3.0	14.6			14.1			13.6
Total arginine	38.1	46	6.3	34.7			59.8			42.5
Total valine	74.9	46	10.4	74.9			73			74.8
Total isoleucine	10.8	46	3.9	6.9			10.6			13.2
Total leucine	107.0	46	12.7	112.0			109.1			110.6
Total histidine	55.4	46	9.8	53.2			52.8			54.7
Total serine	43.6	39	4.9	44.8			44.4			43.5
Total glycine	39.4	38	4.1	36.2			41			39.6
Total proline	33.4	24	5.4				35.2			35.8
Total alanine	69.4	39	9.0	71.9						70.6
Total phenylalanine	60.7	46	7.0	62.7						61.2
Total aspartic acid	95.0	38	10.7	53.4			92.4			88.9
Total glu. acid/glu.	82.8	38	8.6	76.4			79.2			83.1
Lysine (SID)				60.8			67.4			65.1
Methionine (SID)				8.4			10			9.1
Threonine (SID)				32.7			35.6			33.8
Cysteine (SID)				4.8			7.4			6.3
Tryptophan (SID)				11.7			12.4			12.3
Arginine (SID)				28.6			52.1			38.2
Valine (SID)				59.6			64.3			62.6
Isoleucine (SID)				5.0			8.2			7.9
Leucine (SID)				91.8			98.2			96.4
Histidine (SID)				42.3			44.4			44.5
Serine (SID)							39			39.0
Glycine (SID)							36.1			36.1
Proline (SID)							30.3			30.3
Alanine (SID)				54.6						54.6
Phenylalanine (SID)				51.2						51.9
Aspartic acid (SID)							77.6			77.6
Glu. acid/glu. (SID)							66.5			66.5

Blood meal (spray dried)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	923.0	2	5.7	6	1	921.3	594	32.8	195	49
ME						12.0	3			
AME (MJ)										
AMEn (MJ)						12.9	67			
Net energy						9.1				
Crude protein	905.0	2	11.3	24	6	867.4	678	36.6	274	69
Ether extract						10.5	157	9.3	119331	29833
Ash						27.1	347	14.8	46012	11503
Crude fibre						4.9	47	8.0	403765	100941
Acid detergent fibre										
Neutral detergent fibre						68.3	1			
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						1.8	181	4.7	1067340	266835
Digestible calcium										
Total phosphorus						4.1	198	0.8	6506	1626
Available phosphorus						2.4				
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium						4.56	111	2.0	30427	7607
Chloride						3.50	1			
Potassium						2.98	102	2.2	86307	21577
Magnesium						0.40	99	0.0	600	150
Manganese						0.0166	5			
Zinc						0.0910	21	0.0	167	42
Copper						0.0354	15	0.0	11067	2767
Iron						4.65	53	0.4	1033	258
Selenium						0.0023	6	0.0	186	46
Cobalt						0.0001				
Molybdenum						0.0002				
Choline										
Sulphur						6.8	8	1.6	8507	2127
Total lysine	90.9	2	9.8	1786	447	78.9	398	7.5	1404	351
Total methionine	13.5	2	0.2	34	8	10.4	368	2.3	7495	1874
Total threonine	52.3	2	0.8	36	9	40.5	387	5.2	2516	629
Total cysteine						9.7	354	3.2	16403	4101
Total tryptophan	13.2	2	0.5	220	55	13.6	130	2.8	6446	1612
Total arginine	38.3	2	0.6	38	9	42.5	369	4.8	1929	482
Total valine	84.0	2	1.5	49	12	74.8	369	10.2	2869	717
Total isoleucine	8.9	2	0.1	19	5	13.2	387	8.6	64845	16211
Total leucine	118.0	2	0.0	0	0	110.6	387	13.5	2291	573
Total histidine	60.4	2	1.0	42	11	54.7	369	7.3	2766	691
Total serine	56.8	2	0.1	0	0	43.5	354	5.0	2027	507
Total glycine	39.1	2	0.1	1	0	39.6	355	4.3	1784	446
Total proline						35.8	329	4.3	2257	564
Total alanine	71.2	2	2.9	255	64	70.6	354	7.0	1531	383
Total phenylalanine	65.6	2	0.1	0	0	61.2	368	6.0	1473	368
Total aspartic acid	99.1	2	0.6	6	1	88.9	352	10.7	2204	551
Total glu. acid/glu.	82.1	2	1.6	58	15	83.1	352	7.5	1237	309
Lysine (SID)	79.4	2	6.6	1062	265	65.1				
Methionine (SID)	11.4	2	0.4	189	47	9.1				
Threonine (SID)	42.9	2	2.9	702	176	33.8				
Cysteine (SID)						6.3				
Tryptophan (SID)	1.8	2				12.3				
Arginine (SID)	31.6	2	1.3	260	65	38.2				
Valine (SID)	72.2	2	1.1	36	9	62.6				
Isoleucine (SID)	4.9	2	0.8	4096	1024	7.9				
Leucine (SID)	102.7	2	3.3	159	40	96.4				
Histidine (SID)	52.8	2	1.3	93	23	44.5				
Serine (SID)	47.4	2	1.3	116	29	39.0				
Glycine (SID)	31.8	2	0.8	97	24	36.1				
Proline (SID)						30.3				
Alanine (SID)	61.2	2	1.5	92	23	54.6				
Phenylalanine (SID)	57.4	2	2.2	226	56	51.9				
Aspartic acid (SID)	84.2	2	4.7	479	120	77.6				
Glu. acid/glu. (SID)	66.5	2	1.3	59	15	66.5				

Canola meal (cold pressed)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Adisseo			Cootamundra Oilseeds			Poultry Hub Australia			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	917	3	11.5	931.15	2		919.2	183	6.43				922.5
ME													
AME (MJ)													
AMEn (MJ)													
Net energy													
Crude protein	352	3	2.6	359.5	2		386.3	183	12.37				365.9
Ether extract				125.3	2								125.3
Ash				68.5	2								68.5
Crude fibre				104.35	2								104.4
Acid detergent fibre													
Neutral detergent fibre													
Starch													
Total NSP										154.8	18	22.8	154.8
Soluble NSP										14.9	18	1.4	14.9
Insoluble NSP										139.9	18	23.0	139.9
Oligosaccharides													
Total NSP: Rhamnose										1.60	18	0.79	1.60
Total NSP: Fucose										1.42	18	0.95	1.42
Total NSP: Ribose										1.44	18	2.59	1.44
Total NSP: Arabinose										42.79	18	5.29	42.79
Total NSP: Xylose										16.58	18	1.53	16.58
Total NSP: Mannose										5.32	18	1.11	5.32
Total NSP: Galactose										16.90	18	1.80	16.90
Total NSP: Glucose										64.00	18	7.39	64.00
Soluble NSP: Rhamnose										0.10	18	0.12	0.10
Soluble NSP: Fucose										0.14	18	0.10	0.14
Soluble NSP: Ribose										0.58	18	0.30	0.58
Soluble NSP: Arabinose										6.95	18	2.15	6.95
Soluble NSP: Xylose										1.19	18	0.97	1.19
Soluble NSP: Mannose										2.32	18	0.88	2.32
Soluble NSP: Galactose										2.92	18	0.87	2.92
Soluble NSP: Glucose										1.00	18	0.23	1.00
Insoluble NSP: Rhamnose										1.51	18	0.79	1.51
Insoluble NSP: Fucose										1.28	18	0.95	1.28
Insoluble NSP: Ribose										0.86	18	2.53	0.86
Insoluble NSP: Arabinose										35.84	18	5.10	35.84
Insoluble NSP: Xylose										15.39	18	1.39	15.39
Insoluble NSP: Mannose										3.00	18	0.76	3.00
Insoluble NSP: Galactose										13.97	18	1.68	13.97
Insoluble NSP: Glucose										63.00	18	7.37	63.00
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Adisseo			Cootamundra Oilseeds			Poultry Hub Australia			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium													
Digestible calcium													
Total phosphorus				12.1	2								10.0
Available phosphorus				1.3	2								1.3
Phytate phosphorus				10	2								7.5
Phytate													22.1
Linoleic acid													
Sodium													
Chloride													
Potassium													
Magnesium													
Manganese													
Zinc													
Copper													
Iron													
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine	19.5	3	0.1	19.65	2		23.6	181	2.2				20.9
Total methionine	5.6	3	0.2	6.65	2								6.1
Total threonine	16.4	3	1.2	13.45	2								14.9
Total cysteine				8.75	2								8.8
Total tryptophan	4.0	3	0.4	5.2	2								4.6
Total arginine	20.5	3	1.3	20.3	2								20.4
Total valine	18	3	1.6	17.55	2								17.8
Total isoleucine	14.2	3	1.9	13.1	2								13.7
Total leucine	24.4	3	1.9	21.8	2								23.1
Total histidine	11.2	3	1.7	8.4	2								9.8
Total serine	18.2	3	0.4										18.2
Total glycine	17.8	3	0.7										17.8
Total proline													
Total alanine	15.3	3	0.5										15.3
Total phenylalanine	14.2	3	0.1										14.2
Total aspartic acid	24.4	3	1.3										24.4
Total glu. acid/glu.	60.8	3	2.5										60.8
Lysine (SID)	15.1	3	1.5	15.75	2								15.4
Methionine (SID)	5.1	3	0.1	5.6	2								5.4
Threonine (SID)	10.8	3	2.0	10.25	2								10.5
Cysteine (SID)				5.5	2								5.5
Tryptophan (SID)	3.1	3	0.4	4.25	2								3.7
Arginine (SID)	16.3	3	1.9	17.9	2								17.1
Valine (SID)	12.5	3	2.8	13.4	2								13.0
Isoleucine (SID)	10.4	3	2.7	10.7	2								10.6
Leucine (SID)	18.2	3	2.2	17.7	2								18.0
Histidine (SID)	8.8	3	1.6	7.1	2								8.0
Serine (SID)	11.8	3	1.2										11.8
Glycine (SID)	12.7	3	1.4										12.7
Proline (SID)													
Alanine (SID)	11.1	3	1.6										11.1
Phenylalanine (SID)	11.0	3	0.4										11.0
Aspartic acid (SID)	16.4	3	2.3										16.4
Glu. acid/glu. (SID)	50.1	3	2.6										50.1

Canola meal (cold pressed)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			RCI			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	619	880				89			899	374	21
ME							11.30					
AME (MJ)							11.31					
AMEn (MJ)	7.39	21	7.39									
Net energy	5.48											
Crude protein	348.2	619	348.2	336	43	14.84	355			396	375	26
Ether extract	31.2	210	31.2				110			102.3	325	43
Ash	74.1	210	74.1				65			76.8	132	7
Crude fibre	110.9	210	110.9				105			146.8	335	14
Acid detergent fibre	187.6	210	187.6							219.1	16	17
Neutral detergent fibre	274.9	210	274.9							332.6	18	50
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	915	389	41	895	38	11.6	735.6
ME				7.29	4	0.26	9.3
AME (MJ)							11.3
AMEn (MJ)	8.1						7.7
Net energy	6.39			5.72			5.9
Crude protein	307	434	25	362	37	22.4	350.7
Ether extract	120	303	38	25.5	31	13.2	77.8
Ash	62	165	6	65.7	32	4.9	68.7
Crude fibre	118	357	14	109	14	8.1	117.9
Acid detergent fibre	180	32	19	84.5	3	111	167.8
Neutral detergent fibre	268	36	43	251	21	47.6	281.6
Starch				51	4	12.7	51.0
Total NSP							
Soluble NSP							
Insoluble NSP							
Oligosaccharides							
Total NSP: Rhamnose							
Total NSP: Fucose							
Total NSP: Ribose							
Total NSP: Arabinose							
Total NSP: Xylose							
Total NSP: Mannose							
Total NSP: Galactose							
Total NSP: Glucose							
Soluble NSP: Rhamnose							
Soluble NSP: Fucose							
Soluble NSP: Ribose							
Soluble NSP: Arabinose							
Soluble NSP: Xylose							
Soluble NSP: Mannose							
Soluble NSP: Galactose							
Soluble NSP: Glucose							
Insoluble NSP: Rhamnose							
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							
Insoluble NSP: Xylose							
Insoluble NSP: Mannose							
Insoluble NSP: Galactose							
Insoluble NSP: Glucose							
Oligo. NSP: Rhamnose							
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							

Canola meal (cold pressed)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			RCI			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	7.1	210					6.0			7.9	35	1.2
Digestible calcium												
Total phosphorus	9.4	210					9.6			11.9	33	0.8
Available phosphorus							3.2					
Phytate phosphorus	5.7	210										
Phytate	20.21											
Linoleic acid												
Sodium	0.4	210					0.04			0.1	5	0
Chloride												
Potassium	11.1	210								12.5	2	
Magnesium	4.6	210										
Manganese												
Zinc												
Copper												
Iron										73	1	
Selenium												
Cobalt												
Molybdenum												
Choline							2.0					
Sulphur												
Total lysine	17.8	619		18.5	43	1.23	20.3			22.176	7	1.584
Total methionine	6.8	619		6.5	43	0.27	7.05			8.712	7	1.188
Total threonine	14.7	619		14.7	43	0.57	15.09			18.612	6	0.792
Total cysteine	8.2	619		7.6	43	0.49	9.0			10.296	7	1.98
Total tryptophan	4.8	289		4.6	43	0.27	5.0			5.148	4	0.396
Total arginine	20.9	619		19.2	43	1.15	22.2			24.948	6	1.188
Total valine	17.4	619		17.1	43	0.64	17.97			22.176	6	0.792
Total isoleucine	13.6	619		13.1	43	0.49	13.98			17.424	6	0.792
Total leucine	23.7	619		23	43	0.84				28.116	6	0.396
Total histidine	9.1	619		8.6	43	0.43				11.088	5	0.792
Total serine	14.4	619		14.2	43	0.52				19.008	6	1.584
Total glycine	17.4	619		16.9	43	0.74				20.988	6	0.396
Total proline	21.2	619		19.5	43	0.98				24.948	5	1.188
Total alanine	14.9	619		14.7	43	0.55				18.216	6	0.396
Total phenylalanine	13.9	619		13.2	43	0.5				15.84	6	1.188
Total aspartic acid	24.3	619		24	43	1.04				30.492	6	0.792
Total glu. acid/glu.	58.7	619		54.2	43	2.74				69.696	6	6.336
Lysine (SID)	14.2						17.46					
Methionine (SID)	5.7						6.35					
Threonine (SID)	10.7						12.83					
Cysteine (SID)	6.4						7.77					
Tryptophan (SID)	3.9						3.76					
Arginine (SID)	18.2						18.87					
Valine (SID)	13.8						15.27					
Isoleucine (SID)	10.7						12.5					
Leucine (SID)	19.4											
Histidine (SID)	7.7											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	11.5											
Aspartic acid (SID)												
Glu. acid/glu.(SID)							6.0					

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium	7.5	48	1.2	6.3	22	0.7	7.0
Digestible calcium							
Total phosphorus	10.8	52	0.9	11.4	22	1.4	10.6
Available phosphorus	2.7			3.9			3.3
Phytate phosphorus	6.5	3		7.5	1		6.6
Phytate	23.05			26.60			23.3
Linoleic acid	19.6						19.6
Sodium	0.52	16	0.04	1.0	2	0.1	0.41
Chloride				1.1	1		1.10
Potassium	11.5	15	1.0	5.5	2	0	10.2
Magnesium	4.8	3					4.70
Manganese	0.057	5	0.012				0.057
Zinc	0.058	5	0.009				0.058
Copper	0.005	5	0.0007				0.005
Iron	0.171	2					36.6
Selenium	0.0002	2					0.0002
Cobalt	0.0001						0.0001
Molybdenum	0.002						0.0020
Choline							2.00
Sulphur	7.7						7.70
Total lysine	16.8	40	1.7	20.2			19.3
Total methionine	6.2	35	0.6	7.8			7.2
Total threonine	13.4	25	1.0	15.7			15.4
Total cysteine	7.4	30	1.1	9.7			8.7
Total tryptophan	3.8	13	0.5	4.6			4.7
Total arginine	17.9	29	2.1	22.5			21.3
Total valine	15.8	29	1.3	16.7			17.9
Total isoleucine	12.4	29	1.1	13.1			13.9
Total leucine	21.0	29	1.9	25.3			24.2
Total histidine	8.3	25	1.3	10.0			9.4
Total serine	13.4	25	1.0	15.0			15.2
Total glycine	15.2	25	1.3	16.9			17.5
Total proline	18.6	24	2.2	19.5			20.7
Total alanine	13.4	25	1.2	15.5			15.3
Total phenylalanine	11.8	29	1.5	14.1			13.8
Total aspartic acid	21.9	25	1.7	14.4			23.0
Total glu. acid/glu.	52.0	25	6.7	59.3			58.8
Lysine (SID)	13.1			16.3			15.3
Methionine (SID)	5.5			7.0			6.1
Threonine (SID)	10.1			12.6			11.6
Cysteine (SID)	5.4			7.2			6.7
Tryptophan (SID)	3.1			3.9			3.7
Arginine (SID)	15.0			20.3			18.1
Valine (SID)	12.8			13.8			13.9
Isoleucine (SID)	10.1			10.9			11.1
Leucine (SID)	17.2			22.0			19.5
Histidine (SID)	6.9			8.8			7.8
Serine (SID)	10.6			12.4			11.5
Glycine (SID)	12.0			14.7			13.4
Proline (SID)	13.4			16.0			14.7
Alanine (SID)	10.8			13.1			12.0
Phenylalanine (SID)	9.9			12.3			11.2
Aspartic acid (SID)	16.0			13.1			14.6
Glu. acid/glu. (SID)	43.7			53.8			48.8

Canola meal (cold pressed)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	922.5	188	9.0	15	4	735.6	1420	24.5	171	43
ME						9.3	4	0.3	120	30
AME (MJ)						11.3				
AMEn (MJ)						7.7	21			
Net energy						5.9				
Crude protein	365.9	188	7.5	64	16	350.7	1508	22.1	608	152
Ether extract	125.3	2				77.8	869	31.4	25031	6258
Ash	68.5	2				68.7	539	6.0	1158	290
Crude fibre	104.4	2				117.9	916	12.0	1600	400
Acid detergent fibre						167.8	261	49.0	13103	3276
Neutral detergent fibre						281.6	285	46.9	4256	1064
Starch						51.0	4	12.7	9529	2382
Total NSP	154.8	18	22.8	3345	836					
Soluble NSP	14.9	18	1.4	1337	334					
Insoluble NSP	139.9	18	23.0	4135	1034					
Oligosaccharides										
Total NSP: Rhamnose	1.60	18	0.8	37415	9354					
Total NSP: Fucose	1.42	18	0.9	68590	17147					
Total NSP: Ribose	1.44	18	2.6	500361	125090					
Total NSP: Arabinose	42.79	18	5.3	2345	586					
Total NSP: Xylose	16.58	18	1.5	1313	328					
Total NSP: Mannose	5.32	18	1.1	6651	1663					
Total NSP: Galactose	16.90	18	1.8	1740	435					
Total NSP: Glucose	64.00	18	7.4	2049	512					
Soluble NSP: Rhamnose	0.10	18	0.1	225941	56485					
Soluble NSP: Fucose	0.14	18	0.1	83608	20902					
Soluble NSP: Ribose	0.58	18	0.3	41023	10256					
Soluble NSP: Arabinose	6.95	18	2.2	14755	3689					
Soluble NSP: Xylose	1.19	18	1.0	103009	25752					
Soluble NSP: Mannose	2.32	18	0.9	22044	5511					
Soluble NSP: Galactose	2.92	18	0.9	13727	3432					
Soluble NSP: Glucose	1.00	18	0.2	8539	2135					
Insoluble NSP: Rhamnose	1.51	18	0.8	42135	10534					
Insoluble NSP: Fucose	1.28	18	1.0	85479	21370					
Insoluble NSP: Ribose	0.86	18	2.5	1346122	336530					
Insoluble NSP: Arabinose	35.84	18	5.1	3112	778					
Insoluble NSP: Xylose	15.39	18	1.4	1260	315					
Insoluble NSP: Mannose	3.00	18	0.8	9990	2498					
Insoluble NSP: Galactose	13.97	18	1.7	2233	558					
Insoluble NSP: Glucose	63.00	18	7.4	2106	526					
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						7.0	315	1.0	3387	847
Digestible calcium										
Total phosphorus	10.0	21	1.0	1678	419	10.6	317	1.0	1455	364
Available phosphorus	1.3	2				3.3				
Phytate phosphorus	7.5	21	1.1	3110	777	6.6	214			
Phytate	22.1					23.3				
Linoleic acid						19.6				
Sodium						0.41	233	0.05	1971	493
Chloride						1.10	1			
Potassium						10.2	229	0.5	373	93
Magnesium						4.70	213			
Manganese						0.057	5	0.012	6811	1703
Zinc						0.058	5	0.009	3700	925
Copper						0.005	5	0.001	3012	753
Iron						36.6	3			
Selenium						0.0002	2			
Cobalt						0.0001				
Molybdenum						0.0020				
Choline						2.00				
Sulphur						7.70				
Total lysine	20.9	186	1.2	464	116	19.3	709	1.5	934	234
Total methionine	6.1	5	0.2	164	41	7.2	704	0.7	1404	351
Total threonine	14.9	5	1.2	993	248	15.4	693	0.8	403	101
Total cysteine	8.8	2				8.7	699	1.2	2875	719
Total tryptophan	4.6	5	0.4	1162	290	4.7	349	0.4	1070	267
Total arginine	20.4	5	1.3	624	156	21.3	697	1.5	743	186
Total valine	17.8	5	1.6	1245	311	17.9	697	0.9	400	100
Total isoleucine	13.7	5	1.9	2977	744	13.9	697	0.8	499	125
Total leucine	23.1	5	1.9	1040	260	24.2	697	1.0	286	72
Total histidine	9.8	5	1.7	4624	1156	9.4	692	0.8	1224	306
Total serine	18.2	3	0.4	74	19	15.2	693	1.0	712	178
Total glycine	17.8	3	0.7	238	59	17.5	693	0.8	332	83
Total proline						20.7	691	1.5	757	189
Total alanine	15.3	3	0.5	164	41	15.3	693	0.7	334	84
Total phenylalanine	14.2	3	0.1	8	2	13.8	697	1.1	915	229
Total aspartic acid	24.4	3	1.3	436	109	23.0	693	1.2	402	100
Total glu. acid/glu.	60.8	3	2.5	260	65	58.8	693	5.3	1230	307
Lysine (SID)	15.4	5	1.5	1453	363	15.3				
Methionine (SID)	5.4	5	0.1	54	13	6.1				
Threonine (SID)	10.5	5	2.0	5549	1387	11.6				
Cysteine (SID)	5.5	2				6.7				
Tryptophan (SID)	3.7	5	0.4	1820	455	3.7				
Arginine (SID)	17.1	5	1.9	1897	474	18.1				
Valine (SID)	13.0	5	2.8	7184	1796	13.9				
Isoleucine (SID)	10.6	5	2.7	10065	2516	11.1				
Leucine (SID)	18.0	5	2.2	2308	577	19.5				
Histidine (SID)	8.0	5	1.6	6224	1556	7.8				
Serine (SID)	11.8	3	1.2	1589	397	11.5				
Glycine (SID)	12.7	3	1.4	1867	467	13.4				
Proline (SID)						14.7				
Alanine (SID)	11.1	3	1.6	3193	798	12.0				
Phenylalanine (SID)	11.0	3	0.4	203	51	11.2				
Aspartic acid (SID)	16.4	3	2.3	3022	756	14.6				
Glu. acid/glu. (SID)	50.1	3	2.6	414	103	48.8				

Canola meal (expeller)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Adisseo			Poultry Hub Australia			Bryden 2009			DuPont			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	919.5	16	7.29				917	3	11.5				918.2
ME													
AME (MJ)													
AMEn (MJ)													
Net energy													
Crude protein	354.1	16	14.60				352	3	2.6				353.0
Ether extract	93.7	16	7.90										93.7
Ash	66.0	16	1.24										66.0
Crude fibre	126.3	16	9.07										126.3
Acid detergent fibre													
Neutral detergent fibre													
Starch													
Total NSP				81.40	10	3.900							81.4
Soluble NSP				6.90	10	0.500							6.9
Insoluble NSP				74.60	10	4.000							74.6
Oligosaccharides													
Total NSP: Rhamnose				1.61	10	0.623							1.6
Total NSP: Fucose				1.18	10	0.809							1.2
Total NSP: Ribose				8.29	10	11.805							8.3
Total NSP: Arabinose				25.89	10	18.830							25.9
Total NSP: Xylose				10.81	10	4.875							10.8
Total NSP: Mannose				5.91	10	4.738							5.9
Total NSP: Galactose				16.39	10	7.815							16.4
Total NSP: Glucose				12.74	10	10.003							12.7
Soluble NSP: Rhamnose				0.06	10	0.070							0.1
Soluble NSP: Fucose				0.07	10	0.098							0.1
Soluble NSP: Ribose				0.20	10	0.144							0.2
Soluble NSP: Arabinose				2.57	10	1.514							2.6
Soluble NSP: Xylose				0.39	10	0.109							0.4
Soluble NSP: Mannose				1.11	10	0.487							1.1
Soluble NSP: Galactose				1.51	10	0.271							1.5
Soluble NSP: Glucose				0.59	10	0.219							0.6
Insoluble NSP: Rhamnose				1.55	10	0.607							1.6
Insoluble NSP: Fucose				1.11	10	0.782							1.1
Insoluble NSP: Ribose				8.09	10	11.789							8.1
Insoluble NSP: Arabinose				23.32	10	18.453							23.3
Insoluble NSP: Xylose				10.42	10	4.852							10.4
Insoluble NSP: Mannose				4.80	10	4.441							4.8
Insoluble NSP: Galactose				14.88	10	7.938							14.9
Insoluble NSP: Glucose				12.15	10	10.063							12.2
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Adisseo			Poultry Hub Australia			Bryden 2009			DuPont			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium													
Digestible calcium													
Total phosphorus	10.96	16	0.533							9.0	3		9.6
Available phosphorus	1.39	16	0.089										1.4
Phytate phosphorus	8.74	16	0.605							5.77	3		7.1
Phytate										20.46			20.5
Linoleic acid													
Sodium													
Chloride													
Potassium													
Magnesium													
Manganese													
Zinc													
Copper													
Iron													
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine	18.98	16	0.509				19.5	3	0.1				19.2
Total methionine	7.04	16	0.247				5.6	3	0.2				6.3
Total threonine	14.56	16	0.476				16.4	3	1.2				15.5
Total cysteine	8.16	16	0.141										8.2
Total tryptophan	4.76	16	0.253				4	3	0.4				4.4
Total arginine	18.24	16	1.691				20.5	3	1.3				19.4
Total valine	18.06	16	0.786				18	3	1.6				18.0
Total isoleucine	13.72	16	0.734				14.2	3	1.9				14.0
Total leucine	23.42	16	1.078				24.4	3	1.9				23.9
Total histidine	8.51	16	0.403				11.2	3	1.7				9.9
Total serine							18.2	3	0.4				18.2
Total glycine							17.8	3	0.7				17.8
Total proline													
Total alanine							15.3	3	0.5				15.3
Total phenylalanine							14.2	3	0.1				14.2
Total aspartic acid							24.4	3	1.3				24.4
Total glu. acid/glu.							60.8	3	2.5				60.8
Lysine (SID)	14.33	16	0.632				15.1	3	1.5				14.7
Methionine (SID)	5.97	16	0.239				5.1	3	0.1				5.5
Threonine (SID)	10.91	16	0.465				10.8	3	2.0				10.9
Cysteine (SID)	5.37	16	0.149										5.4
Tryptophan (SID)	3.87	16	0.230				3.1	3	0.4				3.5
Arginine (SID)	16.09	16	1.518				16.3	3	1.9				16.2
Valine (SID)	13.98	16	0.688				12.5	3	2.8				13.2
Isoleucine (SID)	11.12	16	0.662				10.4	3	2.7				10.8
Leucine (SID)	19.43	16	0.978				18.2	3	2.2				18.8
Histidine (SID)	7.15	16	0.365				8.8	3	1.6				8.0
Serine (SID)							11.8	3	1.2				11.8
Glycine (SID)							12.7	3	1.4				12.7
Proline (SID)													
Alanine (SID)							11.1	3	1.6				11.1
Phenylalanine (SID)							11	3	0.4				11.0
Aspartic acid (SID)							16.4	3	2.3				16.4
Glu. acid/glu. (SID)							50.1	3	2.6				50.1

Canola meal (expeller)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			RCI			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	118					90.8			899	374	21
ME							10.04					
AME (MJ)							10.05					
AMEn (MJ)	9.6	78										
Net energy	7.55											
Crude protein	312.5	118		336	43	14.84	365			396	375	26
Ether extract	104	78					80			102.3	325	43
Ash	60.2	78					65			76.8	132	7
Crude fibre	103	78					105			146.8	335	14
Acid detergent fibre	178.8	78								219.1	16	17
Neutral detergent fibre	234.4	78								332.6	18	50
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	915	389	41	895	38	11.6	736.0
ME				7.29	4	0.26	8.7
AME (MJ)							10.1
AMEn (MJ)	8.1						8.9
Net energy	6.39			5.72			6.6
Crude protein	307	434	25	362	37	22.4	346.4
Ether extract	120	303	38	25.5	31	13.2	86.4
Ash	62	165	6	65.7	32	4.9	65.9
Crude fibre	118	357	14	109	14	8.1	116.4
Acid detergent fibre	180	32	19	84.5	3	111	165.6
Neutral detergent fibre	268	36	43	251	21	47.6	271.5
Starch				51	4	12.7	51.0
Total NSP							
Soluble NSP							
Insoluble NSP							
Oligosaccharides							
Total NSP: Rhamnose							
Total NSP: Fucose							
Total NSP: Ribose							
Total NSP: Arabinose							
Total NSP: Xylose							
Total NSP: Mannose							
Total NSP: Galactose							
Total NSP: Glucose							
Soluble NSP: Rhamnose							
Soluble NSP: Fucose							
Soluble NSP: Ribose							
Soluble NSP: Arabinose							
Soluble NSP: Xylose							
Soluble NSP: Mannose							
Soluble NSP: Galactose							
Soluble NSP: Glucose							
Insoluble NSP: Rhamnose							
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							
Insoluble NSP: Xylose							
Insoluble NSP: Mannose							
Insoluble NSP: Galactose							
Insoluble NSP: Glucose							
Oligo. NSP: Rhamnose							
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							

Canola meal (expeller)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			RCI			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	6.2	78					6.0			7.9	35	1.2
Digestible calcium												
Total phosphorus	8.9	78					10.0			11.9	33	0.8
Available phosphorus							3.2					
Phytate phosphorus	5.4	78										
Phytate	19.15											
Linoleic acid												
Sodium	0.4	78					0.9			0.1	5	0
Chloride												
Potassium	10.3	78								12.5	2	
Magnesium	4.2	78										
Manganese												
Zinc												
Copper												
Iron										0.073	1	
Selenium												
Cobalt												
Molybdenum												
Choline							2.0					
Sulphur												
Total lysine	17.4	118		18.5	43	1.23	21.2			22.2	7	1.584
Total methionine	6.1	118		6.5	43	0.27	8.0			8.7	7	1.188
Total threonine	13.8	118		14.7	43	0.57	16.97			18.6	6	0.792
Total cysteine	7.4	118		7.6	43	0.49	9.59			10.3	7	1.98
Total tryptophan	4.3	62		4.6	43	0.27	5.0			5.1	4	0.396
Total arginine	19.0	118		19.2	43	1.15	23.91			24.9	6	1.188
Total valine	16.1	118		17.1	43	0.64	20.64			22.2	6	0.792
Total isoleucine	12.4	118		13.1	43	0.49	15.78			17.4	6	0.792
Total leucine	21.8	118		23	43	0.84				28.1	6	0.396
Total histidine	8.2	118		8.6	43	0.43				11.1	5	0.792
Total serine	13.3	118		14.2	43	0.52				19.0	6	1.584
Total glycine	16.0	118		16.9	43	0.74				21.0	6	0.396
Total proline	18.9	118		19.5	43	0.98				24.9	5	1.188
Total alanine	13.7	118		14.7	43	0.55				18.2	6	0.396
Total phenylalanine	12.7	118		13.2	43	0.5				15.8	6	1.188
Total aspartic acid	23.2	118		24	43	1.04				30.5	6	0.792
Total glu. acid/glu.	51.8	118		54.2	43	2.74				69.7	6	6.336
Lysine (SID)	13.9						16.26					
Methionine (SID)	5.5						6.32					
Threonine (SID)	11.0						11.81					
Cysteine (SID)	5.5						7.78					
Tryptophan (SID)	3.5						3.59					
Arginine (SID)	17.1						18.89					
Valine (SID)	13.4						14.84					
Isoleucine (SID)	10.3						11.77					
Leucine (SID)	19.0											
Histidine (SID)	7.0											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	11.1											
Aspartic acid (SID)												
Glu. acid/glu.(SID)							6.0					

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium	7.5	48	1.2	6.3	22	0.7	6.8
Digestible calcium							
Total phosphorus	10.8	52	0.9	11.4	22	1.4	10.6
Available phosphorus	2.7			3.9			3.3
Phytate phosphorus	6.5	3		7.5	1		6.5
Phytate	23.05			26.595			22.9
Linoleic acid	19.6						19.6
Sodium	0.52	16	0.04	1.0	2	0.1	0.6
Chloride				1.1	1		1.1
Potassium	11.5	15	1.0	5.5	2	0	10.0
Magnesium	4.8	3					4.5
Manganese	0.057	5	0.012				0.1
Zinc	0.058	5	0.009				0.1
Copper	0.005	5	0.0007				0.0
Iron	0.171	2					0.1
Selenium	0.0002	2					0.0
Cobalt	0.0001						0.0
Molybdenum	0.002						0.0
Choline							2.0
Sulphur	7.7						7.7
Total lysine	16.8	40	1.7	20.2			19.4
Total methionine	6.2	35	0.6	7.8			7.2
Total threonine	13.4	25	1.0	15.7			15.5
Total cysteine	7.4	30	1.1	9.7			8.7
Total tryptophan	3.8	13	0.5	4.6			4.6
Total arginine	17.9	29	2.1	22.5			21.2
Total valine	15.8	29	1.3	16.7			18.1
Total isoleucine	12.4	29	1.1	13.1			14.0
Total leucine	21.0	29	1.9	25.3			23.8
Total histidine	8.3	25	1.3	10.0			9.2
Total serine	13.4	25	1.0	15.0			15.0
Total glycine	15.2	25	1.3	16.9			17.2
Total proline	18.6	24	2.2	19.5			20.3
Total alanine	13.4	25	1.2	15.5			15.1
Total phenylalanine	11.8	29	1.5	14.1			13.5
Total aspartic acid	21.9	25	1.7	14.4			22.8
Total glu. acid/glu.	52.0	25	6.7	59.3			57.4
Lysine (SID)	13.1			16.3			14.9
Methionine (SID)	5.5			7.0			6.1
Threonine (SID)	10.1			12.6			11.4
Cysteine (SID)	5.4			7.2			6.5
Tryptophan (SID)	3.1			3.9			3.5
Arginine (SID)	15.0			20.3			17.8
Valine (SID)	12.8			13.8			13.7
Isoleucine (SID)	10.1			10.9			10.8
Leucine (SID)	17.2			22.0			19.4
Histidine (SID)	6.9			8.8			7.6
Serine (SID)	10.6			12.4			11.5
Glycine (SID)	12.0			14.7			13.4
Proline (SID)	13.4			16.0			14.7
Alanine (SID)	10.8			13.1			12.0
Phenylalanine (SID)	9.9			12.3			11.1
Aspartic acid (SID)	16.0			13.1			14.6
Glu. acid/glu. (SID)	43.7			53.8			48.8

Canola meal (expeller)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	918.2	19	9.4	16	4	736.0	919	24.5	171	43
ME						8.7	4	0.3	138	35
AME (MJ)						10.1				
AMEn (MJ)						8.9	78			
Net energy						6.6				
Crude protein	353.0	19	8.6	91	23	346.4	1007	22.1	623	156
Ether extract	93.7	16	7.9	1092	273	86.4	737	31.4	20315	5079
Ash	66.0	16	1.2	54	13	65.9	407	6.0	1258	315
Crude fibre	126.3	16	9.1	792	198	116.4	784	12.0	1643	411
Acid detergent fibre						165.6	129	49.0	13454	3363
Neutral detergent fibre						271.5	153	46.9	4579	1145
Starch						51.0	4	12.7	9529	2382
Total NSP	81.4	10	3.9	353	88					
Soluble NSP	6.9	10	0.5	807	202					
Insoluble NSP	74.6	10	4.0	442	110					
Oligosaccharides										
Total NSP: Rhamnose	1.6	10	0.6	22949	5737					
Total NSP: Fucose	1.2	10	0.8	72288	18072					
Total NSP: Ribose	8.3	10	11.8	311695	77924					
Total NSP: Arabinose	25.9	10	18.8	81311	20328					
Total NSP: Xylose	10.8	10	4.9	31247	7812					
Total NSP: Mannose	5.9	10	4.7	98611	24653					
Total NSP: Galactose	16.4	10	7.8	34933	8733					
Total NSP: Glucose	12.7	10	10.0	94695	23674					
Soluble NSP: Rhamnose	0.1	10	0.1	211458	52864					
Soluble NSP: Fucose	0.1	10	0.1	274245	68561					
Soluble NSP: Ribose	0.2	10	0.1	78404	19601					
Soluble NSP: Arabinose	2.6	10	1.5	53476	13369					
Soluble NSP: Xylose	0.4	10	0.1	12000	3000					
Soluble NSP: Mannose	1.1	10	0.5	29572	7393					
Soluble NSP: Galactose	1.5	10	0.3	4932	1233					
Soluble NSP: Glucose	0.6	10	0.2	21213	5303					
Insoluble NSP: Rhamnose	1.6	10	0.6	23478	5869					
Insoluble NSP: Fucose	1.1	10	0.8	76805	19201					
Insoluble NSP: Ribose	8.1	10	11.8	326558	81640					
Insoluble NSP: Arabinose	23.3	10	18.5	96226	24057					
Insoluble NSP: Xylose	10.4	10	4.9	33320	8330					
Insoluble NSP: Mannose	4.8	10	4.4	131259	32815					
Insoluble NSP: Galactose	14.9	10	7.9	43746	10936					
Insoluble NSP: Glucose	12.2	10	10.1	105383	26346					
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						6.8	183	1.0	3569	892
Digestible calcium										
Total phosphorus	9.6	35	0.8	1037	259	10.6	185	1.0	1460	365
Available phosphorus	1.4	16	0.1	625	156	3.3				
Phytate phosphorus	7.1	35	0.8	2146	536	6.5	82			
Phytate	22.1					22.9				
Linoleic acid						19.6				
Sodium						0.6	101	0.0	981	245
Chloride						1.1	1			
Potassium						10.0	97	0.5	388	97
Magnesium						4.5	81			
Manganese						0.1	5	0.0	6811	1703
Zinc						0.1	5	0.0	3700	925
Copper						0.0	5	0.0	3012	753
Iron						0.1	3			
Selenium						0.0	2			
Cobalt						0.0				
Molybdenum						0.0				
Choline						2.0				
Sulphur						7.7				
Total lysine	19.2	19	0.3	38	10	19.4	208	1.5	926	232
Total methionine	6.3	19	0.2	193	48	7.2	203	0.7	1388	347
Total threonine	15.5	19	0.8	450	113	15.5	192	0.8	395	99
Total cysteine	8.2	16	0.1	46	12	8.7	198	1.2	2899	725
Total tryptophan	4.4	19	0.3	854	214	4.6	122	0.4	1109	277
Total arginine	19.4	19	1.5	916	229	21.2	196	1.5	745	186
Total valine	18.0	19	1.2	673	168	18.1	196	0.9	390	97
Total isoleucine	14.0	19	1.3	1368	342	14.0	196	0.8	492	123
Total leucine	23.9	19	1.5	596	149	23.8	196	1.0	295	74
Total histidine	9.9	19	1.1	1749	437	9.2	191	0.8	1273	318
Total serine	18.2	3	0.4	74	19	15.0	192	1.0	733	183
Total glycine	17.8	3	0.7	238	59	17.2	192	0.8	343	86
Total proline						20.3	190	1.5	791	198
Total alanine	15.3	3	0.5	164	41	15.1	192	0.7	345	86
Total phenylalanine	14.2	3	0.1	8	2	13.5	196	1.1	948	237
Total aspartic acid	24.4	3	1.3	436	109	22.8	192	1.2	410	102
Total glu. acid/glu.	60.8	3	2.5	260	65	57.4	192	5.3	1290	322
Lysine (SID)	14.7	19	1.1	806	202	14.9				
Methionine (SID)	5.5	19	0.2	144	36	6.1				
Threonine (SID)	10.9	19	1.2	1982	496	11.4				
Cysteine (SID)	5.4	16	0.1	119	30	6.5				
Tryptophan (SID)	3.5	19	0.3	1256	314	3.5				
Arginine (SID)	16.2	19	1.7	1711	428	17.8				
Valine (SID)	13.2	19	1.7	2666	667	13.7				
Isoleucine (SID)	10.8	19	1.7	3750	937	10.8				
Leucine (SID)	18.8	19	1.6	1096	274	19.4				
Histidine (SID)	8.0	19	1.0	2333	583	7.6				
Serine (SID)	11.8	3	1.2	1589	397	11.5				
Glycine (SID)	12.7	3	1.4	1867	467	13.4				
Proline (SID)						14.7				
Alanine (SID)	11.1	3	1.6	3193	798	12.0				
Phenylalanine (SID)	11.0	3	0.4	203	51	11.1				
Aspartic acid (SID)	16.4	3	2.3	3022	756	14.6				
Glu. acid/glu. (SID)	50.1	3	2.6	414	103	48.8				

Canola meal (solvent extracted)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Adisseo			Poultry Hub Australia			Bryden 2009			DuPont		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	899.3	40	4.98				917	3	11.5			
ME												
AME (MJ)												
AMEn (MJ)												
Net energy												
Crude protein	379.6	40	10.33				352	3	2.6			
Ether extract	28.7	40	7.16									
Ash	65.7	40	0.96									
Crude fibre	118.0	40	5.58									
Acid detergent fibre												
Neutral detergent fibre												
Starch												
Total NSP				111.9	21	14.8						
Soluble NSP				10.8	21	1.6						
Insoluble NSP				101.1	21	14.9						
Oligosaccharides												
Total NSP: Rhamnose				1.79	21	0.809						
Total NSP: Fucose				1.90	21	0.399						
Total NSP: Ribose				0.82	21	0.309						
Total NSP: Arabinose				43.67	21	6.526						
Total NSP: Xylose				16.53	21	3.230						
Total NSP: Mannose				4.09	21	0.743						
Total NSP: Galactose				17.03	21	3.423						
Total NSP: Glucose				37.38	21	18.956						
Soluble NSP: Rhamnose				0.09	21	0.069						
Soluble NSP: Fucose				0.12	21	0.078						
Soluble NSP: Ribose				0.46	21	0.218						
Soluble NSP: Arabinose				5.59	21	1.067						
Soluble NSP: Xylose				0.75	21	0.717						
Soluble NSP: Mannose				1.46	21	0.632						
Soluble NSP: Galactose				2.29	21	0.471						
Soluble NSP: Glucose				0.76	21	0.264						
Insoluble NSP: Rhamnose				1.70	21	0.777						
Insoluble NSP: Fucose				1.78	21	0.394						
Insoluble NSP: Ribose				0.36	21	0.139						
Insoluble NSP: Arabinose				38.08	21	6.504						
Insoluble NSP: Xylose				15.78	21	3.162						
Insoluble NSP: Mannose				2.62	21	0.523						
Insoluble NSP: Galactose				14.75	21	3.411						
Insoluble NSP: Glucose				36.62	21	19.011						
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Selle 2003			Average of the mean
	Mean	n	SD	
Dry matter				908.1
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein				365.8
Ether extract				28.7
Ash				65.7
Crude fibre				118.0
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				111.9
Soluble NSP				10.8
Insoluble NSP				101.1
Oligosaccharides				
Total NSP: Rhamnose				1.8
Total NSP: Fucose				1.9
Total NSP: Ribose				0.8
Total NSP: Arabinose				43.7
Total NSP: Xylose				16.5
Total NSP: Mannose				4.1
Total NSP: Galactose				17.0
Total NSP: Glucose				37.4
Soluble NSP: Rhamnose				0.1
Soluble NSP: Fucose				0.1
Soluble NSP: Ribose				0.5
Soluble NSP: Arabinose				5.6
Soluble NSP: Xylose				0.8
Soluble NSP: Mannose				1.5
Soluble NSP: Galactose				2.3
Soluble NSP: Glucose				0.8
Insoluble NSP: Rhamnose				1.7
Insoluble NSP: Fucose				1.8
Insoluble NSP: Ribose				0.4
Insoluble NSP: Arabinose				38.1
Insoluble NSP: Xylose				15.8
Insoluble NSP: Mannose				2.6
Insoluble NSP: Galactose				14.7
Insoluble NSP: Glucose				36.6
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Canola meal (solvent extracted)

Australia (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Adisseo			Poultry Hub Australia			Bryden 2009			DuPont		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium												
Digestible calcium												
Total phosphorus	11.2	40	0.28							9.0	3	
Available phosphorus	1.6	40	0.10									
Phytate phosphorus	8.7	40	0.32							5.77	3	
Phytate										20.46		
Linoleic acid												
Sodium												
Chloride												
Potassium												
Magnesium												
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine	20.5	40	0.68				19.5	3	0.1			
Total methionine	7.4	40	0.12				5.6	3	0.2			
Total threonine	16.1	40	0.30				16.4	3	1.2			
Total cysteine	8.2	40	0.21									
Total tryptophan	5.5	40	0.22				4	3	0.4			
Total arginine	23.3	40	1.15				20.5	3	1.3			
Total valine	20.1	40	0.50				18	3	1.6			
Total isoleucine	16.1	40	0.59				14.2	3	1.9			
Total leucine	26.3	40	0.69				24.4	3	1.9			
Total histidine	9.9	40	0.29				11.2	3	1.7			
Total serine							18.2	3	0.4			
Total glycine							17.8	3	0.7			
Total proline												
Total alanine							15.3	3	0.5			
Total phenylalanine							14.2	3	0.1			
Total aspartic acid							24.4	3	1.3			
Total glu. acid/glu.							60.8	3	2.5			
Lysine (SID)	16.0	40	0.70				15.1	3	1.5			
Methionine (SID)	6.3	40	0.11				5.1	3	0.1			
Threonine (SID)	12.2	40	0.33				10.8	3	2.0			
Cysteine (SID)	5.6	40	0.15									
Tryptophan (SID)	4.5	40	0.20				3.1	3	0.4			
Arginine (SID)	20.7	40	1.03				16.3	3	1.9			
Valine (SID)	15.9	40	0.42				12.5	3	2.8			
Isoleucine (SID)	13.2	40	0.52				10.4	3	2.7			
Leucine (SID)	22.0	40	0.58				18.2	3	2.2			
Histidine (SID)	8.3	40	0.24				8.8	3	1.6			
Serine (SID)							11.8	3	1.2			
Glycine (SID)							12.7	3	1.4			
Proline (SID)												
Alanine (SID)							11.1	3	1.6			
Phenylalanine (SID)							11	3	0.4			
Aspartic acid (SID)							16.4	3	2.3			
Glu. acid/glu. (SID)							50.1	3	2.6			

Nutrient (g/kg as fed, unless otherwise specified)	Selle 2003			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus	8.76	16	1.04	9.7
Available phosphorus				1.6
Phytate phosphorus	6.69	16	1.065	7.1
Phytate	23.72			22.1
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine				20.0
Total methionine				6.5
Total threonine				16.2
Total cysteine				8.2
Total tryptophan				4.8
Total arginine				21.9
Total valine				19.0
Total isoleucine				15.1
Total leucine				25.4
Total histidine				10.5
Total serine				18.2
Total glycine				17.8
Total proline				
Total alanine				15.3
Total phenylalanine				14.2
Total aspartic acid				24.4
Total glu. acid/glu.				60.8
Lysine (SID)				15.5
Methionine (SID)				5.7
Threonine (SID)				11.5
Cysteine (SID)				5.6
Tryptophan (SID)				3.8
Arginine (SID)				18.5
Valine (SID)				14.2
Isoleucine (SID)				11.8
Leucine (SID)				20.1
Histidine (SID)				8.6
Serine (SID)				11.8
Glycine (SID)				12.7
Proline (SID)				
Alanine (SID)				11.1
Phenylalanine (SID)				11.0
Aspartic acid (SID)				16.4
Glu. acid/glu.				50.1

Canola meal (solvent extracted)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	619		896.9	36	15.27				91.5		
ME										8.37		
AME (MJ)										8.38		
AMEn (MJ)	7.39	210										
Net energy	5.48											
Crude protein	348.2	619		376.96	40	16.09	336	43	14.84	370		
Ether extract	31.2	210		38.18	36	16.46				20		
Ash	74.1	210		71.48	36	9.39				65		
Crude fibre	110.9	210		92.97	36	15.21				110		
Acid detergent fibre	187.6	210										
Neutral detergent fibre	274.9	210										
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	888	11144	11	890	6477	16	895	38	11.6	756.9
ME							7.29	4	0.26	7.8
AME (MJ)										8.4
AMEn (MJ)	9.6			6						7.7
Net energy	7.11783			4.3399			5.72			5.7
Crude protein	431.3	11011	11	339	7696	12	362	37	22.4	366.2
Ether extract	30.4	8563	9	22	5907	6	25.5	31	13.2	27.9
Ash	87.8	2476	4	68	1315	3	65.7	32	4.9	72.0
Crude fibre	158.8	10205	12	128	6457	10	109	14	8.1	118.3
Acid detergent fibre	229.7	266	14	185	241	17	84.5	3	111	171.7
Neutral detergent fibre	350.2	259	34	282	237	35	251	21	47.6	289.5
Starch				55	110	14	51	4	12.7	53.0
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Canola meal (solvent extracted)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Novus			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	7.1	210		9.35	2	0.95				6.7		
Digestible calcium												
Total phosphorus	9.4	210		10.8	2	1.1				10.0		
Available phosphorus										3.0		
Phytate phosphorus	5.7	210										
Phytate	20.21											
Linoleic acid												
Sodium	0.4	210		0.68	2	0.22				0.9		
Chloride				1	1							
Potassium	11.1	210		44.5	2	31.9						
Magnesium	4.6	210										
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline										2.0		
Sulphur												
Total lysine	17.8	619		21.49	44	1.28	18.5	43	1.23	20.6		
Total methionine	6.8	619		7.5	44	0.36	6.5	43	0.27	7.2		
Total threonine	14.7	619		15.62	44	0.72	14.7	43	0.57	16.08		
Total cysteine	8.2	619		8.91	44	0.56	7.6	43	0.49	9.29		
Total tryptophan	4.8	289		4.84	44	0.83	4.6	43	0.27	5.15		
Total arginine	20.9	619		22.67	41	1.07	19.2	43	1.15	22.06		
Total valine	17.4	619		19.58	44	1.13	17.1	43	0.64	18.97		
Total isoleucine	13.6	619		15.13	44	0.88	13.1	43	0.49	14.43		
Total leucine	23.7	619		26.61	44	1.36	23	43	0.84			
Total histidine	9.1	619		10.1	41	0.72	8.6	43	0.43			
Total serine	14.4	619		14.3	41	1.35	14.2	43	0.52			
Total glycine	17.4	619		18.98	44	0.91	16.9	43	0.74			
Total proline	21.2	619		22.4	44	1.65	19.5	43	0.98			
Total alanine	14.9	619		16.61	44	0.78	14.7	43	0.55			
Total phenylalanine	13.9	619		15.13	41	0.63	13.2	43	0.5			
Total aspartic acid	24.3	619		26.65	44	1.2	24	43	1.04			
Total glu. acid/glu.	58.7	619		64.07	44	4.27	54.2	43	2.74			
Lysine (SID)	14.2									16.26		
Methionine (SID)	5.7									6.32		
Threonine (SID)	10.7									11.81		
Cysteine (SID)	6.4									7.83		
Tryptophan (SID)	3.9									3.59		
Arginine (SID)	18.2									19.56		
Valine (SID)	13.8									14.84		
Isoleucine (SID)	10.7									11.77		
Leucine (SID)	19.4											
Histidine (SID)	7.7											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	11.5											
Aspartic acid (SID)												
Glu. acid/glu.(SID)										6.7		

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	8.5	443	0.9	7.6	459	0.9	6.3	22	0.7	7.6
Digestible calcium										
Total phosphorus	12.7	526	0.9	11.3	540	0.9	11.4	22	1.4	10.9
Available phosphorus				2.8			3.9			3.2
Phytate phosphorus				6.8	1		7.5	1		6.7
Phytate				24.11			26.60			23.6
Linoleic acid				3.5						3.5
Sodium	0.1	68	0.2	0.26	113	0.29	1	2	0.1	0.6
Chloride							1.1	1		1.1
Potassium	13.7	19	0.8	12.6	115	0.7	5.5	2	0	17.5
Magnesium	5.7	21	0.2	5.1	9	0.3				5.1
Manganese	0.057	23	0.006	0.053	20	0.007				0.0550
Zinc	0.068	32	0.008	0.066	30	0.017				0.0670
Copper	0.005	29	0.002	0.006	26	0.005				0.0055
Iron	0.192	20	0.042	0.17	18	0.043				0.1810
Selenium				0.001						0.0010
Cobalt				0.0001	1					0.0001
Molybdenum				0.002		0.0005				0.0020
Choline										2.0
Sulphur	8.082	20	1.136	7.5	4	1.5				7.8
Total lysine	23.7	66	1.294	18.1	248	1.4	20.2			20.1
Total methionine	8.6	59	0.431	6.8	143	0.9	7.8			7.3
Total threonine	18.5	60	1.294	14.6	109	1.3	15.7			15.7
Total cysteine	9.9	52	1.294	8.1	131	0.6	9.7			8.8
Total tryptophan	5.2	26	0.431	4.2	75	0.4	4.6			4.8
Total arginine	25.9	46	0.863	19.6	145	2.4	22.5			21.8
Total valine	22.0	55	1.294	17.3	144	1.2	16.7			18.4
Total isoleucine	17.3	53	0.863	13.6	146	0.9	13.1			14.3
Total leucine	29.3	52	1.294	23.1	146	1.7	25.3			25.2
Total histidine	11.2	37	0.431	9.3	146	0.9	10			9.7
Total serine	19.0	44	0.863	14.8	97	2.1	15			15.3
Total glycine	21.6	45	0.863	16.8	95	1.6	16.9			18.1
Total proline	25.9	29	1.294	20.5	70	2.3	19.5			21.5
Total alanine	18.5	45	0.863	14.7	96	1.3	15.5			15.8
Total phenylalanine	16.8	46	0.431	13.1	146	1.1	14.1			14.4
Total aspartic acid	31.1	46	0.863	24	98	2.8	14.4			24.1
Total glu. acid/glu.	72.5	46	4.313	57.6	96	7.4	59.3			61.1
Lysine (SID)				14.1			16.3			15.2
Methionine (SID)				6.0			7.0			6.3
Threonine (SID)				10.6			12.6			11.4
Cysteine (SID)				6.1			7.2			6.9
Tryptophan (SID)				3.3			3.9			3.7
Arginine (SID)				16.7			20.3			18.7
Valine (SID)				13.3			13.8			13.9
Isoleucine (SID)				10.6			10.9			11.0
Leucine (SID)				18.5			22			20.0
Histidine (SID)				7.6			8.8			8.0
Serine (SID)				11.3			12.4			11.9
Glycine (SID)				13.1			14.7			13.9
Proline (SID)				15.8			16.0			15.9
Alanine (SID)				11.7			13.1			12.4
Phenylalanine (SID)				10.4			12.3			11.4
Aspartic acid (SID)				18.2			13.1			15.7
Glu. acid/glu. (SID)				49.5			53.8			51.7

Canola meal (solvent extracted)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	908.1	43	8.2	13	3	756.9	18314	13.5	49	12
ME						7.8	4	0.3	169	42
AME (MJ)						8.4				
AMEn (MJ)						7.7	210			
Net energy						5.7				
Crude protein	365.8	43	6.5	48	12	366.2	19446	15.3	267	67
Ether extract	28.7	40	7.2	9587	2397	27.9	14747	11.2	24644	6161
Ash	65.7	40	1.0	33	8	72.0	4069	5.3	839	210
Crude fibre	118.0	40	5.6	343	86	118.3	16922	11.3	1409	352
Acid detergent fibre						171.7	720	47.3	11678	2919
Neutral detergent fibre						289.5	727	38.9	2769	692
Starch						53.0	114	13.4	9750	2437
Total NSP	111.9	21	14.8	2688	672					
Soluble NSP	10.8	21	1.6	3373	843					
Insoluble NSP	101.1	21	14.9	3338	834					
Oligosaccharides										
Total NSP: Rhamnose	1.8	21	0.8	31414	7854					
Total NSP: Fucose	1.9	21	0.4	6802	1701					
Total NSP: Ribose	0.8	21	0.3	21545	5386					
Total NSP: Arabinose	43.7	21	6.5	3432	858					
Total NSP: Xylose	16.5	21	3.2	5866	1467					
Total NSP: Mannose	4.1	21	0.7	5074	1268					
Total NSP: Galactose	17.0	21	3.4	6206	1552					
Total NSP: Glucose	37.4	21	19.0	39514	9878					
Soluble NSP: Rhamnose	0.1	21	0.1	87022	21756					
Soluble NSP: Fucose	0.1	21	0.1	66584	16646					
Soluble NSP: Ribose	0.5	21	0.2	34492	8623					
Soluble NSP: Arabinose	5.6	21	1.1	5610	1402					
Soluble NSP: Xylose	0.8	21	0.7	139492	34873					
Soluble NSP: Mannose	1.5	21	0.6	28627	7157					
Soluble NSP: Galactose	2.3	21	0.5	6513	1628					
Soluble NSP: Glucose	0.8	21	0.3	18246	4561					
Insoluble NSP: Rhamnose	1.7	21	0.8	32212	8053					
Insoluble NSP: Fucose	1.8	21	0.4	7534	1883					
Insoluble NSP: Ribose	0.4	21	0.1	22426	5606					
Insoluble NSP: Arabinose	38.1	21	6.5	4483	1121					
Insoluble NSP: Xylose	15.8	21	3.2	6169	1542					
Insoluble NSP: Mannose	2.6	21	0.5	6113	1528					
Insoluble NSP: Galactose	14.7	21	3.4	8224	2056					
Insoluble NSP: Glucose	36.6	21	19.0	41425	10356					
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						7.6	1136	0.9	1983	496
Digestible calcium										
Total phosphorus	9.7	59	0.7	715	179	10.9	1300	1.1	1486	371
Available phosphorus	1.6	40	0.1	678	169	3.2				
Phytate phosphorus	7.1	59	0.7	1472	368	6.7	212			
Phytate	22.1					23.6				
Linoleic acid						3.5				
Sodium						0.6	395	0.2	20334	5084
Chloride						1.1	2			
Potassium						17.5	348	8.4	35064	8766
Magnesium						5.1	240	0.3	364	91
Manganese						0.055	43	0.0	2146	537
Zinc						0.067	62	0.0	5349	1337
Copper						0.006	55	0.0	62228	15557
Iron						0.181	38	0.0	8472	2118
Selenium						0.001				
Cobalt						0.0001	1			
Molybdenum						0.002				
Choline						2.0				
Sulphur						7.8	24	1.3	4398	1099
Total lysine	20.0	43	0.4	58	15	20.1	1020	1.3	646	162
Total methionine	6.5	43	0.2	90	23	7.3	908	0.5	690	172
Total threonine	16.2	43	0.8	330	82	15.7	875	1.0	587	147
Total cysteine	8.2	40	0.2	103	26	8.8	889	0.7	1071	268
Total tryptophan	4.8	43	0.3	648	162	4.8	477	0.5	1577	394
Total arginine	21.9	43	1.2	481	120	21.8	894	1.4	606	151
Total valine	19.0	43	1.1	468	117	18.4	905	1.1	514	128
Total isoleucine	15.1	43	1.2	1037	259	14.3	905	0.8	460	115
Total leucine	25.4	43	1.3	400	100	25.2	904	1.3	409	102
Total histidine	10.5	43	1.0	1364	341	9.7	886	0.6	626	156
Total serine	18.2	3	0.4	74	19	15.3	844	1.2	961	240
Total glycine	17.8	3	0.7	238	59	18.1	846	1.0	496	124
Total proline						21.5	805	1.6	805	201
Total alanine	15.3	3	0.5	164	41	15.8	847	0.9	468	117
Total phenylalanine	14.2	3	0.1	8	2	14.4	895	0.7	329	82
Total aspartic acid	24.4	3	1.3	436	109	24.1	850	1.5	578	144
Total glu. acid/glu.	60.8	3	2.5	260	65	61.1	848	4.7	903	226
Lysine (SID)	15.5	43	1.1	770	193	15.2				
Methionine (SID)	5.7	43	0.1	51	13	6.3				
Threonine (SID)	11.5	43	1.2	1571	393	11.4				
Cysteine (SID)	5.6	40	0.1	108	27	6.9				
Tryptophan (SID)	3.8	43	0.3	962	240	3.7				
Arginine (SID)	18.5	43	1.5	962	241	18.7				
Valine (SID)	14.2	43	1.6	1978	494	13.9				
Isoleucine (SID)	11.8	43	1.6	2858	715	11.0				
Leucine (SID)	20.1	43	1.4	733	183	20.0				
Histidine (SID)	8.6	43	0.9	1760	440	8.0				
Serine (SID)	11.8	3	1.2	1589	397	11.9				
Glycine (SID)	12.7	3	1.4	1867	467	13.9				
Proline (SID)						15.9				
Alanine (SID)	11.1	3	1.6	3193	798	12.4				
Phenylalanine (SID)	11.0	3	0.4	203	51	11.4				
Aspartic acid (SID)	16.4	3	2.3	3022	756	15.7				
Glu. acid/glu. (SID)	50.1	3	2.6	414	103	51.7				

Canola seed

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Average of the mean
	Mean	n	SD	
Dry matter				
ME				
AME (MJ)				
AMEn (MJ)				
Net energy				
Crude protein				
Ether extract				
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP	103.35	29	20.145	103.35
Soluble NSP	13.37	29	2.625	13.37
Insoluble NSP	87.16	29	21.913	87.16
Oligosaccharides	60.23	12	13.107	60.23
Total NSP: Rhamnose	2.48	12	0.617	2.48
Total NSP: Fucose	1.87	12	0.307	1.87
Total NSP: Ribose	1.00	12	0.225	1.00
Total NSP: Arabinose	52.78	12	7.073	52.78
Total NSP: Xylose	15.45	12	4.056	15.45
Total NSP: Mannose	4.27	12	0.467	4.27
Total NSP: Galactose	19.96	12	3.086	19.96
Total NSP: Glucose	7.66	12	2.664	7.66
Soluble NSP: Rhamnose	0.19	12	0.099	0.19
Soluble NSP: Fucose	0.11	12	0.029	0.11
Soluble NSP: Ribose	0.66	12	0.170	0.66
Soluble NSP: Arabinose	7.08	12	1.464	7.08
Soluble NSP: Xylose	0.45	12	0.191	0.45
Soluble NSP: Mannose	2.03	12	0.264	2.03
Soluble NSP: Galactose	2.79	12	0.686	2.79
Soluble NSP: Glucose	0.93	12	0.233	0.93
Insoluble NSP: Rhamnose	2.29	12	0.623	2.29
Insoluble NSP: Fucose	1.76	12	0.308	1.76
Insoluble NSP: Ribose	0.34	12	0.120	0.34
Insoluble NSP: Arabinose	45.69	12	6.655	45.69
Insoluble NSP: Xylose	15.00	12	3.888	15.00
Insoluble NSP: Mannose	2.24	12	0.478	2.24
Insoluble NSP: Galactose	17.17	12	2.764	17.17
Insoluble NSP: Glucose	6.73	12	2.735	6.73
Oligo. NSP: Rhamnose	0.07	12	0.092	0.07
Oligo. NSP: Fucose	0.16	12	0.124	0.16
Oligo. NSP: Ribose	0.04	12	0.021	0.04
Oligo. NSP: Arabinose	1.15	12	0.402	1.15
Oligo. NSP: Xylose	0.06	12	0.073	0.06
Oligo. NSP: Mannose	5.65	12	2.256	5.65
Oligo. NSP: Galactose	10.09	12	3.782	10.09
Oligo. NSP: Glucose	43.00	12	7.974	43.00

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine				
Total methionine				
Total threonine				
Total cysteine				
Total tryptophan				
Total arginine				
Total valine				
Total isoleucine				
Total leucine				
Total histidine				
Total serine				
Total glycine				
Total proline				
Total alanine				
Total phenylalanine				
Total aspartic acid				
Total glu. acid/glu.				
Lysine (SID)				
Methionine (SID)				
Threonine (SID)				
Cysteine (SID)				
Tryptophan (SID)				
Arginine (SID)				
Valine (SID)				
Isoleucine (SID)				
Leucine (SID)				
Histidine (SID)				
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				
Glu. acid/glu. (SID)				

Canola seed

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	93		930						92.4		
ME				16.7						19.25		
AME (MJ)										19.26		
AMEn (MJ)	18.46	23		18.3								
Net energy	15.90											
Crude protein	181.5	93		185			204	2	21.25	220.0		
Ether extract	415.7	25								420.0		
Ash	34.8	25		39						50.0		
Crude fibre	128.2	23		110						82.0		
Acid detergent fibre	179.1	23		165						130.0		
Neutral detergent fibre	220.2	23		210						185.0		
Starch										36.0		
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Average of the mean
	Mean	n	SD	
Dry matter	924.0	1339	19	706.6
ME				18.0
AME (MJ)				19.3
AMEn (MJ)	13.8			16.9
Net energy	12.20			14.0
Crude protein	187.0	1667	13	195.5
Ether extract	440.0	470	24	425.2
Ash	40.0	501	3	41.0
Crude fibre	85.0	681	18	101.3
Acid detergent fibre	130.0	103	34	151.0
Neutral detergent fibre	185.0	105	47	200.1
Starch	36.0	14	8	36.0
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Canola seed

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	4.0	25		4.5						4.0		
Digestible calcium												
Total phosphorus	5.0	25		5.5						6.0		
Available phosphorus										2.5		
Phytate phosphorus	3.5	25		4.1						4.7		
Phytate	12.41			14.54								
Linoleic acid												
Sodium	0	24		0.2						0.2		
Chloride				0.9								
Potassium	6.2	25		7.5						7.6		
Magnesium	2.2	25		3.0						2.4		
Manganese				0.037						0.037		
Zinc				0.05						0.035		
Copper				0.005						0.003		
Iron				130						0.085		
Selenium				0.00075						0.0008		
Cobalt				0.00006								
Molybdenum												
Choline										1.5		
Sulphur				2.8						3.3		
Total lysine	10.9	91		11.1			12.1	2	0.6	14.69		
Total methionine	3.7	91		3.7			3.9	2	0.29	5.0		
Total threonine	8.0	91		8.1			9	2	0.85	10.5		
Total cysteine	4.7	91		4.7			4.4	2	0	5.25		
Total tryptophan	2.5	29		2.5			2.8	2	0.37	2.68		
Total arginine	11.1	91		11.3			12.8	2	1.65	13.04		
Total valine	9.2	91		9.4			10.7	2	1.15	11.18		
Total isoleucine	7.1	91		7.2			8.3	2	0.95	8.82		
Total leucine	12.6	91		12.9			14.2	2	1.7	12.9		
Total histidine	4.9	91		5.1			5.4	2	0.4	4.7		
Total serine	7.7	91		8.0			8.7	2	0.95	8.2		
Total glycine	9.3	91		9.5			10.6	2	1.05	9.3		
Total proline	11.1	91		11.3			11.8	2	0.8	11.6		
Total alanine	8.0	91					9.1	2	1.1	8.4		
Total phenylalanine	7.3	91					8.3	2	1.1	7.2		
Total aspartic acid	13.3	91		13.5			15.6	2	2.2	13.9		
Total glu. acid/glu.	30.7	91		31.3			33.4	2	2.85	30.8		
Lysine (SID)	8.8			8.7						11.75		
Methionine (SID)	3.3			3.0						4.0		
Threonine (SID)	6.4			6.1						8.4		
Cysteine (SID)	3.4			3.1						4.2		
Tryptophan (SID)	2.0			2.0						2.2		
Arginine (SID)	10.0			9.9						12.0		
Valine (SID)	7.7			7.3						9.5		
Isoleucine (SID)	5.9			5.6						7.5		
Leucine (SID)	10.9			10.9						10.6		
Histidine (SID)	4.2			4.1						3.9		
Serine (SID)				6.5						6.5		
Glycine (SID)				7.2						7.3		
Proline (SID)				9.0						8.3		
Alanine (SID)										6.8		
Phenylalanine (SID)	6.3									6.1		
Aspartic acid (SID)				11.2						10.2		
Glu. acid/glu.(SID)				25.9						25.9		

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Average of the mean
	Mean	n	SD	
Total calcium	4.5	380	0.7	4.3
Digestible calcium				
Total phosphorus	6.7	398	0.7	5.8
Available phosphorus				2.5
Phytate phosphorus	4.7			4.3
Phytate	16.67			14.5
Linoleic acid	85.2	9	4.1	85.2
Sodium	0.06	95	0.11	0.12
Chloride				0.90
Potassium	7.6	58	0.6	7.2
Magnesium	2.4	11	0.3	2.5
Manganese	0.037	5	0.0007	0.037
Zinc	0.035	5	0.0009	0.040
Copper	0.003	5	0.0009	0.004
Iron	0.085	4		43.4
Selenium	0.0008			0.0008
Cobalt				0.0001
Molybdenum				
Choline				1.5
Sulphur	3.3			3.1
Total lysine	11.6	38	1.1	12.1
Total methionine	4.1	37	0.3	4.1
Total threonine	8.9	19	0.7	8.9
Total cysteine	4.7	33	0.5	4.8
Total tryptophan	2.4			2.6
Total arginine	11.1	17	1.1	11.9
Total valine	9.9	19	0.9	10.1
Total isoleucine	7.7	19	0.9	7.8
Total leucine	12.9	18	1.2	13.1
Total histidine	4.7	18	0.6	5.0
Total serine	8.2	18	0.6	8.2
Total glycine	9.3	18	0.9	9.6
Total proline	11.6	16	1.0	11.5
Total alanine	8.4	18	0.6	8.5
Total phenylalanine	7.2	19	0.8	7.5
Total aspartic acid	13.9	19	1.4	14.0
Total glu. acid/glu.	30.8	17	3.4	31.4
Lysine (SID)	9.0			9.6
Methionine (SID)	3.6			3.5
Threonine (SID)	6.7			6.9
Cysteine (SID)	3.4			3.5
Tryptophan (SID)	2.0			2.1
Arginine (SID)	9.3			10.3
Valine (SID)	8.0			8.1
Isoleucine (SID)	6.3			6.3
Leucine (SID)	10.6			10.8
Histidine (SID)	3.9			4.0
Serine (SID)	6.5			6.5
Glycine (SID)	7.3			7.3
Proline (SID)	8.3			8.5
Alanine (SID)	6.8			6.8
Phenylalanine (SID)	6.1			6.2
Aspartic acid (SID)	10.2			10.5
Glu. acid/glu. (SID)	25.9			25.9

Canola seed

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter						706.6	1432	19.0	111	28
ME						18.0				
AME (MJ)						19.3				
AMEn (MJ)						16.9	23			
Net energy						14.0				
Crude protein						195.5	1762	17.1	1179	295
Ether extract						425.2	495	24.0	489	122
Ash						41.0	526	3.0	825	206
Crude fibre						101.3	704	18.0	4852	1213
Acid detergent fibre						151.0	126	34.0	7788	1947
Neutral detergent fibre						200.1	128	47.0	8482	2120
Starch						36.0	14	8.0	7588	1897
Total NSP	103.3	29	20.1	5838	1460					
Soluble NSP	13.4	29	2.6	5924	1481					
Insoluble NSP	87.2	29	21.9	9713	2428					
Oligosaccharides	60.2	12	13.1	7279	1820					
Total NSP: Rhamnose	2.5	12	0.6	9481	2370					
Total NSP: Fucose	1.9	12	0.3	4128	1032					
Total NSP: Ribose	1.0	12	0.2	7823	1956					
Total NSP: Arabinose	52.8	12	7.1	2760	690					
Total NSP: Xylose	15.5	12	4.1	10591	2648					
Total NSP: Mannose	4.3	12	0.5	1842	460					
Total NSP: Galactose	20.0	12	3.1	3673	918					
Total NSP: Glucose	7.7	12	2.7	18575	4644					
Soluble NSP: Rhamnose	0.2	12	0.1	42364	10591					
Soluble NSP: Fucose	0.1	12	0.0	10995	2749					
Soluble NSP: Ribose	0.7	12	0.2	10301	2575					
Soluble NSP: Arabinose	7.1	12	1.5	6560	1640					
Soluble NSP: Xylose	0.5	12	0.2	27599	6900					
Soluble NSP: Mannose	2.0	12	0.3	2613	653					
Soluble NSP: Galactose	2.8	12	0.7	9307	2327					
Soluble NSP: Glucose	0.9	12	0.2	9598	2400					
Insoluble NSP: Rhamnose	2.3	12	0.6	11336	2834					
Insoluble NSP: Fucose	1.8	12	0.3	4686	1172					
Insoluble NSP: Ribose	0.3	12	0.1	18956	4739					
Insoluble NSP: Arabinose	45.7	12	6.7	3260	815					
Insoluble NSP: Xylose	15.0	12	3.9	10322	2581					
Insoluble NSP: Mannose	2.2	12	0.5	6982	1745					
Insoluble NSP: Galactose	17.2	12	2.8	3982	995					
Insoluble NSP: Glucose	6.7	12	2.7	25396	6349					
Oligo. NSP: Rhamnose	0.1	12	0.1	298647	74662					
Oligo. NSP: Fucose	0.2	12	0.1	86673	21668					
Oligo. NSP: Ribose	0.0	12	0.0	37831	9458					
Oligo. NSP: Arabinose	1.1	12	0.4	18854	4713					
Oligo. NSP: Xylose	0.1	12	0.1	236337	59084					
Oligo. NSP: Mannose	5.7	12	2.3	24464	6116					
Oligo. NSP: Galactose	10.1	12	3.8	21581	5395					
Oligo. NSP: Glucose	43.0	12	8.0	5285	1321					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						4.3	405	0.7	4169	1042
Digestible calcium										
Total phosphorus						5.8	423	0.7	2238	560
Available phosphorus						2.5				
Phytate phosphorus						4.3	25			
Phytate						14.5				
Linoleic acid						85.2	9	4.1	356	89
Sodium						0.12	119	0.1	140592	35148
Chloride						0.90				
Potassium						7.2	83	0.6	1060	265
Magnesium						2.5	36	0.3	2213	553
Manganese						0.037	5	0.0	55	14
Zinc						0.040	5	0.0	78	19
Copper						0.004	5	0.0	9258	2314
Iron						43.4	4			
Selenium						0.0008				
Cobalt						0.0001				
Molybdenum										
Choline						1.5				
Sulphur						3.1				
Total lysine						12.1	131	0.9	761	190
Total methionine						4.1	130	0.3	803	201
Total threonine						8.9	112	0.8	1165	291
Total cysteine						4.8	126	0.3	426	106
Total tryptophan						2.6	31	0.4	3170	793
Total arginine						11.9	110	1.4	2063	516
Total valine						10.1	112	1.0	1590	398
Total isoleucine						7.8	112	0.9	2148	537
Total leucine						13.1	111	1.5	1883	471
Total histidine						5.0	111	0.5	1562	390
Total serine						8.2	111	0.8	1386	347
Total glycine						9.6	111	1.0	1585	396
Total proline						11.5	109	0.9	944	236
Total alanine						8.5	111	0.9	1546	386
Total phenylalanine						7.5	112	1.0	2465	616
Total aspartic acid						14.0	112	1.8	2526	631
Total glu. acid/glu.						31.4	110	3.1	1522	380
Lysine (SID)						9.6				
Methionine (SID)						3.5				
Threonine (SID)						6.9				
Cysteine (SID)						3.5				
Tryptophan (SID)						2.1				
Arginine (SID)						10.3				
Valine (SID)						8.1				
Isoleucine (SID)						6.3				
Leucine (SID)						10.8				
Histidine (SID)						4.0				
Serine (SID)						6.5				
Glycine (SID)						7.3				
Proline (SID)						8.5				
Alanine (SID)						6.8				
Phenylalanine (SID)						6.2				
Aspartic acid (SID)						10.5				
Glu. acid/glu. (SID)						25.9				

Chick peas

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter				930	1		930.0
ME							
AME (MJ)							
AMEn (MJ)							
Net energy							
Crude protein				213	1		213.0
Ether extract							
Ash							
Crude fibre							
Acid detergent fibre							
Neutral detergent fibre							
Starch							
Total NSP	84.84	17	29.918				84.8
Soluble NSP	15.49	17	12.429				15.5
Insoluble NSP	69.35	17	27.176				69.4
Oligosaccharides	57.48	6	8.985				57.5
Total NSP: Rhamnose	2.33	10	1.648				2.3
Total NSP: Fucose	0.35	10	0.064				0.3
Total NSP: Ribose	0.30	10	0.175				0.3
Total NSP: Arabinose	29.64	10	13.328				29.6
Total NSP: Xylose	5.13	10	3.455				5.1
Total NSP: Mannose	3.01	10	1.286				3.0
Total NSP: Galactose	6.58	10	1.376				6.6
Total NSP: Glucose	20.39	10	12.150				20.4
Soluble NSP: Rhamnose	1.19	10	1.509				1.2
Soluble NSP: Fucose	0.04	10	0.018				0.0
Soluble NSP: Ribose	0.28	8	0.099				0.3
Soluble NSP: Arabinose	2.17	10	1.324				2.2
Soluble NSP: Xylose	0.73	10	0.519				0.7
Soluble NSP: Mannose	1.12	10	0.361				1.1
Soluble NSP: Galactose	2.17	10	0.925				2.2
Soluble NSP: Glucose	0.65	10	0.323				0.6
Insoluble NSP: Rhamnose	1.14	10	0.336				1.1
Insoluble NSP: Fucose	0.31	10	0.069				0.3
Insoluble NSP: Ribose	0.10	8	0.077				0.1
Insoluble NSP: Arabinose	27.47	10	12.914				27.5
Insoluble NSP: Xylose	4.41	10	3.122				4.4
Insoluble NSP: Mannose	1.88	10	1.158				1.9
Insoluble NSP: Galactose	4.41	10	1.226				4.4
Insoluble NSP: Glucose	19.74	10	12.082				19.7
Oligo. NSP: Rhamnose	0.21	6	0.149				0.2
Oligo. NSP: Fucose	0.20	6	0.098				0.2
Oligo. NSP: Ribose	0.09	6	0.015				0.1
Oligo. NSP: Arabinose	0.68	6	0.334				0.7
Oligo. NSP: Xylose	0.16	6	0.157				0.2
Oligo. NSP: Mannose	11.53	6	4.094				11.5
Oligo. NSP: Galactose	23.60	6	2.666				23.6
Oligo. NSP: Glucose	21.02	6	4.932				21.0

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium							
Digestible calcium							
Total phosphorus							
Available phosphorus							
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium							
Chloride							
Potassium							
Magnesium							
Manganese							
Zinc							
Copper							
Iron							
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine				13.5	1		13.5
Total methionine				1.9	1		1.9
Total threonine				7.7	1		7.7
Total cysteine							
Total tryptophan				1.8	1		1.8
Total arginine				23.2	1		23.2
Total valine				10.5	1		10.5
Total isoleucine				10.1	1		10.1
Total leucine				16.1	1		16.1
Total histidine				6.1	1		6.1
Total serine				12.2	1		12.2
Total glycine				8.5	1		8.5
Total proline							
Total alanine				9.2	1		9.2
Total phenylalanine				12.2	1		12.2
Total aspartic acid				24.3	1		24.3
Total glu. acid/glu.				34.2	1		34.2
Lysine (SID)				10.1	1		10.1
Methionine (SID)				1.4	1		1.4
Threonine (SID)				5.1	1		5.1
Cysteine (SID)							
Tryptophan (SID)				1.3	1		1.3
Arginine (SID)				19.5	1		19.5
Valine (SID)				7.4	1		7.4
Isoleucine (SID)				6.9	1		6.9
Leucine (SID)				11.1	1		11.1
Histidine (SID)				4.6	1		4.6
Serine (SID)				8.4	1		8.4
Glycine (SID)				5.8	1		5.8
Proline (SID)							
Alanine (SID)				6.5	1		6.5
Phenylalanine (SID)				9.0	1		9.0
Aspartic acid (SID)				17.7	1		17.7
Glu. acid/glu. (SID)				26.3	1		26.3

Chick peas

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	890			890	27	10	873	281	32	884.3
ME										
AME (MJ)										
AMEn (MJ)	12.3						12.7			12.5
Net energy							10.12			10.1
Crude protein	200			248.3	39	21	186	276	16	211.4
Ether extract				56.2	34	12	55	52	8	55.6
Ash	30			37.1	38	3	29	110	3	32.0
Crude fibre	36			118	28	11	34	101	5	62.7
Acid detergent fibre	38			155.1	19	25	39	80	7	77.4
Neutral detergent fibre	95			256.2	19	42	99	86	25	150.1
Starch	448			400	14	76	438	80	22	428.7
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	1.0			1.7	16	0.4	1.2	22	0.3	1.3
Digestible calcium										
Total phosphorus	3.7			3.9	17	0.6	4.1	24	0.8	3.9
Available phosphorus										
Phytate phosphorus	2.9						2			2.5
Phytate	10.28						7.09			8.7
Linoleic acid							6.1	1		6.1
Sodium	0.3			0.2	8	0.1	0.34	17	0.27	0.3
Chloride	1.2									1.2
Potassium	8.0			11.9	9	1.1	9.7	22	1.7	9.9
Magnesium	1.2			2.1	9	0.1	1.3	18	0.2	1.5
Manganese	0.02			0.036	1		0.029	7	0.009	0.0
Zinc	0.02			0.038	1		0.031	25	0.008	0.0
Copper	0.005						0.006	25	0.002	0.0
Iron	0.06						0.085	25	0.058	0.1
Selenium	0.00009						0.00009			0.0
Cobalt										
Molybdenum										
Choline										
Sulphur							1.8	1		1.8
Total lysine	13.6			16.39	31	1.490	12.6	29	1.2	14.2
Total methionine	2.2			2.98	31	0.745	2.3	27	0.6	2.5
Total threonine	6.8			8.44	29	0.497	6.6	25	0.9	7.3
Total cysteine	1.8			2.98	30	0.993	2.2	18	0.9	2.3
Total tryptophan	1.6			2.23	8	0.497	1.7	7	0.4	1.8
Total arginine	17.8			21.35	28	2.731	15.4	26	3.6	18.2
Total valine	8.4			9.68	29	1.242	7.5	27	1.3	8.5
Total isoleucine	8.4			9.44	29	1.490	7.3	27	1.4	8.4
Total leucine	14.8			17.63	29	1.242	13.7	28	1.4	15.4
Total histidine	5.2			6.21	29	0.497	4.7	26	0.8	5.4
Total serine	9.6			11.92	19	0.745	9	21	1.2	10.2
Total glycine	7.0			8.69	19	0.745	6.5	22	1.2	7.4
Total proline	8.4			9.93	17	0.745	7.8	20	1.0	8.7
Total alanine				9.19	19	0.745	7.1	22	1.3	8.1
Total phenylalanine				13.16	29	0.993	10.2	26	1.3	11.7
Total aspartic acid	0			26.32	19	2.235	20.9	22	2.2	15.7
Total glu. acid/glu.				42.21	19	6.704	33.1	22	4.7	37.7
Lysine (SID)							9.7			9.7
Methionine (SID)							1.8			1.8
Threonine (SID)							4.8			4.8
Cysteine (SID)							1.7			1.7
Tryptophan (SID)							1.3			1.3
Arginine (SID)							13.1			13.1
Valine (SID)							5.5			5.5
Isoleucine (SID)							5.1			5.1
Leucine (SID)							9.8			9.8
Histidine (SID)							3.7			3.7
Serine (SID)							6.8			6.8
Glycine (SID)							5			5.0
Proline (SID)							6.2			6.2
Alanine (SID)							5.3			5.3
Phenylalanine (SID)							7.8			7.8
Aspartic acid (SID)							15.7			15.7
Glu. acid/glu.(SID)	1						26.2			26.2

Chick peas

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	930.0	1				884.3	308	21.0	87	22
ME										
AME (MJ)										
AMEn (MJ)						12.5				
Net energy						10.1				
Crude protein	213.0	1				211.4	315	18.5	1176	294
Ether extract						55.6	86	10.0	4971	1243
Ash						32.0	148	3.0	1348	337
Crude fibre						62.7	129	8.0	2504	626
Acid detergent fibre						77.4	99	16.0	6572	1643
Neutral detergent fibre						150.1	105	33.5	7658	1914
Starch						428.7	94	49.0	2008	502
Total NSP	84.8	17	29.9	19107	4777					
Soluble NSP	15.5	17	12.4	98926	24732					
Insoluble NSP	69.4	17	27.2	23594	5898					
Oligosaccharides	57.5	6	9.0	3754	939					
Total NSP: Rhamnose	2.3	10	1.6	76793	19198					
Total NSP: Fucose	0.3	10	0.1	5199	1300					
Total NSP: Ribose	0.3	10	0.2	50742	12686					
Total NSP: Arabinose	29.6	10	13.3	31062	7766					
Total NSP: Xylose	5.1	10	3.5	69561	17390					
Total NSP: Mannose	3.0	10	1.3	28050	7013					
Total NSP: Galactose	6.6	10	1.4	6713	1678					
Total NSP: Glucose	20.4	10	12.2	54585	13646					
Soluble NSP: Rhamnose	1.2	10	1.5	245301	61325					
Soluble NSP: Fucose	0.0	10	0.0	37794	9448					
Soluble NSP: Ribose	0.3	8	0.1	19007	4752					
Soluble NSP: Arabinose	2.2	10	1.3	57140	14285					
Soluble NSP: Xylose	0.7	10	0.5	78487	19622					
Soluble NSP: Mannose	1.1	10	0.4	15813	3953					
Soluble NSP: Galactose	2.2	10	0.9	27865	6966					
Soluble NSP: Glucose	0.6	10	0.3	37953	9488					
Insoluble NSP: Rhamnose	1.1	10	0.3	13455	3364					
Insoluble NSP: Fucose	0.3	10	0.1	7495	1874					
Insoluble NSP: Ribose	0.1	8	0.1	91014	22754					
Insoluble NSP: Arabinose	27.5	10	12.9	33952	8488					
Insoluble NSP: Xylose	4.4	10	3.1	77047	19262					
Insoluble NSP: Mannose	1.9	10	1.2	58018	14504					
Insoluble NSP: Galactose	4.4	10	1.2	11890	2973					
Insoluble NSP: Glucose	19.7	10	12.1	57583	14396					
Oligo. NSP: Rhamnose	0.2	6	0.1	80676	20169					
Oligo. NSP: Fucose	0.2	6	0.1	37582	9395					
Oligo. NSP: Ribose	0.1	6	0.0	4561	1140					
Oligo. NSP: Arabinose	0.7	6	0.3	36790	9198					
Oligo. NSP: Xylose	0.2	6	0.2	151778	37944					
Oligo. NSP: Mannose	11.5	6	4.1	19365	4841					
Oligo. NSP: Galactose	23.6	6	2.7	1961	490					
Oligo. NSP: Glucose	21.0	6	4.9	8459	2115					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						1.3	38	0.4	11138	2785
Digestible calcium										
Total phosphorus						3.9	41	0.7	4950	1238
Available phosphorus										
Phytate phosphorus						2.5				
Phytate						8.7				
Linoleic acid						6.1	1			
Sodium						0.3	25	0.2	67081	16770
Chloride						1.2				
Potassium						9.9	31	1.4	3094	773
Magnesium						1.5	27	0.2	1471	368
Manganese						0.0	8	0.0	15505	3876
Zinc						0.0	26	0.0	11174	2794
Copper						0.0	25	0.0	20319	5080
Iron						0.1	25	0.1	98345	24586
Selenium						0.0				
Cobalt										
Molybdenum										
Choline										
Sulphur						1.8	1			
Total lysine	13.5	1				14.2	60	1.3	1379	345
Total methionine	1.9	1				2.5	58	0.7	11178	2795
Total threonine	7.7	1				7.3	54	0.7	1414	353
Total cysteine						2.3	48	0.9	25438	6360
Total tryptophan	1.8	1				1.8	15	0.4	9073	2268
Total arginine	23.2	1				18.2	54	3.2	4657	1164
Total valine	10.5	1				8.5	56	1.3	3412	853
Total isoleucine	10.1	1				8.4	56	1.4	4570	1143
Total leucine	16.1	1				15.4	57	1.3	1134	283
Total histidine	6.1	1				5.4	55	0.6	2240	560
Total serine	12.2	1				10.2	40	1.0	1404	351
Total glycine	8.5	1				7.4	41	1.0	2656	664
Total proline						8.7	37	0.9	1542	385
Total alanine	9.2	1				8.1	41	1.0	2422	606
Total phenylalanine	12.2	1				11.7	55	1.1	1481	370
Total aspartic acid	24.3	1				15.7	41	2.2	3050	762
Total glu. acid/glu.	34.2	1				37.7	41	5.7	3524	881
Lysine (SID)	10.1	1				9.7				
Methionine (SID)	1.4	1				1.8				
Threonine (SID)	5.1	1				4.8				
Cysteine (SID)						1.7				
Tryptophan (SID)	1.3	1				1.3				
Arginine (SID)	19.5	1				13.1				
Valine (SID)	7.4	1				5.5				
Isoleucine (SID)	6.9	1				5.1				
Leucine (SID)	11.1	1				9.8				
Histidine (SID)	4.6	1				3.7				
Serine (SID)	8.4	1				6.8				
Glycine (SID)	5.8	1				5.0				
Proline (SID)						6.2				
Alanine (SID)	6.5	1				5.3				
Phenylalanine (SID)	9.0	1				7.8				
Aspartic acid (SID)	17.7	1				15.7				
Glu. acid/glu. (SID)	26.3	1				26.2				

Copra meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter				903	1		903.0
ME							
AME (MJ)							
AMEn (MJ)							
Net energy							
Crude protein				217	1		217.0
Ether extract							
Ash							
Crude fibre							
Acid detergent fibre							
Neutral detergent fibre							
Starch							
Total NSP	377.8	11	58.33				377.8
Soluble NSP	23.6	11	2.72				23.6
Insoluble NSP	348.7	11	65.21				348.7
Oligosaccharides	78.8	6	15.49				78.8
Total NSP: Rhamnose	1.66	10	1.970				1.66
Total NSP: Fucose	0.26	10	0.090				0.26
Total NSP: Ribose	1.09	10	2.844				1.09
Total NSP: Arabinose	12.69	10	5.698				12.69
Total NSP: Xylose	9.00	10	6.011				9.00
Total NSP: Mannose	290.47	10	47.960				290.47
Total NSP: Galactose	25.76	10	4.467				25.76
Total NSP: Glucose	45.70	10	16.333				45.70
Soluble NSP: Rhamnose	0.11	10	0.086				0.11
Soluble NSP: Fucose	0.14	10	0.038				0.14
Soluble NSP: Ribose	0.12	10	0.050				0.12
Soluble NSP: Arabinose	3.31	10	1.178				3.31
Soluble NSP: Xylose	0.07	10	0.034				0.07
Soluble NSP: Mannose	12.95	10	1.712				12.95
Soluble NSP: Galactose	6.06	10	0.454				6.06
Soluble NSP: Glucose	1.20	10	0.536				1.20
Insoluble NSP: Rhamnose	1.55	10	2.010				1.55
Insoluble NSP: Fucose	0.12	10	0.096				0.12
Insoluble NSP: Ribose	0.97	10	2.886				0.97
Insoluble NSP: Arabinose	9.39	10	5.011				9.39
Insoluble NSP: Xylose	8.92	10	6.036				8.92
Insoluble NSP: Mannose	277.51	10	48.690				277.51
Insoluble NSP: Galactose	19.70	10	4.424				19.70
Insoluble NSP: Glucose	44.49	10	15.916				44.49
Oligo. NSP: Rhamnose	0.16	8	0.086				0.16
Oligo. NSP: Fucose	0.01	8	0.033				0.01
Oligo. NSP: Ribose	0.09	8	0.066				0.09
Oligo. NSP: Arabinose	1.37	8	0.439				1.37
Oligo. NSP: Xylose	0.13	8	0.037				0.13
Oligo. NSP: Mannose	13.20	8	2.427				13.20
Oligo. NSP: Galactose	0.58	8	0.162				0.58
Oligo. NSP: Glucose	63.26	8	12.662				63.26

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium							
Digestible calcium							
Total phosphorus							
Available phosphorus							
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium							
Chloride							
Potassium							
Magnesium							
Manganese							
Zinc							
Copper							
Iron							
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine				5.5	1		5.5
Total methionine				3.3	1		3.3
Total threonine				8.4	1		8.4
Total cysteine							
Total tryptophan							
Total arginine				30.5	1		30.5
Total valine				10.2	1		10.2
Total isoleucine				8.1	1		8.1
Total leucine				15.9	1		15.9
Total histidine				5.7	1		5.7
Total serine				12.0	1		12.0
Total glycine				9.3	1		9.3
Total proline							
Total alanine				10.4	1		10.4
Total phenylalanine				10.3	1		10.3
Total aspartic acid				19.9	1		19.9
Total glu. acid/glu.				46.7	1		46.7
Lysine (SID)				2.8	1		2.8
Methionine (SID)				2.3	1		2.3
Threonine (SID)				5.3	1		5.3
Cysteine (SID)							
Tryptophan (SID)							
Arginine (SID)				26.2	1		26.2
Valine (SID)				7.8	1		7.8
Isoleucine (SID)				6.0	1		6.0
Leucine (SID)				12.1	1		12.1
Histidine (SID)				3.5	1		3.5
Serine (SID)				8.5	1		8.5
Glycine (SID)				6.5	1		6.5
Proline (SID)							
Alanine (SID)				7.8	1		7.8
Phenylalanine (SID)				8.1	1		8.1
Aspartic acid (SID)				14.1	1		14.1
Glu. acid/glu. (SID)				36.4	1		36.4

Copra meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880	177		910			915	240	15	916	270	35	905.3
ME													
AME (MJ)													
AMEn (MJ)	5.43	28		7.6			8.7	2		8			7.4
Net energy	4.05						6.95			6.40			5.8
Crude protein	215.7	177		205			244.8	257	12	205	271	16	217.6
Ether extract	8.5	28					107.1	163	27	92	171	30	69.2
Ash	70.7	28		65			74.3	231	5	62	233	8	68.0
Crude fibre	99.6	28		130			155.2	251	21	129	268	26	128.5
Acid detergent fibre	231.7	28		230			313.7	28	34	255	17	35	257.6
Neutral detergent fibre	504.5	28		450			597.8	35	48	493	21	54	511.3
Starch				15						3	5	6	9.0
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	0.9	28		1.0			1.2	56	0.4	1.2	51	0.7	1.1
Digestible calcium													
Total phosphorus	5.7	28		5.5			5.8	60	0.5	5.2	53	0.9	5.6
Available phosphorus													
Phytate phosphorus	2.9	28		2.3						2.6			2.6
Phytate	10.28			8.16						9.22			9.2
Linoleic acid										1.5			1.5
Sodium	0.7	28		0.9			0.6	8	0.4	0.4	6	0.27	0.7
Chloride				5.0									5.0
Potassium	24.3	28		18.6			20.1	27	1.8	18	27	4.0	20.3
Magnesium	3.0	28		3.0			3.0	27	0.3	2.8	26	0.4	3.0
Manganese				0.075			0.084	9	0.037	0.072	8	0.033	0.1
Zinc				0.06			0.073	11	0.049	0.069	8	0.047	0.1
Copper				0.03			0.033	12	0.005	0.03	9	0.004	0.0
Iron				0.5			0.964	6	1.019	0.919	3	1.039	0.8
Selenium													
Cobalt				0.00023						0.0002	3		0.0
Molybdenum				0.00038						0.0006			0.0
Choline													
Sulphur				3						2.7			2.9
Total lysine	5.2	177		5.3			6.4	8	0.4896	5.5	10	0.5	5.6
Total methionine	2.7	177		3.1			3.2	5	0.7344	2.8	6	0.5	2.9
Total threonine	6.2	177		6.2			7.3	5	0.2448	6.6	6	0.9	6.6
Total cysteine	2.9	177		3.1			2.9	5	0.4896	2.8	4	0.4	2.9
Total tryptophan	1.7	74		2.1			3.2	1		2.8	2		2.4
Total arginine	22.3	177		22.3			26.2	4	2.2032	21.7	5	3.8	23.1
Total valine	10.2	177		9.8			11.5	4	0.7344	9.6	5	0.8	10.3
Total isoleucine	6.7	177		6.6			7.3	4	0.2448	6.2	5	1.0	6.7
Total leucine	12.9	177		12.7			14.4	5	0.4896	12.6	6	1.8	13.2
Total histidine	3.8	177		3.7			4.7	4	0.2448	4	5	0.8	4.0
Total serine	8.6	177		8.1			10.8	4	0.4896	9.2	5	1.4	9.2
Total glycine	8.9	177		8.5			10.0	4	0.2448	8.4	4	0.8	9.0
Total proline	7.0	177		6.6			8.3	2		7	2		7.2
Total alanine	8.8	177					9.8	4	0.2448	8.1			8.9
Total phenylalanine	8.8	177					10.0	4	0.7344	8.3	5	1.1	9.0
Total aspartic acid	16.5	177		15.4			18.8	4	0.7344	15.7	5	2.3	16.6
Total glu. acid/glu.	38.1	177		34.9			43.6	4	3.9168	37.3	5	6.2	38.5
Lysine (SID)	2.7			3.2						3.3			3.1
Methionine (SID)	2.3			2.1						1.9			2.1
Threonine (SID)	3.7			3.8						4.1			3.9
Cysteine (SID)	1.5			1.9						1.7			1.7
Tryptophan (SID)	0.8			1.4						1.8			1.3
Arginine (SID)	18.7			15.9						15.4			16.7
Valine (SID)	8.1			6.8						6.6			7.2
Isoleucine (SID)	5.2			4.5						4.3			4.7
Leucine (SID)	10.3			8.8						8.7			9.3
Histidine (SID)	2.7			2.3						2.5			2.5
Serine (SID)				5.0						5.7			5.4
Glycine (SID)				5.4						5.4			5.4
Proline (SID)				3.8						4			3.9
Alanine (SID)										5.4			5.4
Phenylalanine (SID)	7.4									5.7			6.6
Aspartic acid (SID)				9.9						9.7			9.8
Glu. acid/glu.(SID)				22.3						23.9			23.1

Copra meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	903.0	1				905.3	687	25.0	117	29
ME										
AME (MJ)										
AMEn (MJ)						7.4	30			
Net energy						5.8				
Crude protein	217.0	1				217.6	705	14.0	636	159
Ether extract						69.2	362	28.5	26065	6516
Ash						68.0	492	6.5	1404	351
Crude fibre						128.5	547	23.5	5143	1286
Acid detergent fibre						257.6	73	34.5	2756	689
Neutral detergent fibre						511.3	84	51.0	1529	382
Starch						9.0	5	6.0	68295	17074
Total NSP	377.8	11	58.3	3663	916					
Soluble NSP	23.6	11	2.7	2046	512					
Insoluble NSP	348.7	11	65.2	5375	1344					
Oligosaccharides	78.8	6	15.5	5937	1484					
Total NSP: Rhamnose	1.7	10	2.0	216655	54164					
Total NSP: Fucose	0.3	10	0.1	18144	4536					
Total NSP: Ribose	1.1	10	2.8	1039511	259878					
Total NSP: Arabinose	12.7	10	5.7	30959	7740					
Total NSP: Xylose	9.0	10	6.0	68563	17141					
Total NSP: Mannose	290.5	10	48.0	4189	1047					
Total NSP: Galactose	25.8	10	4.5	4621	1155					
Total NSP: Glucose	45.7	10	16.3	19632	4908					
Soluble NSP: Rhamnose	0.1	10	0.1	97547	24387					
Soluble NSP: Fucose	0.1	10	0.0	12330	3082					
Soluble NSP: Ribose	0.1	10	0.0	24783	6196					
Soluble NSP: Arabinose	3.3	10	1.2	19520	4880					
Soluble NSP: Xylose	0.1	10	0.0	32457	8114					
Soluble NSP: Mannose	13.0	10	1.7	2687	672					
Soluble NSP: Galactose	6.1	10	0.5	862	216					
Soluble NSP: Glucose	1.2	10	0.5	30518	7629					
Insoluble NSP: Rhamnose	1.6	10	2.0	258006	64502					
Insoluble NSP: Fucose	0.1	10	0.1	91003	22751					
Insoluble NSP: Ribose	1.0	10	2.9	1361146	340287					
Insoluble NSP: Arabinose	9.4	10	5.0	43784	10946					
Insoluble NSP: Xylose	8.9	10	6.0	70279	17570					
Insoluble NSP: Mannose	277.5	10	48.7	4730	1183					
Insoluble NSP: Galactose	19.7	10	4.4	7751	1938					
Insoluble NSP: Glucose	44.5	10	15.9	19663	4916					
Oligo. NSP: Rhamnose	0.2	8	0.1	46369	11592					
Oligo. NSP: Fucose	0.0	8	0.0	1075648	268912					
Oligo. NSP: Ribose	0.1	8	0.1	86967	21742					
Oligo. NSP: Arabinose	1.4	8	0.4	15707	3927					
Oligo. NSP: Xylose	0.1	8	0.0	11944	2986					
Oligo. NSP: Mannose	13.2	8	2.4	5191	1298					
Oligo. NSP: Galactose	0.6	8	0.2	11801	2950					
Oligo. NSP: Glucose	63.3	8	12.7	6157	1539					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						1.1	135	0.6	40224	10056
Digestible calcium										
Total phosphorus						5.6	141	0.7	2444	611
Available phosphorus										
Phytate phosphorus						2.6	28			
Phytate						9.2				
Linoleic acid						1.5				
Sodium						0.7	42	0.3	40816	10204
Chloride						5.0				
Potassium						20.3	82	2.9	3152	788
Magnesium						3.0	81	0.4	2163	541
Manganese						0.1	17	0.0	31749	7937
Zinc						0.1	19	0.0	78090	19522
Copper						0.0	21	0.0	3238	809
Iron						0.8	9	1.0	257868	64467
Selenium										
Cobalt						0.0	3			
Molybdenum						0.0				
Choline										
Sulphur						2.9				
Total lysine	5.5	1				5.6	195	0.5	1203	301
Total methionine	3.3	1				2.9	188	0.6	6746	1687
Total threonine	8.4	1				6.6	188	0.6	1161	290
Total cysteine						2.9	186	0.4	3531	883
Total tryptophan						2.4	77			
Total arginine	30.5	1				23.1	186	3.0	2589	647
Total valine	10.2	1				10.3	186	0.8	856	214
Total isoleucine	8.1	1				6.7	186	0.6	1322	330
Total leucine	15.9	1				13.2	188	1.1	1163	291
Total histidine	5.7	1				4.0	186	0.5	2572	643
Total serine	12.0	1				9.2	186	0.9	1632	408
Total glycine	9.3	1				9.0	185	0.5	522	131
Total proline						7.2	181			
Total alanine	10.4	1				8.9	181	0.2	116	29
Total phenylalanine	10.3	1				9.0	186	0.9	1580	395
Total aspartic acid	19.9	1				16.6	186	1.5	1282	320
Total glu. acid/glu.	46.7	1				38.5	186	5.1	2657	664
Lysine (SID)	2.8	1				3.1				
Methionine (SID)	2.3	1				2.1				
Threonine (SID)	5.3	1				3.9				
Cysteine (SID)						1.7				
Tryptophan (SID)						1.3				
Arginine (SID)	26.2	1				16.7				
Valine (SID)	7.8	1				7.2				
Isoleucine (SID)	6.0	1				4.7				
Leucine (SID)	12.1	1				9.3				
Histidine (SID)	3.5	1				2.5				
Serine (SID)	8.5	1				5.4				
Glycine (SID)	6.5	1				5.4				
Proline (SID)						3.9				
Alanine (SID)	7.8	1				5.4				
Phenylalanine (SID)	8.1	1				6.6				
Aspartic acid (SID)	14.1	1				9.8				
Glu. acid/glu. (SID)	36.4	1				23.1				

Cottonseed meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880	46					918	3	12.7	899.0
ME										
AME (MJ)										
AMEn (MJ)	7.12	46								7.1
Net energy	5.11									5.1
Crude protein	433.2						400	3	4	416.6
Ether extract	31.3									31.3
Ash	69.6									69.6
Crude fibre	102.9									102.9
Acid detergent fibre	144.8									144.8
Neutral detergent fibre	198.2									198.2
Starch										
Total NSP				180.0	24	46.83				180.0
Soluble NSP				25.7	24	9.79				25.7
Insoluble NSP				150.4	24	40.32				150.4
Oligosaccharides				29.2	5	21.15				29.2
Total NSP: Rhamnose				2.07	11	0.233				2.1
Total NSP: Fucose				0.58	11	0.264				0.6
Total NSP: Ribose				0.78	10	0.324				0.8
Total NSP: Arabinose				44.53	11	9.340				44.5
Total NSP: Xylose				56.17	11	22.722				56.2
Total NSP: Mannose				8.55	11	5.560				8.6
Total NSP: Galactose				11.99	11	0.978				12.0
Total NSP: Glucose				54.79	11	18.252				54.8
Soluble NSP: Rhamnose				0.58	11	0.162				0.6
Soluble NSP: Fucose				0.15	11	0.271				0.1
Soluble NSP: Ribose				0.73	8	0.139				0.7
Soluble NSP: Arabinose				9.88	11	0.839				9.9
Soluble NSP: Xylose				1.14	11	0.323				1.1
Soluble NSP: Mannose				5.18	11	3.636				5.2
Soluble NSP: Galactose				5.65	11	0.720				5.7
Soluble NSP: Glucose				1.20	11	0.567				1.2
Insoluble NSP: Rhamnose				1.49	11	0.248				1.5
Insoluble NSP: Fucose				0.53	9	0.192				0.5
Insoluble NSP: Ribose				0.20	10	0.058				0.2
Insoluble NSP: Arabinose				34.65	11	8.844				34.7
Insoluble NSP: Xylose				55.12	11	22.725				55.1
Insoluble NSP: Mannose				3.37	11	2.266				3.4
Insoluble NSP: Galactose				6.34	11	0.791				6.3
Insoluble NSP: Glucose				53.68	11	18.141				53.7
Oligo. NSP: Rhamnose				0.36	5	0.232				0.4
Oligo. NSP: Fucose				0.08	5	0.074				0.1
Oligo. NSP: Ribose				0.08	5	0.036				0.1
Oligo. NSP: Arabinose				0.42	5	0.153				0.4
Oligo. NSP: Xylose				0.03	5	0.035				0.0
Oligo. NSP: Mannose				2.19	5	1.934				2.2
Oligo. NSP: Galactose				10.70	5	7.677				10.7
Oligo. NSP: Glucose				15.28	5	11.174				15.3

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	2.2	46								2.2
Digestible calcium										
Total phosphorus	11.3	46								11.3
Available phosphorus										
Phytate phosphorus	7.9	46								8.5
Phytate										32.3
Linoleic acid										
Sodium	1.6	46								1.6
Chloride										
Potassium	13.9	46								13.9
Magnesium	6.3	46								6.3
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine	17.2	46					19.7	3	1.4	18.5
Total methionine	6.6	46					6.0	3	0.7	6.3
Total threonine	13.7	46					13.7	3	0.8	13.7
Total cysteine	7.2	46								7.2
Total tryptophan	5.5	16					4.7	3	0.1	5.1
Total arginine	49.2	46					48.3	3	2.2	48.8
Total valine	19.1	46					20.0	3	1.0	19.6
Total isoleucine	13.5	46					14.3	3	0.7	13.9
Total leucine	24.9	46					25.1	3	0.7	25.0
Total histidine	11.9	46					13.5	3	0.7	12.7
Total serine	18.2	46					17.7	3	3.5	18.0
Total glycine	18.0	46					18.7	3	0.8	18.4
Total proline	15.9	46								15.9
Total alanine	16.7	46					17.2	3	0.5	17.0
Total phenylalanine	23.1	46					23.9	3	0.2	23.5
Total aspartic acid	39.2	46					39.6	3	1.1	39.4
Total glu. acid/glu.	83.7	46					84.0	3	2.8	83.9
Lysine (SID)	11.2						10.9	3	1.3	11.1
Methionine (SID)	4.7						4.7	3	0.5	4.7
Threonine (SID)	9.3						8.4	3	0.4	8.9
Cysteine (SID)	5.4									5.4
Tryptophan (SID)	4.4						3.6	3	0.1	4.0
Arginine (SID)	43.3						41.5	3	2.3	42.4
Valine (SID)	14.1						14.1	3	0.7	14.1
Isoleucine (SID)	9.6						9.6	3	0.5	9.6
Leucine (SID)	18.1						17.4	3	0.8	17.8
Histidine (SID)	9.6						10.0	3	0.8	9.8
Serine (SID)							12.1	3	2.1	12.1
Glycine (SID)							12.8	3	0.6	12.8
Proline (SID)										
Alanine (SID)							11.8	3	0.4	11.8
Phenylalanine (SID)	18.7						18.9	3	0.3	18.8
Aspartic acid (SID)							29.3	3	0.5	29.3
Glu. acid/glu. (SID)							70.5	3	2.4	70.5

Cottonseed meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			RCI			Feedipedia			Feedtables.com		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	453		92.2			909.0	230	15	907.0	252	30
ME				8.60								
AME (MJ)				8.61								
AMEn (MJ)	6.82	194					10.6			8.6	2	
Net energy	4.85						7.78			6.31		
Crude protein	431.7	453		426.0			520.4	251	29	424.0	255	34
Ether extract	24.4	194		29.0			33.0	152	16	26.0	151	13
Ash	68.1	194		67.0			81.4	204	6	66.0	189	7
Crude fibre	115.9	194		119.0			141.9	224	18	117.0	220	24
Acid detergent fibre	163.8	194		137.0			195.8	55	28	161.0	54	32
Neutral detergent fibre	238.4	194		214.0			297.0	58	45	243.0	55	49
Starch				29.0			36.3	15	17	29.0	11	14
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Brazilian Tables			Average of the mean
	Mean	n	SD	
Dry matter	901.0	12	7.0	737.8
ME	8.16	3	0.05	8.4
AME (MJ)				8.6
AMEn (MJ)				8.7
Net energy	6.42			6.3
Crude protein	378.0	12	21.6	436.0
Ether extract	26.5	8	20.7	27.8
Ash	62.1	8	2.3	68.9
Crude fibre	153.0	8	25.5	129.4
Acid detergent fibre	174.0	7	72.2	166.3
Neutral detergent fibre	296.0	8	27.6	257.7
Starch	39.6	6	19.8	33.5
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Cottonseed meal

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			RCI			Feedipedia			Feedtables.com		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.1	194		2.5			2.1	72	0.6	2.0	59	0.8
Digestible calcium												
Total phosphorus	10.2	194		11.7			13.1	70	2.2	11.5	59	2.9
Available phosphorus				3.5								
Phytate phosphorus	7.2	194		8.2						8.1	1	
Phytate	25.53									28.72		
Linoleic acid										13.8		
Sodium	0.9	194		2.5			0.9	14	1.2	0.63	8	0.76
Chloride												
Potassium	14.4	194		16.0			16.4	37	2.6	14.1	30	3.4
Magnesium	5.8	194		6.3			6.0	36	1.4	5.2	30	1.5
Manganese				0.013			0.023	17	0.006	0.023	11	0.014
Zinc				0.061			0.044	17	0.031	0.048	11	0.034
Copper				0.015			0.117	17	0.085	0.09		
Iron							0.17	14	0.052	0.527	8	1.572
Selenium				0.0004						0.0004		
Cobalt				0.0003						0.002	5	0.004
Molybdenum				0.0008						0.0008	1	
Choline				2.767								
Sulphur				3.3						3.3		
Total lysine	17.0	453		16.8			20.8	38	1.56	16.9	58	2.1
Total methionine	6.2	453		6.0			7.3	32	1.04	6.0	51	0.9
Total threonine	13.4	453		13.3			16.1	32	1.04	13.4	52	1.4
Total cysteine	6.9	453		7.3			8.8	12	2.60	7.4	18	1.3
Total tryptophan	5.3	182		5.5			6.2	5	1.04	5.5	14	0.8
Total arginine	48.8	453		46.6			57.2	29	2.60	46.8	49	6.0
Total valine	18.6	453		19.3			24.5	32	1.56	19.2	52	2.1
Total isoleucine	13.3	453		13.3			16.1	34	1.56	13.4	52	1.7
Total leucine	24.2	453		23.8			29.1	34	1.56	24.1	53	2.7
Total histidine	11.7	453		12.2			15.1	15	1.56	12.2	31	1.5
Total serine	17.9	453		18.0			21.9	25	15.61	18.2	46	2.7
Total glycine	17.4	453		17.1			21.3	28	0.52	17.3	46	2.1
Total proline	15.7	453		15.0			18.7	8	2.60	15.1	13	2.5
Total alanine	16.4	453		18.0			22.9	27	1.56	18.3	49	2.1
Total phenylalanine	22.9	453		21.8			27.1	32	1.04	22.0	51	2.3
Total aspartic acid	38.8	453		38.6			47.9	28	2.08	39.0	47	5.4
Total glu. acid/glu.	82.3	453		79.4			98.9	26	3.64	80.3	48	8.4
Lysine (SID)	11.1			10.6						9.8		
Methionine (SID)	4.5			4.5						4.6		
Threonine (SID)	9.1			9.2						8.8		
Cysteine (SID)	5.1			4.9						5.2		
Tryptophan (SID)	4.2			4.4						4.2		
Arginine (SID)	42.9			39.2						40.2		
Valine (SID)	13.8			14.5						13.6		
Isoleucine (SID)	9.5			9.5						9.2		
Leucine (SID)	17.7			16.9						17.1		
Histidine (SID)	9.5			9.1						9.2		
Serine (SID)				13.2						13.3		
Glycine (SID)				12.0						12.1		
Proline (SID)				11.1						11.2		
Alanine (SID)				12.6						12.8		
Phenylalanine (SID)	18.5			17.4						17.6		
Aspartic acid (SID)				29.0						29.3		
Glu. acid/glu.(SID)				65.9						66.7		

Nutrient (g/kg as fed, unless otherwise specified)	Brazilian Tables			Average of the mean
	Mean	n	SD	
Total calcium	3.0	6	0.6	2.3
Digestible calcium				
Total phosphorus	10.3	6	0.6	11.4
Available phosphorus	3.8			3.7
Phytate phosphorus	6.5	2	0.4	7.5
Phytate	23.05			25.8
Linoleic acid	8.4	2	2.0	11.1
Sodium	0.9	4	0.3	1.2
Chloride	0.5	4	0.1	0.5
Potassium	14.1	4	1.1	15.0
Magnesium	5.3	2	0.4	5.7
Manganese	0.143	1		0.1
Zinc	0.567	1		0.2
Copper	0.105	1		0.1
Iron	1.579	1		0.8
Selenium	0.0058	1		0.0
Cobalt				0.0
Molybdenum				0.0
Choline				2.8
Sulphur	3.4	1		3.3
Total lysine	15.7			17.4
Total methionine	5.8			6.3
Total threonine	12.6			13.8
Total cysteine	6.4			7.4
Total tryptophan	5.1			5.5
Total arginine	41.4			48.2
Total valine	17.1			19.7
Total isoleucine	12.1			13.6
Total leucine	21.9			24.6
Total histidine	10.8			12.4
Total serine	16.6			18.5
Total glycine	16.0			17.8
Total proline	14.7			15.8
Total alanine	15.1			18.1
Total phenylalanine	20.0			22.8
Total aspartic acid	18.9			36.6
Total glu. acid/glu.	71.9			82.6
Lysine (SID)	11.5			10.8
Methionine (SID)	4.6			4.6
Threonine (SID)	9.2			9.1
Cysteine (SID)	4.1			4.8
Tryptophan (SID)	3.6			4.1
Arginine (SID)	36.2			39.6
Valine (SID)	12.5			13.6
Isoleucine (SID)	8.5			9.2
Leucine (SID)	17.2			17.2
Histidine (SID)	8.5			9.1
Serine (SID)	11.9			12.8
Glycine (SID)	11.4			11.8
Proline (SID)	10.4			10.9
Alanine (SID)	9.8			11.7
Phenylalanine (SID)	16.8			17.6
Aspartic acid (SID)	14.6			24.3
Glu. acid/glu. (SID)	61.9			64.8

Cottonseed meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	899.0	49	12.7	31	8	737.8	947	17.3	85	21
ME						8.4	3	0.1	5	1
AME (MJ)						8.6				
AMEn (MJ)	7.1	46				8.7	196			
Net energy	5.1					6.3				
Crude protein	416.6	3	4.0	14	4	436.0	971	28.2	643	161
Ether extract	31.3					27.8	505	16.6	54648	13662
Ash	69.6					68.9	595	5.1	841	210
Crude fibre	102.9					129.4	646	22.5	4649	1162
Acid detergent fibre	144.8					166.3	310	44.1	10787	2697
Neutral detergent fibre	198.2					257.7	315	40.5	3802	951
Starch						33.5	32	16.9	39320	9830
Total NSP	180.0	24	46.8	10401	2600					
Soluble NSP	25.7	24	9.8	22247	5562					
Insoluble NSP	150.4	24	40.3	11044	2761					
Oligosaccharides	29.2	5	21.1	80882	20220					
Total NSP: Rhamnose	2.1	11	0.2	1954	488					
Total NSP: Fucose	0.6	11	0.3	31622	7906					
Total NSP: Ribose	0.8	10	0.3	26368	6592					
Total NSP: Arabinose	44.5	11	9.3	6761	1690					
Total NSP: Xylose	56.2	11	22.7	25145	6286					
Total NSP: Mannose	8.6	11	5.6	64990	16247					
Total NSP: Galactose	12.0	11	1.0	1021	255					
Total NSP: Glucose	54.8	11	18.3	17053	4263					
Soluble NSP: Rhamnose	0.6	11	0.2	12125	3031					
Soluble NSP: Fucose	0.1	11	0.3	512877	128219					
Soluble NSP: Ribose	0.7	8	0.1	5544	1386					
Soluble NSP: Arabinose	9.9	11	0.8	1108	277					
Soluble NSP: Xylose	1.1	11	0.3	12247	3062					
Soluble NSP: Mannose	5.2	11	3.6	75745	18936					
Soluble NSP: Galactose	5.7	11	0.7	2496	624					
Soluble NSP: Glucose	1.2	11	0.6	34346	8586					
Insoluble NSP: Rhamnose	1.5	11	0.2	4267	1067					
Insoluble NSP: Fucose	0.5	9	0.2	20197	5049					
Insoluble NSP: Ribose	0.2	10	0.1	13679	3420					
Insoluble NSP: Arabinose	34.7	11	8.8	10010	2502					
Insoluble NSP: Xylose	55.1	11	22.7	26119	6530					
Insoluble NSP: Mannose	3.4	11	2.3	69409	17352					
Insoluble NSP: Galactose	6.3	11	0.8	2394	598					
Insoluble NSP: Glucose	53.7	11	18.1	17549	4387					
Oligo. NSP: Rhamnose	0.4	5	0.2	62655	15664					
Oligo. NSP: Fucose	0.1	5	0.1	120736	30184					
Oligo. NSP: Ribose	0.1	5	0.0	30733	7683					
Oligo. NSP: Arabinose	0.4	5	0.2	20056	5014					
Oligo. NSP: Xylose	0.0	5	0.0	238336	59584					
Oligo. NSP: Mannose	2.2	5	1.9	120051	30013					
Oligo. NSP: Galactose	10.7	5	7.7	79137	19784					
Oligo. NSP: Glucose	15.3	5	11.2	82137	20534					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	2.2	46				2.3	331	0.7	12473	3118
Digestible calcium										
Total phosphorus	11.3	57	0.9	881	220	11.4	329	1.9	4299	1075
Available phosphorus						3.7				
Phytate phosphorus	8.5	57	0.8	1208	302	7.5	197	0.4	437	109
Phytate	32.3					25.8				
Linoleic acid						11.1	2	2.0	4989	1247
Sodium	1.6	46				1.2	220	0.8	64143	16036
Chloride						0.5	4	0.1	6147	1537
Potassium	13.9	46				15.0	265	2.4	3825	956
Magnesium	6.3	46				5.7	262	1.1	5683	1421
Manganese						0.1	29	0.0	6025	1506
Zinc						0.2	29	0.0	5009	1252
Copper						0.1	18	0.1	166125	41531
Iron						0.8	23	0.8	176028	44007
Selenium						0.0	1			
Cobalt						0.0	5	0.0	1859073	464768
Molybdenum						0.0	1			
Choline						2.8				
Sulphur						3.3	1			
Total lysine	18.5	49	1.4	885	221	17.4	549	1.8	1692	423
Total methionine	6.3	49	0.7	1897	474	6.3	536	1.0	3696	924
Total threonine	13.7	49	0.8	524	131	13.8	537	1.2	1208	302
Total cysteine	7.2	46				7.4	483	2.0	10770	2693
Total tryptophan	5.1	19	0.1	59	15	5.5	201	0.9	4258	1065
Total arginine	48.8	49	2.2	313	78	48.2	531	4.3	1225	306
Total valine	19.6	49	1.0	402	101	19.7	537	1.8	1323	331
Total isoleucine	13.9	49	0.7	390	97	13.6	539	1.6	2194	548
Total leucine	25.0	49	0.7	120	30	24.6	540	2.1	1150	288
Total histidine	12.7	49	0.7	467	117	12.4	499	1.5	2342	585
Total serine	18.0	49	3.5	5842	1461	18.5	524	9.2	37593	9398
Total glycine	18.4	49	0.8	292	73	17.8	527	1.3	830	207
Total proline	15.9	46				15.8	474	2.6	3982	996
Total alanine	17.0	49	0.5	134	33	18.1	529	1.8	1565	391
Total phenylalanine	23.5	49	0.2	11	3	22.8	536	1.7	828	207
Total aspartic acid	39.4	49	1.1	120	30	36.6	528	3.7	1602	401
Total glu. acid/glu.	83.9	49	2.8	171	43	82.6	527	6.0	817	204
Lysine (SID)	11.1	3	1.3	2127	532	10.8				
Methionine (SID)	4.7	3	0.5	1739	435	4.6				
Threonine (SID)	8.9	3	0.4	314	78	9.1				
Cysteine (SID)	5.4					4.8				
Tryptophan (SID)	4.0	3	0.1	96	24	4.1				
Arginine (SID)	42.4	3	2.3	452	113	39.6				
Valine (SID)	14.1	3	0.7	379	95	13.6				
Isoleucine (SID)	9.6	3	0.5	417	104	9.2				
Leucine (SID)	17.8	3	0.8	312	78	17.2				
Histidine (SID)	9.8	3	0.8	1024	256	9.1				
Serine (SID)	12.1	3	2.1	4628	1157	12.8				
Glycine (SID)	12.8	3	0.6	338	84	11.8				
Proline (SID)						10.9				
Alanine (SID)	11.8	3	0.4	177	44	11.7				
Phenylalanine (SID)	18.8	3	0.3	39	10	17.6				
Aspartic acid (SID)	29.3	3	0.5	45	11	24.3				
Glu. acid/glu. (SID)	70.5	3	2.4	178	45	64.8				

Faba beans

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				923	1					923.0
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein				238	1					238.0
Ether extract										
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP	152.3	15	17.76							152.3
Soluble NSP	26.3	15	12.08							26.3
Insoluble NSP	126.0	15	19.76							126.0
Oligosaccharides	46.6	5	1.62							46.6
Total NSP: Rhamnose	0.93	10	0.377							0.9
Total NSP: Fucose	3.53	10	0.361							3.5
Total NSP: Ribose	0.11	10	0.094							0.1
Total NSP: Arabinose	47.47	10	6.096							47.5
Total NSP: Xylose	20.48	10	3.186							20.5
Total NSP: Mannose	4.58	10	1.502							4.6
Total NSP: Galactose	12.49	10	3.511							12.5
Total NSP: Glucose	64.87	10	9.227							64.9
Soluble NSP: Rhamnose	0.41	10	0.372							0.4
Soluble NSP: Fucose	1.46	10	0.222							1.5
Soluble NSP: Ribose	0.12	9	0.092							0.1
Soluble NSP: Arabinose	13.74	10	1.393							13.7
Soluble NSP: Xylose	2.19	10	1.035							2.2
Soluble NSP: Mannose	2.06	10	0.749							2.1
Soluble NSP: Galactose	3.79	10	1.345							3.8
Soluble NSP: Glucose	2.12	10	0.886							2.1
Insoluble NSP: Rhamnose	0.52	10	0.221							0.5
Insoluble NSP: Fucose	2.07	10	0.399							2.1
Insoluble NSP: Ribose	0.00	10	0.003							0.0
Insoluble NSP: Arabinose	33.73	10	4.971							33.7
Insoluble NSP: Xylose	18.29	10	2.442							18.3
Insoluble NSP: Mannose	2.52	10	1.246							2.5
Insoluble NSP: Galactose	8.70	10	2.419							8.7
Insoluble NSP: Glucose	62.74	10	9.379							62.7
Oligo. NSP: Rhamnose	0.04	5	0.021							0.0
Oligo. NSP: Fucose	0.10	5	0.014							0.1
Oligo. NSP: Ribose	0.03	5	0.023							0.0
Oligo. NSP: Arabinose	0.66	5	0.080							0.7
Oligo. NSP: Xylose	0.08	5	0.010							0.1
Oligo. NSP: Mannose	4.89	5	0.257							4.9
Oligo. NSP: Galactose	15.46	5	0.686							15.5
Oligo. NSP: Glucose	25.83	5	2.297							25.8

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus							4.01	8	0.895	4.0
Available phosphorus										
Phytate phosphorus							2.43	8	0.681	2.4
Phytate							8.62			8.6
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine				15.0	1					15.0
Total methionine				1.5	1					1.5
Total threonine				8.9	1					8.9
Total cysteine										
Total tryptophan				1.9	1					1.9
Total arginine				23.3	1					23.3
Total valine				12.2	1					12.2
Total isoleucine				10.8	1					10.8
Total leucine				18.0	1					18.0
Total histidine				6.2	1					6.2
Total serine				12.9	1					12.9
Total glycine				10.5	1					10.5
Total proline										
Total alanine				10.4	1					10.4
Total phenylalanine				10.2	1					10.2
Total aspartic acid				25.8	1					25.8
Total glu. acid/glu.				37.9	1					37.9
Lysine (SID)				11.0	1					11.0
Methionine (SID)				1.0	1					1.0
Threonine (SID)				5.7	1					5.7
Cysteine (SID)										
Tryptophan (SID)				1.2	1					1.2
Arginine (SID)				18.2	1					18.2
Valine (SID)				7.9	1					7.9
Isoleucine (SID)				7.0	1					7.0
Leucine (SID)				11.9	1					11.9
Histidine (SID)				4.3	1					4.3
Serine (SID)				8.4	1					8.4
Glycine (SID)				6.7	1					6.7
Proline (SID)										
Alanine (SID)				7.1	1					7.1
Phenylalanine (SID)				6.8	1					6.8
Aspartic acid (SID)				17.8	1					17.8
Glu. acid/glu. (SID)				27.7	1					27.7

Faba beans

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	153					866	797	14	866	149	34	870.7
ME													
AME (MJ)							12.2						12.2
AMEn (MJ)										9.5			9.5
Net energy										7.28			7.3
Crude protein	249.3	153		282	2	1.85	334.9	678	18	255	155	22	280.3
Ether extract							16.2	187	3	13	110	3	14.6
Ash							45	292	3	33	110	4	39.0
Crude fibre							105.1	358	10	78	136	11	91.6
Acid detergent fibre							123.6	168	10	97	79	1	110.3
Neutral detergent fibre							183.6	172	25	134	77	25	158.8
Starch							516.2	380	20	383	115	25	449.6
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Ajinomoto			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium							1.5	52	0.5	1.3	15	0.5	1.4
Digestible calcium													
Total phosphorus							5.5	63	0.6	4.8	24	0.6	5.2
Available phosphorus										1.1			1.1
Phytate phosphorus										2.9	8	0.8	2.9
Phytate										10.2834			10.3
Linoleic acid										5.2	27	1.5	5.2
Sodium							0.1	18	0.1	0.11	1		0.1
Chloride													
Potassium							11.5	16	1.5	10.1	1		10.8
Magnesium							1.8	17	0.3	1.6			1.7
Manganese							0.01	15	0.004	0.007	1		0.0
Zinc							0.034	15	0.008	0.031	1		0.0
Copper							0.013	15	0.003	0.012	1		0.0
Iron							0.075	6	0.014	0.059	1		0.1
Selenium										0.00002			0.0
Cobalt										0.0003			0.0
Molybdenum										0.0006			0.0
Choline													
Sulphur										2.4			2.4
Total lysine	15.4	153		17.4	2	0.05	20.8	54	1.00	16.6	30	1.3	17.5
Total methionine	1.7	153		1.9	2	0.01	2.7	50	0.33	1.8	26	0.3	2.0
Total threonine	8.5	153		9.7	2	0.05	11.7	50	1.00	9.1	25	0.9	9.8
Total cysteine	3.0	153		3.1	2	0.09	4.0	48	0.33	3.2	26	0.4	3.3
Total tryptophan	2.2	83		2.5	2	0.03	2.7	24	0.33	2.1	14	0.3	2.4
Total arginine	21.2	153		25.2	2	0.45	30.1	41	2.68	24.2	25	3.5	25.2
Total valine	11.0	153		12.5	2	0.1	15.4	42	1.34	11.5	24	1.5	12.6
Total isoleucine	9.9	153		11.1	2	0.05	13.7	42	1.00	10.4	25	1.2	11.3
Total leucine	17.8	153		20.5	2	0.05	23.8	42	1.34	19.4	25	1.9	20.4
Total histidine	6.3	153		7.0	2	0.1	8.7	31	0.67	6.5	16	0.8	7.1
Total serine	11.4	153		13.1	2	0.05	15.4	40	1.34	12.9	24	1.0	13.2
Total glycine	10.3	153		11.9	2	0.1	13.7	40	1.00	11	24	1.0	11.7
Total proline	10.0	153		10.2	2	0.9	13.1	20	1.67	10.5	13	1.2	10.9
Total alanine	9.9	153		11.4	2	0.2	13.4	39	1.00	10.6	23	1.0	11.3
Total phenylalanine	10.3	153		11.6	2	0.1	13.4	38	0.67	10.7	22	1.1	11.5
Total aspartic acid	26.1	153		29.4	2	0.75	34.2	40	2.01	30.5	24	3.0	30.0
Total glu. acid/glu.	39.2	153		44.7	2	0.65	52.6	40	4.69	44.9	24	4.8	45.3
Lysine (SID)	12.7									14.3			13.5
Methionine (SID)	1.2									1.6			1.4
Threonine (SID)	6.6									7.1			6.9
Cysteine (SID)	1.8									2.3			2.1
Tryptophan (SID)	1.5									1.4			1.5
Arginine (SID)	18.6									21			19.8
Valine (SID)	8.5									9.1			8.8
Isoleucine (SID)	8.0									8.3			8.2
Leucine (SID)	14.2									15.5			14.9
Histidine (SID)	5.1									5.1			5.1
Serine (SID)										11			11.0
Glycine (SID)										9			9.0
Proline (SID)										8			8.0
Alanine (SID)										9.3			9.3
Phenylalanine (SID)	8.0									8.7			8.4
Aspartic acid (SID)										26.6			26.6
Glu. acid/glu.(SID)										40.4			40.4

Faba beans

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	923.0	1				870.7	1099	24.0	117	29
ME										
AME (MJ)						12.2				
AMEn (MJ)						9.5				
Net energy						7.3				
Crude protein	238.0	1				280.3	988	14.0	381	95
Ether extract						14.6	297	3.0	6488	1622
Ash						39.0	402	3.5	1238	309
Crude fibre						91.6	494	10.5	2021	505
Acid detergent fibre						110.3	247	5.5	382	96
Neutral detergent fibre						158.8	249	25.0	3808	952
Starch						449.6	495	22.5	385	96
Total NSP	152.3	15	17.8	2091	523					
Soluble NSP	26.3	15	12.1	32289	8072					
Insoluble NSP	126.0	15	19.8	3779	945					
Oligosaccharides	46.6	5	1.6	186	47					
Total NSP: Rhamnose	0.9	10	0.4	25081	6270					
Total NSP: Fucose	3.5	10	0.4	1608	402					
Total NSP: Ribose	0.1	10	0.1	115743	28936					
Total NSP: Arabinose	47.5	10	6.1	2534	633					
Total NSP: Xylose	20.5	10	3.2	3720	930					
Total NSP: Mannose	4.6	10	1.5	16542	4136					
Total NSP: Galactose	12.5	10	3.5	12144	3036					
Total NSP: Glucose	64.9	10	9.2	3109	777					
Soluble NSP: Rhamnose	0.4	10	0.4	124611	31153					
Soluble NSP: Fucose	1.5	10	0.2	3572	893					
Soluble NSP: Ribose	0.1	9	0.1	91539	22885					
Soluble NSP: Arabinose	13.7	10	1.4	1579	395					
Soluble NSP: Xylose	2.2	10	1.0	34420	8605					
Soluble NSP: Mannose	2.1	10	0.7	20287	5072					
Soluble NSP: Galactose	3.8	10	1.3	19372	4843					
Soluble NSP: Glucose	2.1	10	0.9	26788	6697					
Insoluble NSP: Rhamnose	0.5	10	0.2	27677	6919					
Insoluble NSP: Fucose	2.1	10	0.4	5692	1423					
Insoluble NSP: Ribose	0.0	10	0.0	1382976	345744					
Insoluble NSP: Arabinose	33.7	10	5.0	3338	834					
Insoluble NSP: Xylose	18.3	10	2.4	2738	685					
Insoluble NSP: Mannose	2.5	10	1.2	37671	9418					
Insoluble NSP: Galactose	8.7	10	2.4	11877	2969					
Insoluble NSP: Glucose	62.7	10	9.4	3434	858					
Oligo. NSP: Rhamnose	0.0	5	0.0	51693	12923					
Oligo. NSP: Fucose	0.1	5	0.0	2752	688					
Oligo. NSP: Ribose	0.0	5	0.0	69602	17400					
Oligo. NSP: Arabinose	0.7	5	0.1	2243	561					
Oligo. NSP: Xylose	0.1	5	0.0	2388	597					
Oligo. NSP: Mannose	4.9	5	0.3	425	106					
Oligo. NSP: Galactose	15.5	5	0.7	302	76					
Oligo. NSP: Glucose	25.8	5	2.3	1215	304					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						1.4	67	0.5	19600	4900
Digestible calcium										
Total phosphorus	4.0	8	0.9	7655	1914	5.2	87	0.6	2086	521
Available phosphorus						1.1				
Phytate phosphorus	2.4	8	0.7	12069	3017	2.9	8	0.8	11694	2923
Phytate	8.6					10.3				
Linoleic acid						5.2	27	1.5	12786	3197
Sodium						0.1	19	0.1	139378	34844
Chloride										
Potassium						10.8	17	1.5	2964	741
Magnesium						1.7	17	0.3	4785	1196
Manganese						0.0	16	0.0	34029	8507
Zinc						0.0	16	0.0	9311	2328
Copper						0.0	16	0.0	8851	2213
Iron						0.1	7	0.0	6709	1677
Selenium						0.0				
Cobalt						0.0				
Molybdenum						0.0				
Choline										
Sulphur						2.4				
Total lysine	15.0	1				17.5	239	0.8	308	77
Total methionine	1.5	1				2.0	231	0.2	1741	435
Total threonine	8.9	1				9.8	230	0.7	685	171
Total cysteine						3.3	229	0.3	1048	262
Total tryptophan	1.9	1				2.4	123	0.2	1344	336
Total arginine	23.3	1				25.2	221	2.2	1183	296
Total valine	12.2	1				12.6	221	1.0	929	232
Total isoleucine	10.8	1				11.3	222	0.8	682	170
Total leucine	18.0	1				20.4	222	1.1	445	111
Total histidine	6.2	1				7.1	202	0.5	828	207
Total serine	12.9	1				13.2	219	0.8	559	140
Total glycine	10.5	1				11.7	219	0.7	549	137
Total proline						10.9	188	1.3	2032	508
Total alanine	10.4	1				11.3	217	0.7	647	162
Total phenylalanine	10.2	1				11.5	215	0.6	451	113
Total aspartic acid	25.8	1				30.0	219	1.9	628	157
Total glu. acid/glu.	37.9	1				45.3	219	3.4	854	213
Lysine (SID)	11.0	1				13.5				
Methionine (SID)	1.0	1				1.4				
Threonine (SID)	5.7	1				6.9				
Cysteine (SID)						2.1				
Tryptophan (SID)	1.2	1				1.5				
Arginine (SID)	18.2	1				19.8				
Valine (SID)	7.9	1				8.8				
Isoleucine (SID)	7.0	1				8.2				
Leucine (SID)	11.9	1				14.9				
Histidine (SID)	4.3	1				5.1				
Serine (SID)	8.4	1				11.0				
Glycine (SID)	6.7	1				9.0				
Proline (SID)						8.0				
Alanine (SID)	7.1	1				9.3				
Phenylalanine (SID)	6.8	1				8.4				
Aspartic acid (SID)	17.8	1				26.6				
Glu. acid/glu. (SID)	27.7	1				40.4				

Lentils

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			RCI			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	20		880.0			884.0			883.0	18	12
ME							10.04					
AME (MJ)							10.05					
AMEn (MJ)				11.5								
Net energy												
Crude protein	230.4	20		225.0			235.0			304.6	23	18
Ether extract							14.0			18.1	19	10
Ash				30.0			35.0			43	19	12
Crude fibre				46.0			43.0			55.5	18	11
Acid detergent fibre				70.0			46.0			71.3	10	11
Neutral detergent fibre				90.0			130.0			147.2	11	68
Starch				420.0			402.0			517.6	18	53
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Average of the mean
	Mean	n	SD	
Dry matter	884.0	22	27	882.2
ME				10.0
AME (MJ)				10.1
AMEn (MJ)	10.1			10.8
Net energy	7.80			7.8
Crude protein	235.0	23	34	246.0
Ether extract	14.0	15	9	15.4
Ash	35.0	20	13	35.8
Crude fibre	43.0	20	9	46.9
Acid detergent fibre	46.0	5	10	58.3
Neutral detergent fibre	130.0	5	60	124.3
Starch	402.0	16	46	435.4
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Lentils

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			RCI			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium				0.8			1.5			1.1	9	0.5
Digestible calcium												
Total phosphorus				4.0			4.0			4.5	11	1.1
Available phosphorus												
Phytate phosphorus				2.2			2.6					
Phytate												
Linoleic acid												
Sodium				0.1			0.35			0.4	1	
Chloride				1.4								
Potassium				9.4			9.1			10.3	6	0.9
Magnesium				1.1			1.1			1.3	6	0.2
Manganese				0.015			0.016			0.018	5	0.004
Zinc				0.03			0.034			0.038	5	0.007
Copper				0.011			0.013			0.014	5	0.01
Iron				0.1			0.078			0.088	5	0.022
Selenium												
Cobalt				0.00015								
Molybdenum												
Choline												
Sulphur												
Total lysine	15.0	20		13.5			15.3			19.8	11	2.7414
Total methionine	1.9	20		1.9			2.1			2.7	5	0.6092
Total threonine	8.2	20		7.9			8.3			10.7	9	1.8276
Total cysteine	2.4	20		2.3			2.9			3.7	4	0.6092
Total tryptophan	1.8	1		1.7			1.8			2.4	7	0.6092
Total arginine	17.4	20		16.4			17.1			22.2	9	4.2644
Total valine	10.6	20		9.4			10.7			14.0	5	1.8276
Total isoleucine	9.4	20		8.2			9.8			13.7	8	2.4368
Total leucine	16.2	20		15.5			17.8			23.1	9	3.9598
Total histidine	5.6	20		5.6			6.2			7.9	9	2.1322
Total serine	10.8	20		9.4			9.8			12.8	7	2.1322
Total glycine	9.4	20		9.0			9.4			12.2	8	0.6092
Total proline	8.9	20		8.1			8.5			11.0	7	1.523
Total alanine	9.6	20					9.1			11.9	7	2.1322
Total phenylalanine	11.0	20					11.9			15.2	5	2.4368
Total aspartic acid	24.8	20		21.4			25.8			33.2	7	2.1322
Total glu. acid/glu.	33.5	20		74.3			36.0			46.6	7	1.8276
Lysine (SID)				10.4								
Methionine (SID)				1.3								
Threonine (SID)				5.2								
Cysteine (SID)				1.3								
Tryptophan (SID)				1.0								
Arginine (SID)				13.8								
Valine (SID)				6.6								
Isoleucine (SID)				6.0								
Leucine (SID)				11.3								
Histidine (SID)				4.4								
Serine (SID)				6.8								
Glycine (SID)				6.0								
Proline (SID)				5.9								
Alanine (SID)												
Phenylalanine (SID)												
Aspartic acid (SID)				19.0								
Glu. acid/glu.(SID)				58.7								

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Average of the mean
	Mean	n	SD	
Total calcium	1.5	6	1.5	1.2
Digestible calcium				
Total phosphorus	4.0	6	1.0	4.1
Available phosphorus				
Phytate phosphorus	2.6			2.5
Phytate	9.22			9.2
Linoleic acid	5.4	1		5.4
Sodium	0.35	1		0.3
Chloride				1.4
Potassium	9.1	2	0.8	9.5
Magnesium	1.1			1.2
Manganese	0.016	1		0.02
Zinc	0.034	1		0.03
Copper	0.013	1		0.01
Iron	0.078	1		0.09
Selenium				
Cobalt				0.0002
Molybdenum				
Choline				
Sulphur				
Total lysine	15.3	5	2.1	15.8
Total methionine	2.1	3		2.1
Total threonine	8.3			8.7
Total cysteine	2.9			2.8
Total tryptophan	1.8	1		1.9
Total arginine	17.1			18.0
Total valine	10.7			11.1
Total isoleucine	9.8	3	3.0	10.2
Total leucine	17.8	3	0.9	18.1
Total histidine	6.2	3	1.3	6.3
Total serine	9.8			10.5
Total glycine	9.4			9.9
Total proline	8.5			9.0
Total alanine	9.1			9.9
Total phenylalanine	11.9			12.5
Total aspartic acid	25.8			26.2
Total glu. acid/glu.	36.0			45.3
Lysine (SID)				10.4
Methionine (SID)				1.3
Threonine (SID)				5.2
Cysteine (SID)				1.3
Tryptophan (SID)				1.0
Arginine (SID)				13.8
Valine (SID)				6.6
Isoleucine (SID)				6.0
Leucine (SID)				11.3
Histidine (SID)				4.4
Serine (SID)				6.8
Glycine (SID)				6.0
Proline (SID)				5.9
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				19.0
Glu. acid/glu. (SID)				58.7

Lentils

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	*No Data*					882.2	60	19.5	75	19
ME						10.0				
AME (MJ)						10.1				
AMEn (MJ)						10.8				
Net energy						7.8				
Crude protein						246.0	66	26.0	1717	429
Ether extract						15.4	34	9.5	58730	14683
Ash						35.8	39	12.5	18786	4697
Crude fibre						46.9	38	10.0	6993	1748
Acid detergent fibre						58.3	15	10.5	4980	1245
Neutral detergent fibre						124.3	16	64.0	40737	10184
Starch						435.4	34	49.5	1986	497
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	*No Data*					1.2	15	1.0	102400	25600
Digestible calcium										
Total phosphorus						4.1	17	1.1	9956	2489
Available phosphorus										
Phytate phosphorus						2.5				
Phytate						9.2				
Linoleic acid						5.4	1			
Sodium						0.3	2			
Chloride						1.4				
Potassium						9.5	8	0.9	1237	309
Magnesium						1.2	6	0.2	4648	1162
Manganese						0.02	6	0.0	9311	2328
Zinc						0.03	6	0.0	6513	1628
Copper						0.01	6	0.0	94526	23632
Iron						0.09	6	0.0	10056	2514
Selenium										
Cobalt						0.0002				
Molybdenum										
Choline										
Sulphur										
Total lysine						15.8	36	2.4	3616	904
Total methionine						2.1	28	0.6	12357	3089
Total threonine						8.7	29	1.8	6825	1706
Total cysteine						2.8	24	0.6	7115	1779
Total tryptophan						1.9	9	0.6	15676	3919
Total arginine						18.0	29	4.3	8580	2145
Total valine						11.1	25	1.8	4179	1045
Total isoleucine						10.2	31	2.7	10954	2739
Total leucine						18.1	32	2.4	2773	693
Total histidine						6.3	32	1.7	11388	2847
Total serine						10.5	27	2.1	6314	1579
Total glycine						9.9	28	0.6	585	146
Total proline						9.0	27	1.5	4407	1102
Total alanine						9.9	27	2.1	7099	1775
Total phenylalanine						12.5	25	2.4	5833	1458
Total aspartic acid						26.2	27	2.1	1018	254
Total glu. acid/glu.						45.3	27	1.8	250	63
Lysine (SID)						10.4				
Methionine (SID)						1.3				
Threonine (SID)						5.2				
Cysteine (SID)						1.3				
Tryptophan (SID)						1.0				
Arginine (SID)						13.8				
Valine (SID)						6.6				
Isoleucine (SID)						6.0				
Leucine (SID)						11.3				
Histidine (SID)						4.4				
Serine (SID)						6.8				
Glycine (SID)						6.0				
Proline (SID)						5.9				
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)						19.0				
Glu. acid/glu. (SID)						58.7				

Lucerne meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	82		900			906.0	15014	13	908.0	1555	18	898.5
ME													
AME (MJ)													
AMEn (MJ)				4.8						4.5			4.7
Net energy										3.44			3.4
Crude protein	153.9	82		165			202.0	14989	21	154.0	1855	5	168.7
Ether extract							29.8	1089	6	22.0	505	5	25.9
Ash				100			129.1	5848	14	109.0	656	12	112.7
Crude fibre				260			315.7	13571	37	274.0	1850	20	283.2
Acid detergent fibre				315			360.9	1020	40	310.0	600	27	328.6
Neutral detergent fibre				430			506.6	1017	46	421.0	601	32	452.5
Starch				30			36.4	60	6	28.0	37	8	31.5
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				16.0			22.1	2224	4.1	20.1	1044	3.6	19.4
Digestible calcium													
Total phosphorus				2.3			2.7	1818	0.4	2.3	856	0.3	2.4
Available phosphorus										2.0			2.0
Phytate phosphorus				0.1						0.1			0.1
Phytate				0.35						0.35			0.4
Linoleic acid										2.1			2.1
Sodium				0.8			0.2	123	0.1	0.34	89	0.45	0.4
Chloride				4.8									4.8
Potassium				19.0			25.6	105	3.3	23.4	115	3.4	22.7
Magnesium				2.0			2.1	176	0.5	1.8	123	0.5	2.0
Manganese				0.04			0.032	40	0.012	0.03	14	0.17	0.0
Zinc				0.02			0.03	114	0.012	0.23	90	0.008	0.09
Copper				0.009			0.006	96	0.002	0.006	83	0.002	0.01
Iron				0.6			0.544	29	0.274	0.41	51	0.199	0.52
Selenium										0.0001	33	0.0001	0.0001
Cobalt				0.0002						0.0004			0.0003
Molybdenum										0.0003			0.0003
Choline													
Sulphur				2.2						5.7	31	1.0	4.0
Total lysine	6.5	82		7.1			9.49	44	1.01	6.5	6	0.6	7.4
Total methionine	2.3	82		2.5			2.42	23	0.61	1.6	6	0.6	2.2
Total threonine	6.0	82		6.6			8.08	18	0.81	5.6			6.6
Total cysteine	1.8	82		1.7			2.22	14	0.61	2.0	1		1.9
Total tryptophan	2.1	50		2.3			2.42	17	0.20	2.1	1		2.2
Total arginine	7.7	82		6.8			9.09	28	1.41	5.8	6	0.9	7.3
Total valine	7.5	82		8.4			12.73	30	0.20	9.3	6	0.8	9.5
Total isoleucine	6.0	82		6.6			8.28	24	0.81	5.9	6	0.9	6.7
Total leucine	10.2	82		11.4			14.75	24	1.41	10.5	5	0.8	11.7
Total histidine	2.9	82		3.3			3.03	23	0.81	2.1	4		2.8
Total serine	6.3	82		6.7			8.48	16	0.61	6.3	5	0.6	6.9
Total glycine	7.4	82		7.4			9.09	28	1.01	6.5	6	0.5	7.6
Total proline	8.7	81		8.8			8.69	17	1.01	6.3			8.1
Total alanine	7.4	82					10.30	27	1.62	7.4	6	0.6	8.4
Total phenylalanine	7.0	82					9.29	22	0.81	6.6	7	0.8	7.6
Total aspartic acid	15.8	82		16.9			20.60	28	3.03	15.8			17.3
Total glu. acid/glu.	17.0	82		18.5			19.59	28	2.02	13.9	6	0.9	17.2
Lysine (SID)				4.3						3.6			4.0
Methionine (SID)				1.5						0.9			1.2
Threonine (SID)				4.0						3.0			3.5
Cysteine (SID)				1.0						1.0			1.0
Tryptophan (SID)				1.4						1.1			1.3
Arginine (SID)				4.1						3.0			3.6
Valine (SID)				5.0						5.0			5.0
Isoleucine (SID)				4.0						3.2			3.6
Leucine (SID)				6.8						5.6			6.2
Histidine (SID)				2.0						1.1			1.6
Serine (SID)				4.0						3.4			3.7
Glycine (SID)				4.4						3.6			4.0
Proline (SID)				5.3						3.4			4.4
Alanine (SID)										4.2			4.2
Phenylalanine (SID)										3.5			3.5
Aspartic acid (SID)				10.2						8.4			9.3
Glu. acid/glu.(SID)				11.1						7.5			9.3

Lucerne meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			898.5	16651	15.5	46	11
ME										
AME (MJ)										
AMEn (MJ)						4.7				
Net energy						3.4				
Crude protein						168.7	16926	13.0	912	228
Ether extract						25.9	1594	5.5	6929	1732
Ash						112.7	6504	13.0	2045	511
Crude fibre						283.2	15421	28.5	1556	389
Acid detergent fibre						328.6	1620	33.5	1597	399
Neutral detergent fibre						452.5	1618	39.0	1141	285
Starch						31.5	97	7.0	7604	1901
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No data*			19.4	3268	3.9	6052	1513
Digestible calcium										
Total phosphorus						2.4	2674	0.4	3179	795
Available phosphorus						2.0				
Phytate phosphorus						0.1				
Phytate						0.4				
Linoleic acid						2.1				
Sodium						0.4	212	0.3	58247	14562
Chloride						4.8				
Potassium						22.7	220	3.4	3356	839
Magnesium						2.0	299	0.5	9932	2483
Manganese						0.0	54	0.1	1100771	275193
Zinc						0.09	204	0.0	1764	441
Copper						0.01	179	0.0	12544	3136
Iron						0.52	80	0.2	32031	8008
Selenium						0.0001	33	0.0	98345	24586
Cobalt						0.0003				
Molybdenum						0.0003				
Choline										
Sulphur						4.0	31	1.0	9849	2462
Total lysine						7.4	132	0.8	1819	455
Total methionine						2.2	111	0.6	11481	2870
Total threonine						6.6	100	0.8	2324	581
Total cysteine						1.9	97	0.6	15142	3785
Total tryptophan						2.2	68	0.2	1260	315
Total arginine						7.3	116	1.2	3810	953
Total valine						9.5	118	0.5	429	107
Total isoleucine						6.7	112	0.9	2500	625
Total leucine						11.7	111	1.1	1373	343
Total histidine						2.8	109	0.8	12504	3126
Total serine						6.9	103	0.6	1158	290
Total glycine						7.6	116	0.8	1517	379
Total proline						8.1	98	1.0	2377	594
Total alanine						8.4	115	1.1	2694	674
Total phenylalanine						7.6	111	0.8	1706	426
Total aspartic acid						17.3	110	3.0	4727	1182
Total glu. acid/glu.						17.2	116	1.5	1101	275
Lysine (SID)						4.0				
Methionine (SID)						1.2				
Threonine (SID)						3.5				
Cysteine (SID)						1.0				
Tryptophan (SID)						1.3				
Arginine (SID)						3.6				
Valine (SID)						5.0				
Isoleucine (SID)						3.6				
Leucine (SID)						6.2				
Histidine (SID)						1.6				
Serine (SID)						3.7				
Glycine (SID)						4.0				
Proline (SID)						4.4				
Alanine (SID)						4.2				
Phenylalanine (SID)						3.5				
Aspartic acid (SID)						9.3				
Glu. acid/glu. (SID)						9.3				

Lupins

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	115					923	5	10.1				901.5
ME													
AME (MJ)													
AMEn (MJ)	7.78	84											7.8
Net energy	5.92												5.9
Crude protein	332.9	115					307	5	19.6				320.0
Ether extract	63.8	84											63.8
Ash	28	84											28.0
Crude fibre	118.2	84											118.2
Acid detergent fibre	150.7	84											150.7
Neutral detergent fibre	198.7	84											198.7
Starch													
Total NSP				273.2	41	61.7							273.2
Soluble NSP				25.3	41	10.1							25.3
Insoluble NSP				247.9	41	54.4							247.9
Oligosaccharides				56.2	21	14.2							56.2
Total NSP: Rhamnose				2.049	30	1.474							2.0
Total NSP: Fucose				2.236	30	0.575							2.2
Total NSP: Ribose				0.998	30	0.638							1.0
Total NSP: Arabinose				32.566	30	19.262							32.6
Total NSP: Xylose				39.616	30	15.999							39.6
Total NSP: Mannose				7.514	30	2.678							7.5
Total NSP: Galactose				128.134	30	63.764							128.1
Total NSP: Glucose				37.903	30	15.821							37.9
Soluble NSP: Rhamnose				0.040	32	0.047							0.0
Soluble NSP: Fucose				0.196	32	0.135							0.2
Soluble NSP: Ribose				0.531	29	0.619							0.5
Soluble NSP: Arabinose				3.848	32	2.028							3.8
Soluble NSP: Xylose				2.166	32	0.991							2.2
Soluble NSP: Mannose				2.958	32	0.979							3.0
Soluble NSP: Galactose				9.371	32	4.267							9.4
Soluble NSP: Glucose				4.920	32	5.960							4.9
Insoluble NSP: Rhamnose				3.487	32	2.967							3.5
Insoluble NSP: Fucose				2.095	32	0.666							2.1
Insoluble NSP: Ribose				0.532	29	0.333							0.5
Insoluble NSP: Arabinose				29.603	32	25.329							29.6
Insoluble NSP: Xylose				33.512	32	16.521							33.5
Insoluble NSP: Mannose				4.457	32	2.048							4.5
Insoluble NSP: Galactose				132.274	32	60.439							132.3
Insoluble NSP: Glucose				36.207	32	12.355							36.2
Oligo. NSP: Rhamnose				0.203	21	0.320							0.2
Oligo. NSP: Fucose				0.244	21	0.110							0.2
Oligo. NSP: Ribose				0.061	21	0.054							0.1
Oligo. NSP: Arabinose				0.357	21	0.208							0.4
Oligo. NSP: Xylose				0.039	21	0.042							0.0
Oligo. NSP: Mannose				2.427	21	2.485							2.4
Oligo. NSP: Galactose				30.414	21	8.700							30.4
Oligo. NSP: Glucose				22.407	21	5.570							22.4

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	2.0	84											2.0
Digestible calcium													
Total phosphorus	3.0	84								3.79	4		3.4
Available phosphorus													
Phytate phosphorus	1.8	84								1.99	4		1.9
Phytate	6.38									7.06			6.7
Linoleic acid													
Sodium	0.4	84											0.4
Chloride													
Potassium	8.0	84											8.0
Magnesium	1.7	84											1.7
Manganese													
Zinc													
Copper													
Iron													
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine	15.9	115					17.1	5	0.8				16.5
Total methionine	2.0	115					2.2	5	0.2				2.1
Total threonine	11.2	115					10.9	5	0.9				11.1
Total cysteine	4.7	115											4.7
Total tryptophan	2.9	115					2.7	5	0.1				2.8
Total arginine	36.2	115					35.5	5	3.2				35.9
Total valine	12.8	115					13.2	5	0.5				13.0
Total isoleucine	13.1	115					13.5	5	0.6				13.3
Total leucine	22.6	115					22	5	1.3				22.3
Total histidine	8.9	115					9	5	0.6				9.0
Total serine	15.7	115					15.3	5	2.1				15.5
Total glycine	13.6	115					13.5	5	0.7				13.6
Total proline	13.2	115											13.2
Total alanine	11.1	115					11.3	5	1				11.2
Total phenylalanine	12.8	115					12.8	5	0.9				12.8
Total aspartic acid	31.9	115					32.1	5	1.7				32.0
Total glu. acid/glu.	68.4	115					66.1	5	5.4				67.3
Lysine (SID)	14.5						14.3	5	0.7				14.4
Methionine (SID)	1.7						1.8	5	0.1				1.8
Threonine (SID)	9.8						8.3	5	0.6				9.1
Cysteine (SID)	3.9												3.9
Tryptophan (SID)	2.3						2.1	5	0.1				2.2
Arginine (SID)	34.4						31.3	5	2.7				32.9
Valine (SID)	11.1						10.4	5	0.7				10.8
Isoleucine (SID)	11.6						10.8	5	0.7				11.2
Leucine (SID)	20.4						18	5	1.2				19.2
Histidine (SID)	7.6						7.5	5	0.4				7.6
Serine (SID)							12.2	5	1.7				12.2
Glycine (SID)							10.9	5	0.7				10.9
Proline (SID)													
Alanine (SID)							9.1	5	0.8				9.1
Phenylalanine (SID)	11.8						10.5	5	0.5				11.2
Aspartic acid (SID)							26.1	5	1.2				26.1
Glu. acid/glu. (SID)							56.7	5	5.1				56.7

Lupins

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			Ajinomoto		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	283		870.0			917.56	27	6.53			
ME				10.01								
AME (MJ)												
AMEn (MJ)	8.0	161		9.0								
Net energy	6.09											
Crude protein	339.2	283		340.0			328.77	28	27.44	364	10	54.08
Ether extract	65.4	161					55.93	27	3.61			
Ash	31.6	161		35.0			27.11	27	0.84			
Crude fibre	119.1	161		120.0			130.25	27	32.48			
Acid detergent fibre	152.8	161		140.0								
Neutral detergent fibre	199.8	161		195.0								
Starch				30.0								
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	902	74	19	881	377	6	890.1
ME							10.0
AME (MJ)							
AMEn (MJ)				9.8			8.9
Net energy				7.61			6.9
Crude protein	373.6	92	29	334	318	34	346.6
Ether extract	66.5	78	8	84	152	17	68.0
Ash	38.8	76	5	35	244	4	33.5
Crude fibre	178.5	59	20	120	259	18	133.6
Acid detergent fibre	211.8	29	28	145	64	20	162.4
Neutral detergent fibre	265	30	39	193	76	26	213.2
Starch	53.2	36	55	71	127	28	51.4
Total NSP							
Soluble NSP							
Insoluble NSP							
Oligosaccharides							
Total NSP: Rhamnose							
Total NSP: Fucose							
Total NSP: Ribose							
Total NSP: Arabinose							
Total NSP: Xylose							
Total NSP: Mannose							
Total NSP: Galactose							
Total NSP: Glucose							
Soluble NSP: Rhamnose							
Soluble NSP: Fucose							
Soluble NSP: Ribose							
Soluble NSP: Arabinose							
Soluble NSP: Xylose							
Soluble NSP: Mannose							
Soluble NSP: Galactose							
Soluble NSP: Glucose							
Insoluble NSP: Rhamnose							
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							
Insoluble NSP: Xylose							
Insoluble NSP: Mannose							
Insoluble NSP: Galactose							
Insoluble NSP: Glucose							
Oligo. NSP: Rhamnose							
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							

Lupins

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			Ajinomoto		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.2	161		2.5								
Digestible calcium												
Total phosphorus	3.6	161		4.0								
Available phosphorus												
Phytate phosphorus	2.2	161		2.4								
Phytate	7.80			8.50								
Linoleic acid												
Sodium	0.3	161		0.2								
Chloride				0.9								
Potassium	8.9	161		11.0								
Magnesium	1.8	161		1.5								
Manganese				1.5								
Zinc				0.035								
Copper				0.007								
Iron				0.03								
Selenium				0.00007								
Cobalt				0.00004								
Molybdenum				0.003								
Choline												
Sulphur				2.4								
Total lysine	16.1	283		16.2			16.01	28	1.3	16.2	10	2.3
Total methionine	2.1	283		2.4			2.12	28	0.19	2.3	10	0.69
Total threonine	11.4	283		12.2			10.97	28	0.91	11.7	10	1.84
Total cysteine	5.1	283		5.1			3.9	28	0.35	4.5	10	1.41
Total tryptophan	2.8	129		2.7			2.76	28	0.27	2.9	10	0.37
Total arginine	36.4	283		35.4			34.19	28	3.68	34	10	8.05
Total valine	12.9	283		13.9			13.11	28	1.26	13.4	10	1.99
Total isoleucine	13.5	283		14.1			13.19	28	1.33	14	10	2.37
Total leucine	23.3	283		24.1			22.09	28	1.96	24.2	10	4.55
Total histidine	8.7	283		8.5			8.65	28	0.75	9.0	10	1.27
Total serine	16.1	283		16.7			13.15	28	1.3	16.2	10	2.8
Total glycine	13.6	283		13.3			13.49	28	1.12	14.0	10	2.19
Total proline	13.3	283		13.6			12.84	28	1.31	13.6	10	2.36
Total alanine	11.2	283					11.09	28	0.91	12.4	10	2.5
Total phenylalanine	13.1	283					12.76	28	1.19	13.6	10	2.08
Total aspartic acid	32.9	283		34.0			31.24	28	2.97	34.3	10	5.12
Total glu. acid/glu.	70.2	283		71.4			63.79	28	5.91	69.9	10	10.86
Lysine (SID)	14.6											
Methionine (SID)	1.8											
Threonine (SID)	9.9											
Cysteine (SID)	4.2											
Tryptophan (SID)	2.3											
Arginine (SID)	34.2											
Valine (SID)	11.2											
Isoleucine (SID)	12.0											
Leucine (SID)	21.0											
Histidine (SID)	7.4											
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)	12											
Aspartic acid (SID)												
Glu. acid/glu.(SID)				2.5								

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium	2.8	14	0.8	2.7	44	1.4	2.6
Digestible calcium							
Total phosphorus	3.8	15	1.1	3.8	51	0.7	3.8
Available phosphorus							
Phytate phosphorus				2.3	1		2.3
Phytate				8.1558			8.2
Linoleic acid				14.2	5	3.5	14.2
Sodium	0.5	6	0.29	0.29	13	0.14	0.3
Chloride							0.9
Potassium	10.1	6	2.1	10.2	17	1.6	10.1
Magnesium	2.1	6	0.5	1.4	16	0.2	1.7
Manganese	0.044	8	0.014	1.154	13	1.073	0.9
Zinc	0.034	4		0.033	8	0.006	0.0
Copper	0.005	4		0.007	7	0.0007	0.0
Iron	0.068	5	0.031	0.062	11	0.029	0.1
Selenium				0.00007	2		0.0
Cobalt				0.0002	1		0.0
Molybdenum				0.002	1		0.0
Choline							
Sulphur	2.5			2.5	2		2.5
Total lysine				16.3	41	1.8	16.2
Total methionine				2.6	35	0.4	2.3
Total threonine				12.4	30	1.3	11.7
Total cysteine				5.5	30	0.7	4.8
Total tryptophan				2.3	14	0.3	2.7
Total arginine				35.9	26	7.9	35.2
Total valine				14.4	27	2.0	13.5
Total isoleucine				15.5	26	2.6	14.1
Total leucine				24.3	27	3.1	23.6
Total histidine				7.3	26	1.1	8.4
Total serine				17.9	20	3.0	16.0
Total glycine				13.2	23	1.6	13.5
Total proline				14.1	21	2.4	13.5
Total alanine				11.3	22	1.3	11.5
Total phenylalanine				13.0	25	1.8	13.1
Total aspartic acid				35.5	23	5.4	33.6
Total glu. acid/glu.				69.3	23	12.0	68.9
Lysine (SID)				14.2			14.4
Methionine (SID)				2.2			2.0
Threonine (SID)				10.1			10.0
Cysteine (SID)				4.5			4.4
Tryptophan (SID)				1.9			2.1
Arginine (SID)				32.3			33.3
Valine (SID)				11.8			11.5
Isoleucine (SID)				13.0			12.5
Leucine (SID)				20.6			20.8
Histidine (SID)				5.9			6.7
Serine (SID)				14.6			14.6
Glycine (SID)				10.7			10.7
Proline (SID)				11.1			11.1
Alanine (SID)				9.4			9.4
Phenylalanine (SID)				11.1			11.6
Aspartic acid (SID)				29.1			29.1
Glu. acid/glu. (SID)				61.7			61.7

Lupins

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	901.5	120	10.1	19	5	890.1	761	10.5	21	5
ME						10.0				
AME (MJ)										
AMEn (MJ)	7.8	84				8.9	161			
Net energy	5.9					6.9				
Crude protein	320.0	120	19.6	577	144	346.6	731	36.1	1670	417
Ether extract	63.8	84				68.0	418	9.5	3026	757
Ash	28.0	84				33.5	508	3.3	1473	368
Crude fibre	118.2	84				133.6	506	23.5	4754	1188
Acid detergent fibre	150.7	84				162.4	254	24.0	3356	839
Neutral detergent fibre	198.7	84				213.2	267	32.5	3571	893
Starch						51.4	163	41.5	100171	25043
Total NSP	273.2	41	61.7	7847	1962					
Soluble NSP	25.3	41	10.1	24697	6174					
Insoluble NSP	247.9	41	54.4	7391	1848					
Oligosaccharides	56.2	21	14.2	9843	2461					
Total NSP: Rhamnose	2.0	30	1.5	79495	19874					
Total NSP: Fucose	2.2	30	0.6	10172	2543					
Total NSP: Ribose	1.0	30	0.6	62802	15700					
Total NSP: Arabinose	32.6	30	19.3	53761	13440					
Total NSP: Xylose	39.6	30	16.0	25062	6265					
Total NSP: Mannose	7.5	30	2.7	19522	4881					
Total NSP: Galactose	128.1	30	63.8	38053	9513					
Total NSP: Glucose	37.9	30	15.8	26775	6694					
Soluble NSP: Rhamnose	0.0	32	0.0	210769	52692					
Soluble NSP: Fucose	0.2	32	0.1	73163	18291					
Soluble NSP: Ribose	0.5	29	0.6	208690	52173					
Soluble NSP: Arabinose	3.8	32	2.0	42702	10675					
Soluble NSP: Xylose	2.2	32	1.0	32159	8040					
Soluble NSP: Mannose	3.0	32	1.0	16828	4207					
Soluble NSP: Galactose	9.4	32	4.3	31860	7965					
Soluble NSP: Glucose	4.9	32	6.0	225422	56355					
Insoluble NSP: Rhamnose	3.5	32	3.0	111285	27821					
Insoluble NSP: Fucose	2.1	32	0.7	15546	3886					
Insoluble NSP: Ribose	0.5	29	0.3	60349	15087					
Insoluble NSP: Arabinose	29.6	32	25.3	112501	28125					
Insoluble NSP: Xylose	33.5	32	16.5	37344	9336					
Insoluble NSP: Mannose	4.5	32	2.0	32432	8108					
Insoluble NSP: Galactose	132.3	32	60.4	32082	8021					
Insoluble NSP: Glucose	36.2	32	12.4	17892	4473					
Oligo. NSP: Rhamnose	0.2	21	0.3	380529	95132					
Oligo. NSP: Fucose	0.2	21	0.1	31094	7773					
Oligo. NSP: Ribose	0.1	21	0.1	119783	29946					
Oligo. NSP: Arabinose	0.4	21	0.2	52120	13030					
Oligo. NSP: Xylose	0.0	21	0.0	175291	43823					
Oligo. NSP: Mannose	2.4	21	2.5	161197	40299					
Oligo. NSP: Galactose	30.4	21	8.7	12574	3143					
Oligo. NSP: Glucose	22.4	21	5.6	9496	2374					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	2.0	84				2.6	219	1.1	28594	7149
Digestible calcium										
Total phosphorus	3.4	88				3.8	227	0.9	8620	2155
Available phosphorus										
Phytate phosphorus	1.9	88				2.3	162			
Phytate	6.7					8.2				
Linoleic acid						14.2	5	3.5	9335	2334
Sodium	0.4	84				0.3	180	0.2	68295	17074
Chloride						0.9				
Potassium	8.0	84				10.1	184	1.9	5207	1302
Magnesium	1.7	84				1.7	183	0.4	6513	1628
Manganese						0.9	21	0.5	56122	14030
Zinc						0.0	12	0.0	4785	1196
Copper						0.0	11	0.0	1877	469
Iron						0.1	16	0.0	48620	12155
Selenium						0.0	2			
Cobalt						0.0	1			
Molybdenum						0.0	1			
Choline										
Sulphur						2.5	2			
Total lysine	16.5	120	0.8	361	90	16.2	362	1.8	1906	477
Total methionine	2.1	120	0.2	1394	348	2.3	356	0.4	5270	1317
Total threonine	11.1	120	0.9	1019	255	11.7	351	1.4	2034	508
Total cysteine	4.7	115				4.8	351	0.8	4447	1112
Total tryptophan	2.8	120	0.1	196	49	2.7	181	0.3	2082	520
Total arginine	35.9	120	3.2	1224	306	35.2	347	6.5	5317	1329
Total valine	13.0	120	0.5	227	57	13.5	348	1.8	2566	642
Total isoleucine	13.3	120	0.6	313	78	14.1	347	2.1	3429	857
Total leucine	22.3	120	1.3	522	131	23.6	348	3.2	2832	708
Total histidine	9.0	120	0.6	691	173	8.4	347	1.0	2339	585
Total serine	15.5	120	2.1	2821	705	16.0	341	2.4	3358	839
Total glycine	13.6	120	0.7	410	103	13.5	344	1.6	2253	563
Total proline	13.2	115				13.5	342	2.0	3458	864
Total alanine	11.2	120	1.0	1225	306	11.5	343	1.6	2865	716
Total phenylalanine	12.8	120	0.9	760	190	13.1	346	1.7	2552	638
Total aspartic acid	32.0	120	1.7	434	108	33.6	344	4.5	2754	689
Total glu. acid/glu.	67.3	120	5.4	991	248	68.9	344	9.6	2975	744
Lysine (SID)	14.4	5	0.7	363	91	14.4				
Methionine (SID)	1.8	5	0.1	502	125	2.0				
Threonine (SID)	9.1	5	0.6	675	169	10.0				
Cysteine (SID)	3.9					4.4				
Tryptophan (SID)	2.2	5	0.1	317	79	2.1				
Arginine (SID)	32.9	5	2.7	1038	260	33.3				
Valine (SID)	10.8	5	0.7	652	163	11.5				
Isoleucine (SID)	11.2	5	0.7	600	150	12.5				
Leucine (SID)	19.2	5	1.2	600	150	20.8				
Histidine (SID)	7.6	5	0.4	431	108	6.7				
Serine (SID)	12.2	5	1.7	2984	746	14.6				
Glycine (SID)	10.9	5	0.7	634	158	10.7				
Proline (SID)						11.1				
Alanine (SID)	9.1	5	0.8	1188	297	9.4				
Phenylalanine (SID)	11.2	5	0.5	309	77	11.6				
Aspartic acid (SID)	26.1	5	1.2	325	81	29.1				
Glu. acid/glu. (SID)	56.7	5	5.1	1243	311	61.7				

Meat and bone meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	910.0	36		951.0	288	12.88	929	1	929	930.0
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein	474.2	36		495.2	288	39.4	499	1	499	489.5
Ether extract				88.9	288	24.5				88.9
Ash				331.7	288	42.7				331.7
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine	23.4	36		24.7	288	4.01	22.8	1		23.6
Total methionine	6.0	36		6.4	288	0.99	8.1	1		6.8
Total threonine	14.1	36		16.6	288	2.73	17.1	1		15.9
Total cysteine	3.9	36		5.1	288	1.73				4.5
Total tryptophan	2.7	19		3.6	288	0.96	2.6	1		3.0
Total arginine	33.7	36		35.1	288	2.22	36.1	1		35.0
Total valine	18.9	36		22.0	288	3.90	21.2	1		20.7
Total isoleucine	11.9	36		13.7	288	2.04	14.5	1		13.4
Total leucine	26.6	36		30.6	288	5.35	31.5	1		29.6
Total histidine	7.7	36		9.3	288	2.22	11.1	1		9.4
Total serine	17.8	36					20.2	1		19.0
Total glycine	70.9	36					67.2	1		69.1
Total proline	42.8	36								42.8
Total alanine	36.9	36					37.3	1		37.1
Total phenylalanine	15.0	36					17.2	1		16.1
Total aspartic acid	33.4	36					38.7	1		36.1
Total glu. acid/glu.	54.4	36					63.1	1		58.8
Lysine (SID)	15.9			19.4	288	3.61	17.3	1		17.5
Methionine (SID)	4.3			5.3	288	0.78	6.4	1		5.3
Threonine (SID)	8.7			12.5	288	2.08	11.6	1		10.9
Cysteine (SID)	1.1			3.1	288	1.09				2.1
Tryptophan (SID)	1.5			2.8	288	0.81	1.8	1		2.0
Arginine (SID)	25.6			29.7	288	2.02	27.4	1		27.6
Valine (SID)	13.0			17.6	288	3.15	15.5	1		15.4
Isoleucine (SID)	8.2			11.4	288	1.66	10.9	1		10.2
Leucine (SID)	18.6			25.2	288	4.31	23.9	1		22.6
Histidine (SID)	5.4			7.5	288	1.87	8.1	1		7.0
Serine (SID)							13.5	1		13.5
Glycine (SID)							49.1	1		49.1
Proline (SID)										
Alanine (SID)							28.3	1		28.3
Phenylalanine (SID)	10.5						12.9	1		11.7
Aspartic acid (SID)							23.2	1		23.2
Glu. acid/glu. (SID)							46.1	1		46.1

Meat and bone meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	910.0	690		930.0			942.3	816	18.2	919		
ME										10.25		
AME (MJ)										10.26		
AMEn (MJ)	9.64	169		10.79								
Net energy	7.33											
Crude protein	467.7	690		500.0			543.6	981	61.95	500.0		
Ether extract	108.0	169					100.9	816	77.13	120.0		
Ash	312.8	172		300.0			250.0	816	77.13	330.0		
Crude fibre				10.0			15.73	815	11.16	25.0		
Acid detergent fibre				25.0			65.0	2	43.0			
Neutral detergent fibre				30.0			295.0	2	6.0			
Starch				0								
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	958.0	5635	15.0	948.0	29	20.3	934.5
ME				9.93	3	0.5	10.1
AME (MJ)				7.97			9.1
AMEn (MJ)	11.8	26	0.7				10.7
Net energy	8.93						8.1
Crude protein	573.1	5661	3.4	474.0	371	37.8	509.7
Ether extract	119.0	2688	19.0	123.0	345	22.6	114.2
Ash	318.4	5412	36.0	336.0	345	38.7	307.9
Crude fibre							16.9
Acid detergent fibre							45.0
Neutral detergent fibre							162.5
Starch							0.0
Total NSP							
Soluble NSP							
Insoluble NSP							
Oligosaccharides							
Total NSP: Rhamnose							
Total NSP: Fucose							
Total NSP: Ribose							
Total NSP: Arabinose							
Total NSP: Xylose							
Total NSP: Mannose							
Total NSP: Galactose							
Total NSP: Glucose							
Soluble NSP: Rhamnose							
Soluble NSP: Fucose							
Soluble NSP: Ribose							
Soluble NSP: Arabinose							
Soluble NSP: Xylose							
Soluble NSP: Mannose							
Soluble NSP: Galactose							
Soluble NSP: Glucose							
Insoluble NSP: Rhamnose							
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							
Insoluble NSP: Xylose							
Insoluble NSP: Mannose							
Insoluble NSP: Galactose							
Insoluble NSP: Glucose							
Oligo. NSP: Rhamnose							
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							

Meat and bone meal

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	105.0	172		102.0			66.69	26	31.23	80.0		
Digestible calcium												
Total phosphorus	48.9	172		49.5			34.12	27	13.06	43.0		
Available phosphorus										30.0		
Phytate phosphorus												
Phytate												
Linoleic acid												
Sodium	7.2	172		7.0			5.23	24	2.25	5.0		
Chloride				6.3								
Potassium	3.6	172		5.0			4.2	6	0.22	5.2		
Magnesium	2.3	172		3.0			1.7	2	0.1	0.8		
Manganese				0.025			0.013	6	0.008	0.023		
Zinc				0.1			0.07	6	0.01	0.074		
Copper				0.015			0.008	6	0.002	0.014		
Iron				0.85			0.42	6	0.27	4.464		
Selenium				0.0004			0.0003	2	0.00001	0.0005		
Cobalt												
Molybdenum										0.0009		
Choline										2.0		
Sulphur				4.7						10		
Total lysine	20.3	689		23.5			28.11	1011	5.37	28		
Total methionine	5.5	689		6.5			7.5	1011	1.99	5.8		
Total threonine	13.8	689		15.5			18.86	1011	3.85	20.0		
Total cysteine	4.6	689		5.0			8.07	1011	4.79	5.2		
Total tryptophan	2.6	301		3.0			3.6	992	0.78	2.9		
Total arginine	32.3	689		34.0			37.25	998	4.71	33.5		
Total valine	18.6	689		21.5			26.37	1011	6.34	23.5		
Total isoleucine	12.4	689		13.5			18.08	1011	4.0	10.5		
Total leucine	25.6	689		29.0			36.17	1011	7.33	36.9		
Total histidine	7	689		9.0			10.11	999	2.52	9.4		
Total serine	19.1	689		20.0			25.1	999	9.35	34.8		
Total glycine	64.1	689		67.5			64.41	1011	10.57	47.1		
Total proline	40.6	689		42.5			42.53	1011	6.54	43.0		
Total alanine	33	689					37.52	1007	4.59	29.5		
Total phenylalanine	14.5	689					20.27	999	4.13	20.8		
Total aspartic acid	31.9	689		37.5			40.29	1011	5.82	37.9		
Total glu. acid/glu.	52.6	689		60.0			65.81	1011	9.9	60.8		
Lysine (SID)	13.8			17.6						21.28		
Methionine (SID)	3.9			5.1						4.58		
Threonine (SID)	8.5			11.2						13.6		
Cysteine (SID)	1.3			2.7						2.46		
Tryptophan (SID)	1.4			1.9						2.09		
Arginine (SID)	24.5			27.5						25.46		
Valine (SID)	12.8			16.3						17.16		
Isoleucine (SID)	8.6			10.3						10.5		
Leucine (SID)	17.9			22.6						27.1		
Histidine (SID)	4.9			6.9						6.3		
Serine (SID)				13.2						23.6		
Glycine (SID)				48.6								
Proline (SID)				29.3						31.6		
Alanine (SID)										20.5		
Phenylalanine (SID)	10.2									14.6		
Aspartic acid (SID)				27.0						17.8		
Glu. acid/glu.(SID)				43.2						42.9		

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium	101.1	3883	16.8	113	3	6.5	94.6
Digestible calcium							
Total phosphorus	48.7	3967	7.7	57.9	2	2.5	47.0
Available phosphorus				52.1			41.1
Phytate phosphorus							
Phytate							
Linoleic acid				3.6	2	0.1	3.6
Sodium	7.5	909	1.3	6.6	3	0.8	6.4
Chloride				6.0	1		6.2
Potassium	4.6	86	0.7	5.7	3	1.4	4.7
Magnesium	2.2	18	0.2	2.8	1		2.1
Manganese	0.026	19	0.013	0.129	1		0.0
Zinc	0.114	18	0.011	0.0806	1		0.1
Copper	0.021	19	0.011	0.014	1		0.0
Iron	0.615	35	0.402	0.4497	1		1.4
Selenium				0.0003	1		0.0
Cobalt							
Molybdenum							0.0
Choline							2.0
Sulphur							7.4
Total lysine	28.7	211	2.29	24.4			25.5
Total methionine	7.5	146	0.57	6.2			6.5
Total threonine	18.9	198	1.72	15.3			17.1
Total cysteine	6.3	136	1.72	3.6			5.5
Total tryptophan	3.4	53	0.57	2.4			3.0
Total arginine	39.5	137	2.29	35.4			35.3
Total valine	25.2	183	2.29	19.8			22.5
Total isoleucine	16.6	185	1.15	12.9			14.0
Total leucine	34.4	176	2.87	26.0			31.3
Total histidine	12.0	125	2.29	7.8			9.2
Total serine	22.9	140	2.87	18.5			23.4
Total glycine	72.8	142	7.45	74.5			65.1
Total proline	46.4	74	3.44	41.9			42.8
Total alanine	43.6	129	3.44	38.2			36.4
Total phenylalanine	19.5	163	1.15	13.2			17.7
Total aspartic acid	42.4	131	2.87	19.0			34.8
Total glu. acid/glu.	68.2	130	3.44	54.1			60.3
Lysine (SID)				20.3			18.2
Methionine (SID)				5.0			4.6
Threonine (SID)				12.3			11.4
Cysteine (SID)				2.9			2.3
Tryptophan (SID)				1.9			1.8
Arginine (SID)				29.3			26.7
Valine (SID)				16.0			15.6
Isoleucine (SID)				10.8			10.1
Leucine (SID)				21.5			22.3
Histidine (SID)				6.3			6.1
Serine (SID)				15.0			17.3
Glycine (SID)				62.8			55.7
Proline (SID)				34.5			31.8
Alanine (SID)				33.3			26.9
Phenylalanine (SID)				10.7			11.8
Aspartic acid (SID)				13.3			19.4
Glu. acid/glu. (SID)				43.0			43.0

Meat and bone meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	930.0	325	12.9	29	7	934.5	7170	17.8	56	14
ME						10.1	3	0.5	377	94
AME (MJ)						9.1				
AMEn (MJ)						10.7	195	0.7	652	163
Net energy						8.1				
Crude protein	489.5	325	39.4	994	248	509.7	7703	34.4	699	175
Ether extract	88.9	288	24.5	11702	2925	114.2	4018	39.6	18460	4615
Ash	331.7	288	42.7	2552	638	307.9	6745	50.6	4152	1038
Crude fibre						16.9	815	11.2	66929	16732
Acid detergent fibre						45.0	2	43.0	140309	35077
Neutral detergent fibre						162.5	2	6.0	209	52
Starch						0.0				
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						94.6	4084	18.2	5669	1417
Digestible calcium										
Total phosphorus						47.0	4168	7.8	4178	1045
Available phosphorus						41.1				
Phytate phosphorus										
Phytate										
Linoleic acid						3.6	2	0.1	119	30
Sodium						6.4	1108	1.5	7835	1959
Chloride						6.2	1			
Potassium						4.7	267	0.8	4131	1033
Magnesium						2.1	193	0.2	760	190
Manganese						0.0	26	0.0	8787	2197
Zinc						0.1	25	0.0	2257	564
Copper						0.0	26	0.0	29671	7418
Iron						1.4	42	0.3	9320	2330
Selenium						0.0	3	0.0	104	26
Cobalt										
Molybdenum						0.0				
Choline						2.0				
Sulphur						7.4				
Total lysine	23.6	325	4.0	4434	1109	25.5	1911	3.8	3470	868
Total methionine	6.8	325	1.0	3216	804	6.5	1846	1.3	5989	1497
Total threonine	15.9	325	2.7	4508	1127	17.1	1898	2.8	4093	1023
Total cysteine	4.5	324	1.7	22797	5699	5.5	1836	3.3	54553	13638
Total tryptophan	3.0	308	1.0	16060	4015	3.0	1346	0.7	7869	1967
Total arginine	35.0	325	2.2	620	155	35.3	1824	3.5	1509	377
Total valine	20.7	325	3.9	5466	1367	22.5	1883	4.3	5656	1414
Total isoleucine	13.4	325	2.0	3589	897	14.0	1885	2.6	5191	1298
Total leucine	29.6	325	5.4	5032	1258	31.3	1876	5.1	4065	1016
Total histidine	9.4	325	2.2	8639	2160	9.2	1813	2.4	10456	2614
Total serine	19.0	37				23.4	1828	6.1	10465	2616
Total glycine	69.1	37				65.1	1842	9.0	2947	737
Total proline	42.8	36				42.8	1774	5.0	2086	521
Total alanine	37.1	37				36.4	1825	4.0	1874	468
Total phenylalanine	16.1	37				17.7	1851	2.6	3433	858
Total aspartic acid	36.1	37				34.8	1831	4.3	2388	597
Total glu. acid/glu.	58.8	37				60.3	1830	6.7	1883	471
Lysine (SID)	17.5	289	3.6	6517	1629	18.2				
Methionine (SID)	5.3	289	0.8	3302	826	4.6				
Threonine (SID)	10.9	289	2.1	5581	1395	11.4				
Cysteine (SID)	2.1	288	1.1	42051	10513	2.3				
Tryptophan (SID)	2.0	289	0.8	24732	6183	1.8				
Arginine (SID)	27.6	289	2.0	822	205	26.7				
Valine (SID)	15.4	289	3.1	6452	1613	15.6				
Isoleucine (SID)	10.2	289	1.7	4078	1019	10.1				
Leucine (SID)	22.6	289	4.3	5600	1400	22.3				
Histidine (SID)	7.0	289	1.9	11036	2759	6.1				
Serine (SID)	13.5	1				17.3				
Glycine (SID)	49.1	1				55.7				
Proline (SID)						31.8				
Alanine (SID)	28.3	1				26.9				
Phenylalanine (SID)	11.7	1				11.8				
Aspartic acid (SID)	23.2	1				19.4				
Glu. acid/glu. (SID)	46.1	1				43.0				

Meat meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Average of the mean
	Mean	n	SD	
Dry matter	910.0	10		910.0
ME				
AME (MJ)				
AMEn (MJ)	10.76	8		10.8
Net energy	8.18			8.2
Crude protein	512.6	10		512.6
Ether extract	115.1	8		115.1
Ash	263.9	8		263.9
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Average of the mean
	Mean	n	SD	
Total calcium	88.3	8		88.3
Digestible calcium				
Total phosphorus	43.5	8		43.5
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid				
Sodium	5.6	8		5.6
Chloride				
Potassium	3.8	8		3.8
Magnesium	1.9	8		1.9
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine	24.8	10		24.8
Total methionine	6.8	10		6.8
Total threonine	16.5	10		16.5
Total cysteine	5.0	10		5.0
Total tryptophan	3.3	1		3.3
Total arginine	35.4	10		35.4
Total valine	20.9	10		20.9
Total isoleucine	13.9	10		13.9
Total leucine	30.4	10		30.4
Total histidine	8.5	10		8.5
Total serine	20.2	10		20.2
Total glycine	67.3	10		67.3
Total proline	41.2	10		41.2
Total alanine	37.2	10		37.2
Total phenylalanine	16.7	10		16.7
Total aspartic acid	36.9	10		36.9
Total glu. acid/glu.	59.7	10		59.7
Lysine (SID)	16.9			16.9
Methionine (SID)	4.8			4.8
Threonine (SID)	10.2			10.2
Cysteine (SID)	1.4			1.4
Tryptophan (SID)	1.8			1.8
Arginine (SID)	26.9			26.9
Valine (SID)	14.4			14.4
Isoleucine (SID)	9.6			9.6
Leucine (SID)	21.3			21.3
Histidine (SID)	6.0			6.0
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)	11.7			11.7
Aspartic acid (SID)				
Glu. acid/glu. (SID)				

Meat meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	910	342		930			955.29	101	14.23	931.8
ME				11.9						11.9
AME (MJ)										
AMEn (MJ)	11.35	107		12.29						11.8
Net energy	8.69									8.7
Crude protein	519.9	342		570			516.3	121	60.13	535.4
Ether extract	129.4	107					111.59	101	22.3	120.5
Ash	252	107		220			291.44	101	62.77	254.5
Crude fibre				20			18.83	101	10.05	19.4
Acid detergent fibre				25						25.0
Neutral detergent fibre				30						30.0
Starch				0						0.0
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	79.8	107		74.8			62.8	4	11.87	72.5
Digestible calcium										
Total phosphorus	39.0	107		36.3			31.45	4	4.76	35.6
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium	6.5	107		7.5						7.0
Chloride				6.3						6.3
Potassium	4.6	107		5.5						5.1
Magnesium	2.0	107		3.0						2.5
Manganese				0.025						0.0
Zinc				0.1						0.1
Copper				0.015						0.0
Iron				0.85						0.9
Selenium				0.0004						0.0
Cobalt										
Molybdenum										
Choline										
Sulphur				4.7						4.7
Total lysine	24.8	342		26.8			28.95	93	6.01	26.9
Total methionine	6.9	342		7.4			7.84	93	2.14	7.4
Total threonine	17.3	342		17.7			18.61	93	3.78	17.9
Total cysteine	5.6	342		5.7			5.9	93	2.97	5.7
Total tryptophan	3.7	178		3.4			3.73	122	1.32	3.6
Total arginine	34.6	342		38.8			37.59	93	4.41	37.0
Total valine	23.7	342		24.5			25.24	93	5.25	24.5
Total isoleucine	16.0	342		15.4			17.34	93	3.72	16.2
Total leucine	32.9	342		33.1			35.45	93	6.99	33.8
Total histidine	9.2	342		10.3			10.78	93	2.88	10.1
Total serine	23.1	342		22.8			23.02	93	7.11	23.0
Total glycine	62.6	342		77.0			66.81	93	6.62	68.8
Total proline	42.2	342		48.5			41.71	93	5.37	44.1
Total alanine	36.0	342					38.93	93	4.64	37.5
Total phenylalanine	18.3	342					19.7	93	4.3	19.0
Total aspartic acid	37.9	342		44.5			41.52	93	6.86	41.3
Total glu. acid/glu.	60.6	342		70.1			68.36	93	11.59	66.4
Lysine (SID)	16.9			20.1						18.5
Methionine (SID)	4.9			5.9						5.4
Threonine (SID)	10.7			12.7						11.7
Cysteine (SID)	1.5			3.1						2.3
Tryptophan (SID)	2.0			2.2						2.1
Arginine (SID)	26.3			31.4						28.9
Valine (SID)	16.4			18.6						17.5
Isoleucine (SID)	11.1			11.7						11.4
Leucine (SID)	23.0			25.8						24.4
Histidine (SID)	6.5			7.9						7.2
Serine (SID)				15.0						15.0
Glycine (SID)				55.4						55.4
Proline (SID)				33.4						33.4
Alanine (SID)										
Phenylalanine (SID)	12.8									12.8
Aspartic acid (SID)				32.0						32.0
Glu. acid/glu.(SID)				50.5						50.5

Meat meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	910.0	10				931.8	443	14.2	36	9
ME						11.9				
AME (MJ)										
AMEn (MJ)	10.8	8				11.8	107			
Net energy	8.2					8.7				
Crude protein	512.6	10				535.4	463	60.1	1938	485
Ether extract	115.1	8				120.5	208	22.3	5263	1316
Ash	263.9	8				254.5	208	62.8	9349	2337
Crude fibre						19.4	101	10.1	41175	10294
Acid detergent fibre						25.0				
Neutral detergent fibre						30.0				
Starch						0.0				
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	88.3	8				72.5	111	11.9	4123	1031
Digestible calcium										
Total phosphorus	43.5	8				35.6	111	4.8	2750	687
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium	5.6	8				7.0	107			
Chloride						6.3				
Potassium	3.8	8				5.1	107			
Magnesium	1.9	8				2.5	107			
Manganese						0.0				
Zinc						0.1				
Copper						0.0				
Iron						0.9				
Selenium						0.0				
Cobalt										
Molybdenum										
Choline										
Sulphur						4.7				
Total lysine	24.8	10				26.9	435	6.0	7699	1925
Total methionine	6.8	10				7.4	435	2.1	12921	3230
Total threonine	16.5	10				17.9	435	3.8	6876	1719
Total cysteine	5.0	10				5.7	435	3.0	41235	10309
Total tryptophan	3.3	1				3.6	300	1.3	20545	5136
Total arginine	35.4	10				37.0	435	4.4	2183	546
Total valine	20.9	10				24.5	435	5.3	7068	1767
Total isoleucine	13.9	10				16.2	435	3.7	8056	2014
Total leucine	30.4	10				33.8	435	7.0	6565	1641
Total histidine	8.5	10				10.1	435	2.9	12511	3128
Total serine	20.2	10				23.0	435	7.1	14718	3680
Total glycine	67.3	10				68.8	435	6.6	1423	356
Total proline	41.2	10				44.1	435	5.4	2275	569
Total alanine	37.2	10				37.5	435	4.6	2357	589
Total phenylalanine	16.7	10				19.0	435	4.3	7870	1968
Total aspartic acid	36.9	10				41.3	435	6.9	4238	1060
Total glu. acid/glu.	59.7	10				66.4	435	11.6	4688	1172
Lysine (SID)	16.9					18.5				
Methionine (SID)	4.8					5.4				
Threonine (SID)	10.2					11.7				
Cysteine (SID)	1.4					2.3				
Tryptophan (SID)	1.8					2.1				
Arginine (SID)	26.9					28.9				
Valine (SID)	14.4					17.5				
Isoleucine (SID)	9.6					11.4				
Leucine (SID)	21.3					24.4				
Histidine (SID)	6.0					7.2				
Serine (SID)						15.0				
Glycine (SID)						55.4				
Proline (SID)						33.4				
Alanine (SID)										
Phenylalanine (SID)	11.7					12.8				
Aspartic acid (SID)						32.0				
Glu. acid/glu. (SID)						50.5				

Palm kernel meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Poultry Hub Australia			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	944	1					944.0
ME							
AME (MJ)							
AMEn (MJ)							
Net energy							
Crude protein	136	1					136.0
Ether extract							
Ash							
Crude fibre							
Acid detergent fibre							
Neutral detergent fibre							
Starch							
Total NSP				408.3	16	73.8	408.3
Soluble NSP				22.6	16	7.5	22.6
Insoluble NSP				385.7	16	73.9	385.7
Oligosaccharides				15.5	6	1.1	15.5
Total NSP: Rhamnose				0.51	14	0.55	0.5
Total NSP: Fucose				8.37	14	15.54	8.4
Total NSP: Ribose				0.08	10	0.09	0.1
Total NSP: Arabinose				9.96	14	4.51	10.0
Total NSP: Xylose				39.66	14	16.01	39.7
Total NSP: Mannose				256.67	14	56.63	256.7
Total NSP: Galactose				11.90	14	4.71	11.9
Total NSP: Glucose				71.23	14	19.64	71.2
Soluble NSP: Rhamnose				0.11	13	0.26	0.1
Soluble NSP: Fucose				0.08	13	0.06	0.1
Soluble NSP: Ribose				0.06	9	0.06	0.1
Soluble NSP: Arabinose				2.48	14	0.97	2.5
Soluble NSP: Xylose				1.81	14	1.93	1.8
Soluble NSP: Mannose				13.51	14	7.31	13.5
Soluble NSP: Galactose				3.17	14	1.26	3.2
Soluble NSP: Glucose				1.59	14	1.10	1.6
Insoluble NSP: Rhamnose				0.51	13	0.55	0.5
Insoluble NSP: Fucose				8.93	13	15.92	8.9
Insoluble NSP: Ribose				0.03	9	0.07	0.0
Insoluble NSP: Arabinose				8.34	14	4.05	8.3
Insoluble NSP: Xylose				39.21	14	16.02	39.2
Insoluble NSP: Mannose				247.52	14	58.27	247.5
Insoluble NSP: Galactose				9.37	14	3.90	9.4
Insoluble NSP: Glucose				70.43	14	19.90	70.4
Oligo. NSP: Rhamnose				0.11	6	0.05	0.1
Oligo. NSP: Fucose				0.05	6	0.04	0.1
Oligo. NSP: Ribose				0.33	6	0.18	0.3
Oligo. NSP: Arabinose				0.43	6	0.36	0.4
Oligo. NSP: Xylose				0.72	6	0.18	0.7
Oligo. NSP: Mannose				4.58	6	0.29	4.6
Oligo. NSP: Galactose				0.75	6	0.23	0.8
Oligo. NSP: Glucose				8.54	6	0.66	8.5

Nutrient (g/kg as fed, unless otherwise specified)	Bryden 2009			Poultry Hub Australia			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium							
Digestible calcium							
Total phosphorus							
Available phosphorus							
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium							
Chloride							
Potassium							
Magnesium							
Manganese							
Zinc							
Copper							
Iron							
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine	4.0	1					4.0
Total methionine	1.7	1					1.7
Total threonine	5.3	1					5.3
Total cysteine							
Total tryptophan	2.4	1					2.4
Total arginine	19.2	1					19.2
Total valine	7.7	1					7.7
Total isoleucine	5.5	1					5.5
Total leucine	10.4	1					10.4
Total histidine	3.2	1					3.2
Total serine	7.8	1					7.8
Total glycine	6.5	1					6.5
Total proline							
Total alanine	6.2	1					6.2
Total phenylalanine	6.4	1					6.4
Total aspartic acid	12.5	1					12.5
Total glu. acid/glu.	30.0	1					30.0
Lysine (SID)	2.3	1					2.3
Methionine (SID)	1.2	1					1.2
Threonine (SID)	3.3	1					3.3
Cysteine (SID)							
Tryptophan (SID)							
Arginine (SID)	15.7	1					15.7
Valine (SID)	6.0	1					6.0
Isoleucine (SID)	4.0	1					4.0
Leucine (SID)	7.7	1					7.7
Histidine (SID)	2.0	1					2.0
Serine (SID)	5.5	1					5.5
Glycine (SID)	4.4	1					4.4
Proline (SID)							
Alanine (SID)	4.5	1					4.5
Phenylalanine (SID)	4.9	1					4.9
Aspartic acid (SID)	7.8	1					7.8
Glu. acid/glu. (SID)	22.5	1					22.5

Palm kernel meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	104		900						90.6		
ME										6.90		
AME (MJ)										6.91		
AMEn (MJ)												
Net energy												
Crude protein	140.7	104		165			155	3	9.58	155.0		
Ether extract										80.0		
Ash				45						40.0		
Crude fibre				185						150.0		
Acid detergent fibre				350						398.0		
Neutral detergent fibre				580						661.0		
Starch				10						5.0		
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	912.0	1268	14	916.0	509	24	990.0	1		781.4
ME							5.99	1		6.4
AME (MJ)										6.9
AMEn (MJ)	11.1	2		9.0						10.1
Net energy	8.97			7.24						8.1
Crude protein	183.1	1114	9	156.0	974	8	230.0	1		169.3
Ether extract	100.9	983	15	75.0	350	17	8.2	1		66.0
Ash	51.5	632	6	44.0	453	6				45.1
Crude fibre	217.1	1097	25	188.0	988	23	176.0	1		183.2
Acid detergent fibre	491.2	91	33	402.0	146	30				410.3
Neutral detergent fibre	800.4	98	43	668.0	145	43				677.4
Starch				10.0	16	9				8.3
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Palm kernel meal

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Ajinomoto			RCI		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium				2.2						2.8		
Digestible calcium												
Total phosphorus				5.8						6		
Available phosphorus										0.9		
Phytate phosphorus										3.6		
Phytate												
Linoleic acid												
Sodium				0.3						0.2		
Chloride				1.6								
Potassium				6.5						6.7		
Magnesium				2.8						3.1		
Manganese				0.25						0.226		
Zinc				0.045						0.047		
Copper				0.025						0.028		
Iron				0.5						0.16		
Selenium				0.00012						0.0006		
Cobalt				0.00011						0.0001		
Molybdenum				0.0004						0.0004		
Choline										1.1		
Sulphur				2.9						2.2		
Total lysine	3.7	104		4.6			3.7	3	0.33	5.7		
Total methionine	2.6	104		3.2			2.8	3	0.24	2.6		
Total threonine	4.1	104		5.0			4.3	3	0.24	5.0		
Total cysteine	1.6	104		2.1			1.5	3	0.06	3.1		
Total tryptophan	1.1	48		1.5			1.2	3	0.13	1.1		
Total arginine	15.9	104		19			16.1	3	1.04	22.0		
Total valine	6.8	104		7.9			7.3	3	0.5	8.3		
Total isoleucine	4.6	104		5.6			4.9	3	0.33	5.8		
Total leucine	8.6	104		10.4			9.3	3	0.64	10.6		
Total histidine	2.4	104		2.8			2.3	3	0.24	4.1		
Total serine	5.7	104		6.9			5.9	3	0.4	7.5		
Total glycine	6.2	104		7.1			6.5	3	0.47	7.7		
Total proline	4.7	104		4.8			4.9	3	0.31	5.2		
Total alanine	5.5	104					5.9	3	0.47	6.6		
Total phenylalanine	5.6	104					5.9	3	0.42	6.8		
Total aspartic acid	10.8	104		12.7			11.4	3	0.8	13.8		
Total glu. acid/glu.	25.1	104		29.0			26.7	3	1.82	31.5		
Lysine (SID)	2.2									3.42		
Methionine (SID)	2.1									2.08		
Threonine (SID)	2.8									3.0		
Cysteine (SID)	1.0									1.34		
Tryptophan (SID)	0.8									0.83		
Arginine (SID)	14.0									18.26		
Valine (SID)	5.5									6.23		
Isoleucine (SID)	3.7									4.18		
Leucine (SID)	7.3									8.2		
Histidine (SID)	1.9									2.7		
Serine (SID)										5.6		
Glycine (SID)										5.5		
Proline (SID)										3.9		
Alanine (SID)										5.1		
Phenylalanine (SID)	4.7									5.4		
Aspartic acid (SID)										9.1		
Glu. acid/glu.(SID)				2.2						24.3		

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	2.8	73	0.6	2.7	81	7.0	1.0	1		2.3
Digestible calcium										
Total phosphorus	6.0	77	0.7	5.5	87	1.1	7.0	1		6.1
Available phosphorus							2.3	1		1.6
Phytate phosphorus				3.6			4.7	1		4.0
Phytate				12.77						12.8
Linoleic acid				1.5	5	0.4				1.5
Sodium	0.2	13	0.3	0.17	13	0.28	0.3	1		0.2
Chloride										1.6
Potassium	6.5	25	1.3	6.2	29	1.9	6.2	1		6.4
Magnesium	3.1	25	0.5	2.9	29	0.5	2.5	1		2.9
Manganese	0.181	13	0.081	0.177	15	0.076	0.0393	1		0.2
Zinc	0.068	13	0.105	0.061	14	0.092	0.0687	1		0.1
Copper	0.028	16	0.009	0.026	20	0.008	0.0156	1		0.0
Iron	0.589	3	0.208	0.713	5	0.478	0.31	1		0.5
Selenium				0.0006	6	0.0001				0.0
Cobalt				0.0001						0.0
Molybdenum				0.0004						0.0
Choline										1.1
Sulphur										2.6
Total lysine	5.31	19	1.10	4.6	23	1.2	7.0			4.9
Total methionine	3.30	19	0.73	2.8	20	0.7	3.6			3.0
Total threonine	5.68	17	0.73	5.0	18	0.8	5.9			5.0
Total cysteine	2.20	18	0.55	1.9	19	0.6	3.2			2.2
Total tryptophan	1.28	3	0.00	1.0	6	0.1	2.1			1.3
Total arginine	23.25	17	5.49	20.0	16	5.2	27.1			20.5
Total valine	9.16	17	0.92	7.8	18	1.1	10.6			8.3
Total isoleucine	6.41	17	0.73	5.5	18	1.0	7.6			5.8
Total leucine	11.35	17	0.92	9.8	18	1.7	13.0			10.4
Total histidine	3.85	17	1.28	3.4	18	1.2	3.8			3.2
Total serine	7.87	16	1.10	6.9	18	1.2				6.8
Total glycine	8.24	17	0.73	7.1	18	1.2				7.1
Total proline	5.68	11	0.55	4.7	13	0.9				5.0
Total alanine	7.32	16	0.55	6.3	18	0.9				6.3
Total phenylalanine	7.14	17	0.55	6.2	18	1.0	9.2			6.8
Total aspartic acid	14.10	16	2.56	12.8	18	2.2				12.6
Total glu. acid/glu.	34.06	16	2.75	29.3	18	4.9				29.3
Lysine (SID)				4.2						3.3
Methionine (SID)				2.5						2.2
Threonine (SID)				3.4						3.1
Cysteine (SID)				0.9						1.1
Tryptophan (SID)										0.8
Arginine (SID)				17.3						16.5
Valine (SID)				5.8						5.8
Isoleucine (SID)				4.6						4.2
Leucine (SID)				7.0						7.5
Histidine (SID)				2.8						2.5
Serine (SID)				5.9						5.8
Glycine (SID)				5.1						5.3
Proline (SID)				4.1						4.0
Alanine (SID)				5.1						5.1
Phenylalanine (SID)				5.4						5.2
Aspartic acid (SID)				7.3						8.2
Glu. acid/glu. (SID)				17.2						20.8

Palm kernel meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	944.0	1				781.4	1882	19.0	91	23
ME						6.4	1			
AME (MJ)						6.9				
AMEn (MJ)						10.1	2			
Net energy						8.1				
Crude protein	136.0	1				169.3	2196	8.9	421	105
Ether extract						66.0	1334	16.0	9024	2256
Ash						45.1	1085	6.0	2717	679
Crude fibre						183.2	2086	24.0	2637	659
Acid detergent fibre						410.3	237	31.5	906	226
Neutral detergent fibre						677.4	243	43.0	619	155
Starch						8.3	16	9.0	179234	44808
Total NSP	408.3	16	73.8	5018	1255					
Soluble NSP	22.6	16	7.5	17170	4293					
Insoluble NSP	385.7	16	73.9	5635	1409					
Oligosaccharides	15.5	6	1.1	837	209					
Total NSP: Rhamnose	0.5	14	0.6	182340	45585					
Total NSP: Fucose	8.4	14	15.5	530321	132580					
Total NSP: Ribose	0.1	10	0.1	166503	41626					
Total NSP: Arabinose	10.0	14	4.5	31500	7875					
Total NSP: Xylose	39.7	14	16.0	25027	6257					
Total NSP: Mannose	256.7	14	56.6	7480	1870					
Total NSP: Galactose	11.9	14	4.7	24070	6017					
Total NSP: Glucose	71.2	14	19.6	11680	2920					
Soluble NSP: Rhamnose	0.1	13	0.3	831553	207888					
Soluble NSP: Fucose	0.1	13	0.1	87511	21878					
Soluble NSP: Ribose	0.1	9	0.1	138119	34530					
Soluble NSP: Arabinose	2.5	14	1.0	23518	5879					
Soluble NSP: Xylose	1.8	14	1.9	174687	43672					
Soluble NSP: Mannose	13.5	14	7.3	44952	11238					
Soluble NSP: Galactose	3.2	14	1.3	24339	6085					
Soluble NSP: Glucose	1.6	14	1.1	73917	18479					
Insoluble NSP: Rhamnose	0.5	13	0.5	173700	43425					
Insoluble NSP: Fucose	8.9	13	15.9	488683	122171					
Insoluble NSP: Ribose	0.0	9	0.1	537824	134456					
Insoluble NSP: Arabinose	8.3	14	4.0	36152	9038					
Insoluble NSP: Xylose	39.2	14	16.0	25662	6416					
Insoluble NSP: Mannose	247.5	14	58.3	8517	2129					
Insoluble NSP: Galactose	9.4	14	3.9	26596	6649					
Insoluble NSP: Glucose	70.4	14	19.9	12273	3068					
Oligo. NSP: Rhamnose	0.1	6	0.1	33307	8327					
Oligo. NSP: Fucose	0.1	6	0.0	105171	26293					
Oligo. NSP: Ribose	0.3	6	0.2	44242	11061					
Oligo. NSP: Arabinose	0.4	6	0.4	108291	27073					
Oligo. NSP: Xylose	0.7	6	0.2	9436	2359					
Oligo. NSP: Mannose	4.6	6	0.3	626	156					
Oligo. NSP: Galactose	0.8	6	0.2	14709	3677					
Oligo. NSP: Glucose	8.5	6	0.7	929	232					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						2.3	155	3.8	419453	104863
Digestible calcium										
Total phosphorus						6.1	165	0.9	3389	847
Available phosphorus						1.6	1			
Phytate phosphorus						4.0	1			
Phytate						12.8				
Linoleic acid						1.5	5	0.4	10927	2732
Sodium						0.2	27	0.3	236013	59003
Chloride						1.6				
Potassium						6.4	55	1.6	9544	2386
Magnesium						2.9	55	0.5	4632	1158
Manganese						0.2	29	0.1	31040	7760
Zinc						0.1	28	0.1	444107	111027
Copper						0.0	37	0.0	18466	4616
Iron						0.5	9	0.3	87556	21889
Selenium						0.0	6	0.0	7937	1984
Cobalt						0.0				
Molybdenum						0.0				
Choline						1.1				
Sulphur						2.6				
Total lysine	4.0	1				4.9	149	0.9	4826	1206
Total methionine	1.7	1				3.0	146	0.6	5359	1340
Total threonine	5.3	1				5.0	142	0.6	2148	537
Total cysteine						2.2	144	0.4	5029	1257
Total tryptophan	2.4	1				1.3	60	0.1	514	128
Total arginine	19.2	1				20.5	140	3.9	5604	1401
Total valine	7.7	1				8.3	142	0.8	1582	395
Total isoleucine	5.5	1				5.8	142	0.7	2179	545
Total leucine	10.4	1				10.4	142	1.1	1661	415
Total histidine	3.2	1				3.2	142	0.9	12085	3021
Total serine	7.8	1				6.8	141	0.9	2693	673
Total glycine	6.5	1				7.1	142	0.8	1933	483
Total proline						5.0	131	0.6	2117	529
Total alanine	6.2	1				6.3	141	0.6	1572	393
Total phenylalanine	6.4	1				6.8	142	0.7	1429	357
Total aspartic acid	12.5	1				12.6	141	1.9	3329	832
Total glu. acid/glu.	30.0	1				29.3	141	3.2	1785	446
Lysine (SID)	2.3	1				3.3				
Methionine (SID)	1.2	1				2.2				
Threonine (SID)	3.3	1				3.1				
Cysteine (SID)						1.1				
Tryptophan (SID)						0.8				
Arginine (SID)	15.7	1				16.5				
Valine (SID)	6.0	1				5.8				
Isoleucine (SID)	4.0	1				4.2				
Leucine (SID)	7.7	1				7.5				
Histidine (SID)	2.0	1				2.5				
Serine (SID)	5.5	1				5.8				
Glycine (SID)	4.4	1				5.3				
Proline (SID)						4.0				
Alanine (SID)	4.5	1				5.1				
Phenylalanine (SID)	4.9	1				5.2				
Aspartic acid (SID)	7.8	1				8.2				
Glu. acid/glu. (SID)	22.5	1				20.8				

Peas

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	24					904	3	8.2				892.0
ME													
AME (MJ)													
AMEn (MJ)	11.42	13											11.4
Net energy	8.93												8.9
Crude protein	209.6	24					225	3	7.5				217.3
Ether extract	19.3	13											19.3
Ash	26.3	13											26.3
Crude fibre	57.713	13											57.7
Acid detergent fibre	79.4	13											79.4
Neutral detergent fibre	140.1	13											140.1
Starch	413.3	13											413.3
Total NSP				110.4	26	49.8							110.4
Soluble NSP				24.0	26	17.1							24.0
Insoluble NSP				80.0	26	45.3							80.0
Oligosaccharides				38.7	4	15.7							38.7
Total NSP: Rhamnose				2.29	10	1.74							2.3
Total NSP: Fucose				0.60	10	0.78							0.6
Total NSP: Ribose				0.54	10	0.36							0.5
Total NSP: Arabinose				39.07	10	15.14							39.1
Total NSP: Xylose				16.23	10	32.63							16.2
Total NSP: Mannose				4.36	10	5.87							4.4
Total NSP: Galactose				7.04	10	2.39							7.0
Total NSP: Glucose				28.99	10	14.75							29.0
Soluble NSP: Rhamnose				0.75	12	1.27							0.8
Soluble NSP: Fucose				0.13	12	0.29							0.1
Soluble NSP: Ribose				0.41	10	0.19							0.4
Soluble NSP: Arabinose				6.91	12	6.99							6.9
Soluble NSP: Xylose				1.76	12	3.57							1.8
Soluble NSP: Mannose				1.26	12	0.74							1.3
Soluble NSP: Galactose				1.79	12	1.34							1.8
Soluble NSP: Glucose				5.72	12	5.26							5.7
Insoluble NSP: Rhamnose				1.38	12	0.51							1.4
Insoluble NSP: Fucose				0.38	12	0.48							0.4
Insoluble NSP: Ribose				0.17	10	0.21							0.2
Insoluble NSP: Arabinose				27.17	12	17.25							27.2
Insoluble NSP: Xylose				11.82	12	26.95							11.8
Insoluble NSP: Mannose				2.70	12	5.12							2.7
Insoluble NSP: Galactose				4.50	12	2.74							4.5
Insoluble NSP: Glucose				23.89	12	10.94							23.9
Oligo. NSP: Rhamnose				1.05	4	1.13							1.1
Oligo. NSP: Fucose				1.91	4	2.33							1.9
Oligo. NSP: Ribose				1.53	4	1.91							1.5
Oligo. NSP: Arabinose				2.20	4	2.62							2.2
Oligo. NSP: Xylose				1.85	4	2.37							1.8
Oligo. NSP: Mannose				4.52	4	1.88							4.5
Oligo. NSP: Galactose				16.51	4	7.35							16.5
Oligo. NSP: Glucose				17.90	4	5.80							17.9

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	0.9	13											0.9
Digestible calcium													
Total phosphorus	2.8	13								3.45	3		3.1
Available phosphorus													
Phytate phosphorus	1.3	13								1.67	3		1.5
Phytate	4.61									5.92			5.3
Linoleic acid													
Sodium	0.1	13											0.1
Chloride													
Potassium	9.1	13											9.1
Magnesium	1.1	13											1.1
Manganese													
Zinc													
Copper													
Iron													
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine	15	24					15.9	3	1.1				15.5
Total methionine	1.8	24					1.8	3	0.3				1.8
Total threonine	7.6	24					8.5	3	0.2				8.1
Total cysteine	3.0	24											3.0
Total tryptophan	1.9	24					1.9	3	0.1				1.9
Total arginine	20.3	24					23.3	3	2.2				21.8
Total valine	9.7	24					11.4	3	1				10.6
Total isoleucine	8.5	24					9.9	3	1.3				9.2
Total leucine	14.6	24					16.9	3	1.3				15.8
Total histidine	5.2	24					5.9	3	0.3				5.6
Total serine	9.6	24					10.5	3	1.7				10.1
Total glycine	9.2	24					10.1	3	0.5				9.7
Total proline	8.3	24											8.3
Total alanine	9.0	24					10.1	3	0.1				9.6
Total phenylalanine	9.7	24					11.1	3	1.2				10.4
Total aspartic acid	23.1	24					27.0	3	2				25.1
Total glu. acid/glu.	34.0	24					38.7	3	2.4				36.4
Lysine (SID)	13.1						12.1	3	1.2				12.6
Methionine (SID)	1.4						1.3	3	0.3				1.4
Threonine (SID)	6.1						5.5	3	0.7				5.8
Cysteine (SID)	2.1												2.1
Tryptophan (SID)	1.4						1.4	3	0.1				1.4
Arginine (SID)	18.0						18.9	3	3				18.5
Valine (SID)	7.5						7.4	3	0.4				7.5
Isoleucine (SID)	6.9						6.4	3	0.3				6.7
Leucine (SID)	11.6						11.1	3	1.3				11.4
Histidine (SID)	4.3						4.2	3	0.5				4.3
Serine (SID)							7.1	3	1.8				7.1
Glycine (SID)							7.0	3	0.6				7.0
Proline (SID)													
Alanine (SID)							7.0	3	0.9				7.0
Phenylalanine (SID)	7.8						7.5	3	0.7				7.7
Aspartic acid (SID)							19.1	3	2.4				19.1
Glu. acid/glu. (SID)							28.9	3	3.4				28.9

Peas

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Ajinomoto			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	257		860						865	22761	12
ME				11.98								
AME (MJ)												
AMEn (MJ)	11.4	85		11.4						12.5	13	1.1
Net energy	8.91									9.67		
Crude protein	207.7	257		205			206	22	11.34	276.3	14479	14
Ether extract	17.7	85								13.9	2978	3
Ash	27.5	85		30						40.5	4192	4
Crude fibre	55.4	85		60						69.4	8139	7
Acid detergent fibre	75.2	85		70						80.9	781	7
Neutral detergent fibre	121.2	85		120						164.2	798	31
Starch	432.9	85								593.1	9681	20
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Average of the mean
	Mean	n	SD	
Dry matter	872.0	1939	20	869.3
ME				12.0
AME (MJ)				
AMEn (MJ)	10.2			11.4
Net energy	7.93			8.8
Crude protein	204.0	2262	12	219.8
Ether extract	12.0	393	4	14.5
Ash	30.0	492	3	32.0
Crude fibre	56.0	641	6	60.2
Acid detergent fibre				75.4
Neutral detergent fibre	127.0	102	29	133.1
Starch	447.0	1661	17	491.0
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Peas

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Ajinomoto			Feedipedia		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	0.8	85		0.9						1.2	1513	0.5
Digestible calcium												
Total phosphorus	3.2	85		4.0						4.5	1649	0.5
Available phosphorus												
Phytate phosphorus	1.4	85		3.1								
Phytate	4.96			10.99								
Linoleic acid												
Sodium	0	85		0.2						0	323	0
Chloride				1.0								
Potassium	9.3	85		9.5						11.3	17	0.5
Magnesium	1.2	85		1.3						1.7	14	0.6
Manganese				0.01						0.01	10	0.008
Zinc				0.031						0.037	10	0.008
Copper				0.007						0.008	9	0.001
Iron				0.08						0.107	7	0.033
Selenium				0.00015								
Cobalt				0.00009								
Molybdenum				0.002								
Choline												
Sulphur				2.0								
Total lysine	15.1	257		14.9			14.8	22	0.75	19.89	458	0.8289
Total methionine	1.9	257		1.9			1.9	22	0.08	2.76	270	0.2763
Total threonine	7.8	257		7.7			7.7	22	0.32	10.50	257	0.5526
Total cysteine	3.0	257		3.0			2.8	22	0.12	3.87	261	0.2763
Total tryptophan	1.9	98		1.9			2	22	0.09	2.49	191	0
Total arginine	17.8	257		16.5			17.1	22	1.6	23.21	248	1.3815
Total valine	9.7	257		9.6			9.5	22	0.43	13.26	251	0.8289
Total isoleucine	8.6	257		8.5			8.5	22	0.42	11.60	252	0.5526
Total leucine	14.8	257		14.6			14.6	22	0.7	19.62	253	0.5526
Total histidine	5.1	257		5.1			4.9	22	0.23	6.91	234	0.2763
Total serine	9.7	257		9.6			9.6	22	0.49	12.99	247	0.5526
Total glycine	9.1	257		8.8			8.8	22	0.55	12.16	247	0.5526
Total proline	8.6	257		8.2			7.9	22	0.58	11.60	143	0.5526
Total alanine	9.0	257					8.9	22	0.35	12.43	244	0.5526
Total phenylalanine	10.0	257					9.8	22	0.44	12.99	254	0.5526
Total aspartic acid	23.7	257		24.0			23.2	22	1.38	32.05	247	0.8289
Total glu. acid/glu.	34.1	257		34.2			33.6	22	2.14	46.97	248	2.2104
Lysine (SID)	13.1			11.9								
Methionine (SID)	1.5			1.6								
Threonine (SID)	6.2			6.2								
Cysteine (SID)	2.1			2.2								
Tryptophan (SID)	1.4			1.6								
Arginine (SID)	15.9			14.2								
Valine (SID)	7.6			8.0								
Isoleucine (SID)	7.0			7.2								
Leucine (SID)	11.9			12.7								
Histidine (SID)	4.3			4.4								
Serine (SID)				8.0								
Glycine (SID)				7.4								
Proline (SID)				7.0								
Alanine (SID)												
Phenylalanine (SID)	8.1											
Aspartic acid (SID)				21.8								
Glu. acid/glu.(SID)				31.2								

Nutrient (g/kg as fed, unless otherwise specified)	Feedtables.com			Average of the mean
	Mean	n	SD	
Total calcium	1.1	2090	0.5	1.0
Digestible calcium				
Total phosphorus	3.8	146	0.5	3.9
Available phosphorus	1.0			1.0
Phytate phosphorus	1.7	26	0.6	2.1
Phytate	6.028			7.3
Linoleic acid	4.6	29	0.9	4.6
Sodium	0.04	407	0.05	0.1
Chloride				1.0
Potassium	9.9	64	0.8	10.0
Magnesium	1.1	21	0.1	1.3
Manganese	0.015	23	0.009	0.012
Zinc	0.034	20	0.007	0.034
Copper	0.007	20	0.002	0.007
Iron	0.094	28	0.098	0.09
Selenium	0.00001	2		0.0001
Cobalt	0.00009	4		0.0001
Molybdenum	0.002	6	0.001	0.002
Choline				
Sulphur	1.9	8	0.3	2.0
Total lysine	14.8	518	1.0	15.9
Total methionine	2.0	329	0.2	2.1
Total threonine	7.8	301	0.6	8.3
Total cysteine	2.8	313	0.3	3.1
Total tryptophan	1.8	211	0.2	2.0
Total arginine	17.4	292	2.5	18.4
Total valine	9.6	295	0.9	10.3
Total isoleucine	8.6	295	0.8	9.2
Total leucine	14.5	295	1.3	15.6
Total histidine	5.1	281	0.5	5.4
Total serine	9.5	285	0.9	10.3
Total glycine	9.0	288	0.7	9.6
Total proline	8.5	183	0.9	9.0
Total alanine	9.0	284	0.8	9.8
Total phenylalanine	9.6	296	0.8	10.6
Total aspartic acid	23.7	287	2.2	25.3
Total glu. acid/glu.	33.3	288	3.5	36.4
Lysine (SID)	13.5			12.8
Methionine (SID)	1.7			1.6
Threonine (SID)	6.6			6.3
Cysteine (SID)	2.2			2.2
Tryptophan (SID)	1.4			1.5
Arginine (SID)	16.1			15.4
Valine (SID)	8.3			8.0
Isoleucine (SID)	7.4			7.2
Leucine (SID)	12.7			12.4
Histidine (SID)	4.5			4.4
Serine (SID)	8.2			8.1
Glycine (SID)	7.8			7.6
Proline (SID)	7.4			7.2
Alanine (SID)	8.0			8.0
Phenylalanine (SID)	14.0			11.1
Aspartic acid (SID)	21.1			21.5
Glu. acid/glu. (SID)	30.9			31.1

Peas

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	892.0	27	8.2	13	3	869.3	24957	16.0	52	13
ME						12.0				
AME (MJ)										
AMEn (MJ)	11.4	13				11.4	98	1.1	1437	359
Net energy	8.9					8.8				
Crude protein	217.3	27	7.5	183	46	219.8	17020	12.4	493	123
Ether extract	19.3	13				14.5	3456	3.5	8912	2228
Ash	26.3	13				32.0	4769	3.5	1838	460
Crude fibre	57.7	13				60.2	8865	6.5	1791	448
Acid detergent fibre	79.4	13				75.4	866	7.0	1326	331
Neutral detergent fibre	140.1	13				133.1	985	30.0	7807	1952
Starch	413.3	13				491.0	11427	18.5	218	55
Total NSP	110.4	26	49.8	31268	7817					
Soluble NSP	24.0	26	17.1	77817	19454					
Insoluble NSP	80.0	26	45.3	49223	12306					
Oligosaccharides	38.7	4	15.7	25090	6273					
Total NSP: Rhamnose	2.3	10	1.7	88999	22250					
Total NSP: Fucose	0.6	10	0.8	266058	66515					
Total NSP: Ribose	0.5	10	0.4	67335	16834					
Total NSP: Arabinose	39.1	10	15.1	23070	5767					
Total NSP: Xylose	16.2	10	32.6	620781	155195					
Total NSP: Mannose	4.4	10	5.9	279367	69842					
Total NSP: Galactose	7.0	10	2.4	17647	4412					
Total NSP: Glucose	29.0	10	14.8	39776	9944					
Soluble NSP: Rhamnose	0.8	12	1.3	439853	109963					
Soluble NSP: Fucose	0.1	12	0.3	810133	202533					
Soluble NSP: Ribose	0.4	10	0.2	33387	8347					
Soluble NSP: Arabinose	6.9	12	7.0	157318	39330					
Soluble NSP: Xylose	1.8	12	3.6	634195	158549					
Soluble NSP: Mannose	1.3	12	0.7	53040	13260					
Soluble NSP: Galactose	1.8	12	1.3	86926	21732					
Soluble NSP: Glucose	5.7	12	5.3	129840	32460					
Insoluble NSP: Rhamnose	1.4	12	0.5	21050	5262					
Insoluble NSP: Fucose	0.4	12	0.5	244541	61135					
Insoluble NSP: Ribose	0.2	10	0.2	244960	61240					
Insoluble NSP: Arabinose	27.2	12	17.3	61957	15489					
Insoluble NSP: Xylose	11.8	12	26.9	799333	199833					
Insoluble NSP: Mannose	2.7	12	5.1	552672	138168					
Insoluble NSP: Galactose	4.5	12	2.7	57038	14260					
Insoluble NSP: Glucose	23.9	12	10.9	32212	8053					
Oligo. NSP: Rhamnose	1.1	4	1.1	178573	44643					
Oligo. NSP: Fucose	1.9	4	2.3	230246	57561					
Oligo. NSP: Ribose	1.5	4	1.9	239316	59829					
Oligo. NSP: Arabinose	2.2	4	2.6	217773	54443					
Oligo. NSP: Xylose	1.8	4	2.4	253203	63301					
Oligo. NSP: Mannose	4.5	4	1.9	26486	6622					
Oligo. NSP: Galactose	16.5	4	7.4	30465	7616					
Oligo. NSP: Glucose	17.9	4	5.8	16161	4040					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	0.9	13				1.0	3688	0.5	38416	9604
Digestible calcium										
Total phosphorus	3.1	16				3.9	1880	0.5	2558	640
Available phosphorus						1.0				
Phytate phosphorus	1.5	16				2.1	111	0.6	12952	3238
Phytate	5.3					7.3				
Linoleic acid						4.6	29	0.9	5882	1471
Sodium	0.1	13				0.1	815	0.0	26678	6669
Chloride						1.0				
Potassium	9.1	13				10.0	166	0.7	649	162
Magnesium	1.1	13				1.3	120	0.4	10722	2681
Manganese						0.012	33	0.0	81567	20392
Zinc						0.034	30	0.0	7477	1869
Copper						0.007	29	0.0	6429	1607
Iron						0.09	35	0.1	75142	18786
Selenium						0.0001	2			
Cobalt						0.0001	4			
Molybdenum						0.002	6	0.0	38416	9604
Choline										
Sulphur						2.0	8	0.3	3637	909
Total lysine	15.5	27	1.1	779	195	15.9	1255	0.9	449	112
Total methionine	1.8	27	0.3	4268	1067	2.1	878	0.2	1207	302
Total threonine	8.1	27	0.2	95	24	8.3	837	0.5	537	134
Total cysteine	3.0	24				3.1	853	0.2	865	216
Total tryptophan	1.9	27	0.1	426	106	2.0	522	0.1	353	88
Total arginine	21.8	27	2.2	1565	391	18.4	819	1.8	1515	379
Total valine	10.6	27	1.0	1381	345	10.3	825	0.7	745	186
Total isoleucine	9.2	27	1.3	3068	767	9.2	826	0.6	639	160
Total leucine	15.8	27	1.3	1047	262	15.6	827	0.9	456	114
Total histidine	5.6	27	0.3	449	112	5.4	794	0.3	588	147
Total serine	10.1	27	1.7	4397	1099	10.3	811	0.6	610	153
Total glycine	9.7	27	0.5	413	103	9.6	814	0.6	606	151
Total proline	8.3	24				9.0	605	0.7	878	220
Total alanine	9.6	27	0.1	17	4	9.8	807	0.6	512	128
Total phenylalanine	10.4	27	1.2	2046	511	10.6	829	0.6	489	122
Total aspartic acid	25.1	27	2.0	980	245	25.3	813	1.5	517	129
Total glu. acid/glu.	36.4	27	2.4	670	167	36.4	815	2.6	793	198
Lysine (SID)	12.6	3	1.2	1394	348	12.8				
Methionine (SID)	1.4	3	0.3	7588	1897	1.6				
Threonine (SID)	5.8	3	0.7	2238	560	6.3				
Cysteine (SID)	2.1					2.2				
Tryptophan (SID)	1.4	3	0.1	784	196	1.5				
Arginine (SID)	18.5	3	3.0	4063	1016	15.4				
Valine (SID)	7.5	3	0.4	443	111	8.0				
Isoleucine (SID)	6.7	3	0.3	313	78	7.2				
Leucine (SID)	11.4	3	1.3	2016	504	12.4				
Histidine (SID)	4.3	3	0.5	2127	532	4.4				
Serine (SID)	7.1	3	1.8	9876	2469	8.1				
Glycine (SID)	7.0	3	0.6	1129	282	7.6				
Proline (SID)						7.2				
Alanine (SID)	7.0	3	0.9	2540	635	8.0				
Phenylalanine (SID)	7.7	3	0.7	1287	322	11.1				
Aspartic acid (SID)	19.1	3	2.4	2426	607	21.5				
Glu. acid/glu. (SID)	28.9	3	3.4	2127	532	31.1				

Safflower meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Feedipedia			Average of the mean
	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	14		932.0	3	15	906.0
ME							
AME (MJ)							
AMEn (MJ)							
Net energy							
Crude protein	208.1	14		266.1	4	42	237.1
Ether extract				100.9	4	24	100.9
Ash				47.2	4	12	47.2
Crude fibre				357.3	3	75	357.3
Acid detergent fibre				453.9	1		453.9
Neutral detergent fibre							
Starch							
Total NSP							
Soluble NSP							
Insoluble NSP							
Oligosaccharides							
Total NSP: Rhamnose							
Total NSP: Fucose							
Total NSP: Ribose							
Total NSP: Arabinose							
Total NSP: Xylose							
Total NSP: Mannose							
Total NSP: Galactose							
Total NSP: Glucose							
Soluble NSP: Rhamnose							
Soluble NSP: Fucose							
Soluble NSP: Ribose							
Soluble NSP: Arabinose							
Soluble NSP: Xylose							
Soluble NSP: Mannose							
Soluble NSP: Galactose							
Soluble NSP: Glucose							
Insoluble NSP: Rhamnose							
Insoluble NSP: Fucose							
Insoluble NSP: Ribose							
Insoluble NSP: Arabinose							
Insoluble NSP: Xylose							
Insoluble NSP: Mannose							
Insoluble NSP: Galactose							
Insoluble NSP: Glucose							
Oligo. NSP: Rhamnose							
Oligo. NSP: Fucose							
Oligo. NSP: Ribose							
Oligo. NSP: Arabinose							
Oligo. NSP: Xylose							
Oligo. NSP: Mannose							
Oligo. NSP: Galactose							
Oligo. NSP: Glucose							

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Feedipedia			Average of the mean
	Mean	n	SD	Mean	n	SD	
Total calcium				2.7	3	1.3	2.7
Digestible calcium							
Total phosphorus				6.7	3	1.4	6.7
Available phosphorus							
Phytate phosphorus							
Phytate							
Linoleic acid							
Sodium							
Chloride							
Potassium							
Magnesium				2.8	1		2.8
Manganese							
Zinc				0.064	1		0.1
Copper				0.024	1		0.0
Iron				0.422	1		0.4
Selenium							
Cobalt							
Molybdenum							
Choline							
Sulphur							
Total lysine	5.9	14		7.7	2		6.8
Total methionine	2.9	14		3.7	2		3.3
Total threonine	6.2	14		7.7	1		7.0
Total cysteine	3.1	14		4.8	1		3.9
Total tryptophan	2.1	6		3.2	1		2.6
Total arginine	17.2	14		20.8	1		19.0
Total valine	10.1	14		13.0	1		11.6
Total isoleucine	7.1	14		10.1	1		8.6
Total leucine	12.5	14		14.6	1		13.6
Total histidine	4.9	14		5.3	1		5.1
Total serine	8.4	14					8.4
Total glycine	10.8	14					10.8
Total proline	8.2	14					8.2
Total alanine	8.4	14					8.4
Total phenylalanine	8.7	14		13.8	1		11.3
Total aspartic acid	19.1	14					19.1
Total glu. acid/glu.	37.8	14					37.8
Lysine (SID)	4.8						4.8
Methionine (SID)	2.4						2.4
Threonine (SID)	4.5						4.5
Cysteine (SID)	2.4						2.4
Tryptophan (SID)	1.7						1.7
Arginine (SID)	14.5						14.5
Valine (SID)	8.2						8.2
Isoleucine (SID)	5.7						5.7
Leucine (SID)	10.1						10.1
Histidine (SID)	3.9						3.9
Serine (SID)							
Glycine (SID)							
Proline (SID)							
Alanine (SID)							
Phenylalanine (SID)	7.1						7.1
Aspartic acid (SID)							
Glu. acid/glu.(SID)							2.7

Safflower meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			906.0	17	15.0	42	11
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein						237.1	18	42.0	4822	1205
Ether extract						100.9	4	24.0	8694	2173
Ash						47.2	4	12.0	9932	2483
Crude fibre						357.3	3	75.0	6771	1693
Acid detergent fibre						453.9	1			
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						2.7	3	1.3	35623	8906
Digestible calcium										
Total phosphorus						6.7	3	1.4	6709	1677
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium						2.8	1			
Manganese										
Zinc						0.1	1			
Copper						0.0	1			
Iron						0.4	1			
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine						6.8	16			
Total methionine						3.3	16			
Total threonine						7.0	15			
Total cysteine						3.9	15			
Total tryptophan						2.6	7			
Total arginine						19.0	15			
Total valine						11.6	15			
Total isoleucine						8.6	15			
Total leucine						13.6	15			
Total histidine						5.1	15			
Total serine						8.4	14			
Total glycine						10.8	14			
Total proline						8.2	14			
Total alanine						8.4	14			
Total phenylalanine						11.3	15			
Total aspartic acid						19.1	14			
Total glu. acid/glu.						37.8	14			
Lysine (SID)						4.8				
Methionine (SID)						2.4				
Threonine (SID)						4.5				
Cysteine (SID)						2.4				
Tryptophan (SID)						1.7				
Arginine (SID)						14.5				
Valine (SID)						8.2				
Isoleucine (SID)						5.7				
Leucine (SID)						10.1				
Histidine (SID)						3.9				
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)						7.1				
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Soybean meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			DuPont			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	14											880.0
ME													
AME (MJ)													
AMEn (MJ)													
Net energy													
Crude protein	456.9	14											456.9
Ether extract													
Ash													
Crude fibre													
Acid detergent fibre													
Neutral detergent fibre													
Starch													
Total NSP				150.5	84	35.9							150.5
Soluble NSP				29.5	84	21.8							29.5
Insoluble NSP				121.0	84	22.9							121.0
Oligosaccharides				78.5	13	24.8							78.5
Total NSP: Rhamnose				1.8	56	0.63							1.8
Total NSP: Fucose				2.4	56	1.15							2.4
Total NSP: Ribose				1.0	15	0.46							1.0
Total NSP: Arabinose				24.6	56	6.38							24.6
Total NSP: Xylose				13.2	56	3.83							13.2
Total NSP: Mannose				8.6	56	2.00							8.6
Total NSP: Galactose				42.3	56	10.92							42.3
Total NSP: Glucose				39.4	56	14.91							39.4
Soluble NSP: Rhamnose				0.4	56	0.54							0.4
Soluble NSP: Fucose				0.6	56	0.73							0.6
Soluble NSP: Ribose				0.6	15	0.31							0.6
Soluble NSP: Arabinose				4.8	56	2.11							4.8
Soluble NSP: Xylose				1.5	56	1.13							1.5
Soluble NSP: Mannose				3.6	56	1.39							3.6
Soluble NSP: Galactose				8.3	56	3.40							8.3
Soluble NSP: Glucose				2.5	56	2.98							2.5
Insoluble NSP: Rhamnose				1.4	56	0.76							1.4
Insoluble NSP: Fucose				1.8	56	1.32							1.8
Insoluble NSP: Ribose				0.4	15	0.34							0.4
Insoluble NSP: Arabinose				20.4	56	5.42							20.4
Insoluble NSP: Xylose				12.2	56	2.57							12.2
Insoluble NSP: Mannose				4.9	56	1.26							4.9
Insoluble NSP: Galactose				34.7	56	11.58							34.7
Insoluble NSP: Glucose				36.1	56	15.14							36.1
Oligo. NSP: Rhamnose				0.4	13	0.38							0.4
Oligo. NSP: Fucose				0.1	13	0.06							0.1
Oligo. NSP: Ribose				0.1	13	0.12							0.1
Oligo. NSP: Arabinose				0.8	13	0.35							0.8
Oligo. NSP: Xylose				0.1	13	0.12							0.1
Oligo. NSP: Mannose				4.0	13	4.05							4.0
Oligo. NSP: Galactose				19.9	13	8.83							19.9
Oligo. NSP: Glucose				44.5	13	13.62							44.5

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Poultry Hub Australia			DuPont			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium													
Digestible calcium													
Total phosphorus							7.0	3		6.66	22	0.533	6.8
Available phosphorus													
Phytate phosphorus							3.7	3		4.53	22	0.402	4.1
Phytate							13.12			16.06			14.6
Linoleic acid													
Sodium													
Chloride													
Potassium													
Magnesium													
Manganese													
Zinc													
Copper													
Iron													
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine	29.1	14											29.1
Total methionine	6.4	14											6.4
Total threonine	18.2	14											18.2
Total cysteine	6.8	14											6.8
Total tryptophan	6.3	11											6.3
Total arginine	34.0	14											34.0
Total valine	22.5	14											22.5
Total isoleucine	21.2	14											21.2
Total leucine	35.6	14											35.6
Total histidine	12.2	14											12.2
Total serine	23.3	14											23.3
Total glycine	19.7	14											19.7
Total proline	24.0	14											24.0
Total alanine	20.2	14											20.2
Total phenylalanine	23.5	14											23.5
Total aspartic acid	53.4	14											53.4
Total glu. acid/glu.	83.6	14											83.6
Lysine (SID)	25.9												25.9
Methionine (SID)	5.7												5.7
Threonine (SID)	15.1												15.1
Cysteine (SID)	5.4												5.4
Tryptophan (SID)	5.6												5.6
Arginine (SID)	31.2												31.2
Valine (SID)	19.6												19.6
Isoleucine (SID)	18.4												18.4
Leucine (SID)	31.3												31.3
Histidine (SID)	10.9												10.9
Serine (SID)													
Glycine (SID)													
Proline (SID)													
Alanine (SID)													
Phenylalanine (SID)	20.9												20.9
Aspartic acid (SID)													
Glu. acid/glu. (SID)													

Soybean meal

Argentina

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	106		889.2	1181	8.122	880			915.5	8	29.64
ME												
AME (MJ)	9.66	23		9.785	1181	0.286						
AMEn (MJ)							10.06					
Net energy	7.08707											
Crude protein	458.4	106		465.1	1181	10.39	465			474.74	684	23.2
Ether extract	19.7	28		17.3	1181	4.09				21.48	444	22.12
Ash	66.3	29		65.6	1181	3.47	64			62.55	444	4.48
Crude fibre	37.8	24		36.4	1181	5.48	36			33.27	442	9.05
Acid detergent fibre	60.7	24					50			51.33	3	0.47
Neutral detergent fibre	102.7	24					86			71.33	3	4.71
Starch	7.2	11										
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				88.0			879	33523	6	877	801	16	772.7
ME				9.83									9.8
AME (MJ)				9.84									9.8
AMEn (MJ)							10.7			9.3			10.0
Net energy							7.71			6.83			7.2
Crude protein	468	132	19.56	455			589.3	33418	12	435	840	16	476.3
Ether extract				20			22.8	28800	5	17	615	5	19.7
Ash				62			808	8356	5	65	202	6	170.5
Crude fibre				30			76.2	24481	9	63	622	8	44.7
Acid detergent fibre				74			94.4	202	15	780	17	20	185.1
Neutral detergent fibre				125			155.9	208	17	130	21	20	111.8
Starch				50						60	20	11	39.1
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Soybean meal

Argentina (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.7	29					3.0			3.47	37	0.39
Digestible calcium												
Total phosphorus	6.2	29					6.2			6.88	53	0.3
Available phosphorus				1.1	1181	0.229						
Phytate phosphorus	3.7	29		4.45	1181	0.353						
Phytate	13.12									15.76	9	0.57
Linoleic acid												
Sodium	0	29					0.3			0.24	54	0.11
Chloride							0.9					
Potassium	21.6	29					21			21.91	59	2.27
Magnesium	2.8	29					2.8			3.1	5	0.21
Manganese							0.038			0.045	34	0.014
Zinc							0.05			0.056	38	0.024
Copper							0.015			0.017	30	0.002
Iron							0.15			0.13	23	0.118
Selenium							0.0002			0.0009	11	0.001
Cobalt							0.00018			0.0050	4	0.002
Molybdenum							0.003					
Choline												
Sulphur							4.3			3.6	1	
Total lysine	28.1	106		29.65	1181	0.79	28.4			30.26	688	0.55
Total methionine	6.2	106		6.4	1181	0.18	6.3			6.58	689	0.5
Total threonine	17.9	106		18.825	1181	0.40	18.0			18.28	676	1.42
Total cysteine	6.6	106		6.825	1181	0.28	6.7			6.67	677	0.55
Total tryptophan	6.2	66		6.775	1181	0.20	6.3			6.72	680	0.55
Total arginine	33.4	106		33.525	1181	1.06	33.9			35.02	650	2.09
Total valine	22.0	106		23.275	1181	0.55	22.1			13.17	675	1.84
Total isoleucine	21.0	106		22.575	1181	0.53	21.1			22.02	676	1.51
Total leucine	35.0	106		36.2	1181	0.93	35.4			36.8	675	2.08
Total histidine	12.1	106		11.85	1181	0.28	12.1			12.53	650	0.73
Total serine	22.8	106					23.3			22.15	651	2.85
Total glycine	19.5	106					19.8			20.15	676	1.11
Total proline	23.4	106					23.5			22.44	676	2.36
Total alanine	20.0	106								20.6	676	1.14
Total phenylalanine	23.3	106								24.26	650	1.4
Total aspartic acid	51.8	106					53.9			54.1	676	3.27
Total glu. acid/glu.	81.9	106					83.2			86.04	677	7.37
Lysine (SID)	25.0			25.7	1181	1.08	25.0					
Methionine (SID)	5.5			5.9	1181	0.20	5.6					
Threonine (SID)	14.9			15.8	1181	0.58	15.5					
Cysteine (SID)	5.2			5.5	1181	0.41	5.5					
Tryptophan (SID)	5.5			6.0	1181	0.30	5.6					
Arginine (SID)	30.7			31.2	1181	1.28	30.6					
Valine (SID)	19.2			18.6	1181	0.75	19.4					
Isoleucine (SID)	18.2			20.2	1181	0.73	18.7					
Leucine (SID)	30.8			32.4	1181	1.18	31.5					
Histidine (SID)	10.9			10.6	1181	0.45	10.8					
Serine (SID)							20.2					
Glycine (SID)							16.4					
Proline (SID)							20.9					
Alanine (SID)												
Phenylalanine (SID)	20.7											
Aspartic acid (SID)							45.3					
Glu. acid/glu.(SID)							69.9					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			RCI			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				3.0			3.9	1797	8.0	3.4	57	1	3.2
Digestible calcium													
Total phosphorus				6.9			6.9	1845	5.0	6.2	55	0.6	6.5
Available phosphorus				2.4									1.8
Phytate phosphorus				3.7						3.7			3.9
Phytate										13.12			14.0
Linoleic acid										6.7			6.7
Sodium				0.2			0.1	251	0.2	0.08	23	0.07	0.2
Chloride													0.9
Potassium				20.8			23.7	104	11	21.5	13	1.1	21.8
Magnesium				2.7			3.1	17	0.3	2.9	6	0.2	2.9
Manganese				0.04			0.045	32	0.009	0.032			0.040
Zinc				0.054			0.054	23	0.005	0.036			0.05
Copper				0.017			0.018	25	0.002	0.014			0.016
Iron				0.245			0.346	8	0.154				0.2
Selenium				0.0002									0.0004
Cobalt				0.0003									0.002
Molybdenum				0.004									
Choline				2.86									2.9
Sulphur				4.0									4.0
Total lysine	28.3	132	1.63	28.9			35.9	322	1.18	27.1	52	1.5	29.6
Total methionine	6.1	132	0.31	6.43			8.3	234	0.59	6.2	43	0.8	6.6
Total threonine	18	132	0.78	17.86			23.0	136	1.18	16.8	48	1.3	18.6
Total cysteine	6.4	132	0.37	7.09			8.8	211	0.59	6.8	34	0.6	7.0
Total tryptophan	6.3	132	0.31	6.53			23.0	38	0.59	5.9	19	0.4	8.5
Total arginine	33.5	132	1.76	34.56			43.6	141	1.77	31.8	47	2.5	34.9
Total valine	22.1	132	1.08	23.14			28.3	130	1.18	21.0	47	1.6	21.9
Total isoleucine	21.2	132	1.15	21.5			27.1	90	1.18	19.9	30	1.5	22.1
Total leucine	35.5	132	1.74	35.3			44.2	101	1.77	33.1	34	1.8	36.4
Total histidine	11.8	132	0.57	12.4			15.3	90	0.59	11.7	29	0.9	12.5
Total serine	23.2	132	1.05	21.7			29.5	125	1.18	20.9	45	1.6	23.4
Total glycine	19.6	132	0.78	19.4			24.8	120	1.18	18.3	45	1.4	20.2
Total proline	22.7	132	1.36	23.0			28.9	36	1.18	21.7	12	1.9	23.7
Total alanine	20.1	132	0.89	20.1			25.9	120	1.77	18.9	45	1.9	20.9
Total phenylalanine	23.7	132	1.25	23.4			29.5	128	1.18	22.0	47	1.4	24.4
Total aspartic acid	52.5	132	2.55	52.2			66.6	116	2.95	48.9	46	3.6	54.3
Total glu. acid/glu.	82.8	132	4.17	82.6			104.3	126	5.30	77.4	47	7.4	85.5
Lysine (SID)				25.7						23.8	1		25.0
Methionine (SID)				5.78						13.9	1		7.3
Threonine (SID)				15.18						5.6	1		13.4
Cysteine (SID)				5.86						5.1	1		5.4
Tryptophan (SID)				5.88						10.6	1		6.7
Arginine (SID)				31.8						5.3	1		25.9
Valine (SID)				20.13						17.4	1		19.0
Isoleucine (SID)				19.14						18.0	1		18.8
Leucine (SID)				30.8						28.8	1		30.9
Histidine (SID)				10.8						10.2	1		10.7
Serine (SID)				18.6						17.9	1		18.9
Glycine (SID)				16.3						15.4	1		16.0
Proline (SID)				19.8						18.7	1		19.8
Alanine (SID)				17.3						16.3	1		16.8
Phenylalanine (SID)				20.4						19.1	1		20.1
Aspartic acid (SID)				43.8						41.1	1		43.4
Glu. acid/glu. (SID)				73.5						68.9	1		70.8

Soybean meal

Brazil

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus			Brazilian Tables		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	115		883.0	1200	6.34	880			915.5	8	29.64	888	57	11.8
ME													9.6	1	
AME (MJ)				9.68	1200	0.27									
AMEn (MJ)	9.87	34					10.06								
Net energy	7.24														
Crude protein	474.9	115		481.3	1200	13.9	465			474.74	684	23.2	481	37	8.2
Ether extract	24.3	41		19.5	1200	4.2				21.48	444	22.12	18.3	44	5.8
Ash	64.5	41		62.1	1200	2.7	64			62.55	444	4.48	60.2	64	3.7
Crude fibre	48.5	34		36.1	1200	6.8	36			33.27	442	9.05	45.8	26	6.4
Acid detergent fibre	78.0	34					50			51.33	3	0.47	123	1	
Neutral detergent fibre	124.0	34					86			71.33	3	4.71	149	1	
Starch													30	1	
Total NSP															
Soluble NSP															
Insoluble NSP															
Oligosaccharides															
Total NSP: Rhamnose															
Total NSP: Fucose															
Total NSP: Ribose															
Total NSP: Arabinose															
Total NSP: Xylose															
Total NSP: Mannose															
Total NSP: Galactose															
Total NSP: Glucose															
Soluble NSP: Rhamnose															
Soluble NSP: Fucose															
Soluble NSP: Ribose															
Soluble NSP: Arabinose															
Soluble NSP: Xylose															
Soluble NSP: Mannose															
Soluble NSP: Galactose															
Soluble NSP: Glucose															
Insoluble NSP: Rhamnose															
Insoluble NSP: Fucose															
Insoluble NSP: Ribose															
Insoluble NSP: Arabinose															
Insoluble NSP: Xylose															
Insoluble NSP: Mannose															
Insoluble NSP: Galactose															
Insoluble NSP: Glucose															
Oligo. NSP: Rhamnose															
Oligo. NSP: Fucose															
Oligo. NSP: Ribose															
Oligo. NSP: Arabinose															
Oligo. NSP: Xylose															
Oligo. NSP: Mannose															
Oligo. NSP: Galactose															
Oligo. NSP: Glucose															

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				879	33523	6	877	801	16	886.1
ME										9.6
AME (MJ)										9.7
AMEn (MJ)				10.7			9.3			10.0
Net energy				7.71			6.83			5.5
Crude protein	468	132	19.56	589.3	33418	12	435	840	16	483.6
Ether extract				22.8	28800	5	17	615	5	20.6
Ash				808	8356	5	65	202	6	169.5
Crude fibre				76.2	24481	9	63	622	8	48.4
Acid detergent fibre				94.4	202	15	780	17	20	196.1
Neutral detergent fibre				155.9	208	17	130	21	20	119.4
Starch							60	20	11	45.0
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Soybean meal

Brazil (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus			Brazilian Tables		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD			
Total calcium	2.8	41					3.0			3.47	37	0.39	3.5	8	0.4
Digestible calcium															
Total phosphorus	5.9	41					6.2			6.88	53	0.3	5.9	25	0.3
Available phosphorus				1.05	1200	0.18							0.23		
Phytate phosphorus	3.5	41		4.3	1200	0.255							3.6	25	0.3
Phytate	12.41									15.76	9	0.57	12.77		
Linoleic acid													6.7	1	
Sodium	0.1	40					0.3			0.24	54	0.11	0.2	1	
Chloride							0.9						0.5		
Potassium	20.2	41					21			21.91	59	2.27	21.1	1	
Magnesium	3.0	41					2.8			3.1	5	0.21	2.3		
Manganese							0.038			0.05	34	0.014	0.0317	1	
Zinc							0.05			0.06	38	0.024	0.0448		
Copper							0.015			0.02	30	0.002			
Iron							0.15			0.13	23	0.12	0.168	1	
Selenium							0.0002			0.0009	11	0.001	0.0003		
Cobalt							0.0002			0.005	4	0.002			
Molybdenum							0.003								
Choline															
Sulphur							4.3			3.6	1				
Total lysine	28.7	115		30.0	1200	0.78	28.4			30.3	688	0.55	29.1		
Total methionine	6.2	115		6.4	1200	0.16	6.3			6.6	689	0.5	6.3		
Total threonine	18.4	115		19.0	1200	0.53	18.0			18.3	676	1.42	18.7		
Total cysteine	6.7	115		6.9	1200	0.20	6.7			6.7	677	0.55	7.2		
Total tryptophan	6.3	83		6.9	1200	0.20	6.3			6.7	680	0.55	6.7		
Total arginine	34.7	115		35.2	1200	1.43	33.9			35.0	650	2.09	34.9		
Total valine	22.7	115		23.7	1200	0.65	22.1			13.2	675	1.84	22.9		
Total isoleucine	21.9	115		23.2	1200	0.70	21.1			22.0	676	1.51	22.3		
Total leucine	36.5	115		37.3	1200	1.25	35.4			36.8	675	2.08	36.5		
Total histidine	12.3	115		12.2	1200	0.35	12.1			12.5	650	0.73	12.5		
Total serine	23.8	115					23.3			22.2	651	2.85	25.5		
Total glycine	20.2	115					19.8			20.2	676	1.11	21.0		
Total proline	24.1	115					23.5			22.4	676	2.36	23.6		
Total alanine	20.6	115								20.6	676	1.14	20.0		
Total phenylalanine	24.6	115								24.3	650	1.4	24.8		
Total aspartic acid	54.2	115					53.9			54.1	676	3.27	33.0		
Total glu. acid/glu.	85.3	115					83.2			86.0	677	7.37	103.2		
Lysine (SID)	25.5			26.5	1200	1.28	25.0						26.9		
Methionine (SID)	5.6			5.9	1200	0.25	5.6						5.9		
Threonine (SID)	15.3			16.2	1200	0.68	15.5						16.4		
Cysteine (SID)	5.3			5.7	1200	0.35	5.5						6.2		
Tryptophan (SID)	5.6			6.2	1200	0.33	5.6						6.1		
Arginine (SID)	31.9			33.0	1200	1.73	30.6						32.3		
Valine (SID)	19.7			20.3	1200	0.88	19.4						20.0		
Isoleucine (SID)	19.0			21.0	1200	0.88	18.7						19.9		
Leucine (SID)	32.1			33.6	1200	1.55	31.5						33.6		
Histidine (SID)	11			11.1	1200	0.50	10.8						11.3		
Serine (SID)							20.2						22.8		
Glycine (SID)							16.4						17.3		
Proline (SID)							20.9						21.2		
Alanine (SID)													17.4		
Phenylalanine (SID)	21.9												23.3		
Aspartic acid (SID)							45.3						29.4		
Glu. acid/glu.(SID)							69.9						93.2		

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				3.9	1797	8.0	3.4	57	1.0	3.3
Digestible calcium										
Total phosphorus				6.9	1845	5.0	6.2	55	0.6	6.3
Available phosphorus										0.6
Phytate phosphorus							3.7			3.8
Phytate							13.12			13.5
Linoleic acid							6.7			6.7
Sodium				0.1	251	0.2	0.08	23	0.07	0.2
Chloride										0.7
Potassium				23.7	104	11.0	21.5	13	1.1	21.6
Magnesium				3.1	17	0.3	2.9	6	0.2	2.9
Manganese				0.045	32	0.009	0.032			0.038
Zinc				0.054	23	0.005	0.036			0.048
Copper				0.018	25	0.002	0.014			0.016
Iron				0.346	8	0.154				0.20
Selenium										0.0005
Cobalt										0.003
Molybdenum										0.003
Choline										
Sulphur										4.0
Total lysine	28.3	132	1.63	35.9	322	1.18	27.1	52	1.5	29.7
Total methionine	6.1	132	0.31	8.3	234	0.59	6.2	43	0.8	6.5
Total threonine	18.0	132	0.78	23.0	136	1.18	16.8	48	1.3	18.8
Total cysteine	6.4	132	0.37	8.8	211	0.59	6.8	34	0.6	7.0
Total tryptophan	6.3	132	0.31	23.0	38	0.59	5.9	19	0.4	8.5
Total arginine	33.5	132	1.76	43.6	141	1.77	31.8	47	2.5	35.3
Total valine	22.1	132	1.08	28.3	130	1.18	21.0	47	1.6	22.0
Total isoleucine	21.2	132	1.15	27.1	90	1.18	19.9	30	1.5	22.3
Total leucine	35.5	132	1.74	44.2	101	1.77	33.1	34	1.8	36.9
Total histidine	11.8	132	0.57	15.3	90	0.59	11.7	29	0.9	12.6
Total serine	23.2	132	1.05	29.5	125	1.18	20.9	45	1.6	24.0
Total glycine	19.6	132	0.78	24.8	120	1.18	18.3	45	1.4	20.5
Total proline	22.7	132	1.36	28.9	36	1.18	21.7	12	1.9	23.8
Total alanine	20.1	132	0.89	25.9	120	1.77	18.9	45	1.9	21.0
Total phenylalanine	23.7	132	1.25	29.5	128	1.18	22.0	47	1.4	24.8
Total aspartic acid	52.5	132	2.55	66.6	116	2.95	48.9	46	3.6	51.9
Total glu. acid/glu.	82.8	132	4.17	104.3	126	5.30	77.4	47	7.4	88.9
Lysine (SID)							23.8	1		25.5
Methionine (SID)							13.9	1		7.4
Threonine (SID)							5.6	1		13.8
Cysteine (SID)							5.1	1		5.6
Tryptophan (SID)							10.6	1		6.8
Arginine (SID)							5.3	1		26.6
Valine (SID)							17.4	1		19.4
Isoleucine (SID)							18.0	1		19.3
Leucine (SID)							28.8	1		31.9
Histidine (SID)							10.2	1		10.9
Serine (SID)							17.9	1		20.3
Glycine (SID)							15.4	1		16.4
Proline (SID)							18.7	1		20.3
Alanine (SID)							16.3	1		16.9
Phenylalanine (SID)							19.1	1		21.4
Aspartic acid (SID)							41.1	1		38.6
Glu. acid/glu. (SID)							68.9	1		77.3

Soybean meal

United States of America (USA)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	140		889.05	967	9.932	880			915.5	8	29.64
ME												
AME (MJ)				10.05	967	0.29						
AMEn (MJ)	9.72	22					10.06					
Net energy	7.14											
Crude protein	456.7	140		464.4	967	10.6	465			474.74	684	23.2
Ether extract	19.0	22		16.8	967	4.5				21.48	444	22.12
Ash	67.3	22		64.8	967	3.5	64			62.55	444	4.48
Crude fibre	38.9	22		34.2	967	5.3	36			33.27	442	9.05
Acid detergent fibre	59.6	22					50			51.33	3	0.47
Neutral detergent fibre	90.3	22					86			71.33	3	4.71
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				879.0	33523	6	877	801	16	886.8
ME										
AME (MJ)										10.1
AMEn (MJ)				10.7			9.3			9.9
Net energy				7.71			6.83			7.2
Crude protein	468	132	19.56	589.3	33418	12	435	840	16	423.4
Ether extract				22.8	28800	5	17	615	5	19.4
Ash				808	8356	5	65	202	6	188.6
Crude fibre				76.2	24481	9	63	622	8	46.9
Acid detergent fibre				94.4	202	15	780	17	20	207.1
Neutral detergent fibre				155.9	208	17	130	21	20	106.7
Starch							60	20	11	60.0
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Soybean meal

USA (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	3.7	22					3.0			3.47	37	0.39
Digestible calcium												
Total phosphorus	6.2	22					6.2			6.88	53	0.3
Available phosphorus				1.125	967	0.212						
Phytate phosphorus	3.7	21		4.625	967	0.406						
Phytate	13.12									15.76	9	0.57
Linoleic acid												
Sodium	0.1	19					0.3			0.24	54	0.11
Chloride							0.9					
Potassium	20.9	22					21.0			21.91	59	2.27
Magnesium	2.8	22					2.8			3.1	5	0.21
Manganese							0.038			0.05	34	0.01
Zinc							0.05			0.06	38	0.02
Copper							0.015			0.02	30	0.002
Iron							0.15			0.13	23	0.1181
Selenium							0.0002			0.0009	11	0.0008
Cobalt							0.0002			0.005	4	0.002
Molybdenum							0.003					
Choline												
Sulphur							4.3			3.6	1	
Total lysine	27.9	140		29.6	967	0.64	28.4			30.26	688	0.55
Total methionine	6.2	140		6.4	967	0.25	6.3			6.58	689	0.5
Total threonine	17.7	140		18.6	967	0.46	18.0			18.28	676	1.42
Total cysteine	6.7	140		6.7	967	0.33	6.7			6.67	677	0.55
Total tryptophan	6.4	74		6.8	967	0.30	6.3			6.72	680	0.55
Total arginine	33.4	140		34.1	967	0.91	33.9			35.02	650	2.09
Total valine	21.7	140		23.0	967	0.59	22.1			13.17	675	1.84
Total isoleucine	20.7	140		22.3	967	0.65	21.1			22.02	676	1.51
Total leucine	34.8	140		35.4	967	0.87	35.4			36.8	675	2.08
Total histidine	11.9	140		11.6	967	0.25	12.1			12.53	650	0.73
Total serine	22.8	140					23.3			22.15	651	2.85
Total glycine	19.4	140					19.8			20.15	676	1.11
Total proline	23.3	140					23.5			22.44	676	2.36
Total alanine	19.6	140								20.6	676	1.14
Total phenylalanine	23.1	140								24.26	650	1.4
Total aspartic acid	52.0	140					53.9			54.1	676	3.27
Total glu. acid/glu.	82.1	140					83.2			86.04	677	7.37
Lysine (SID)	24.8			25.2	967	0.84	25.0					
Methionine (SID)	5.6			5.7	967	0.23	5.6					
Threonine (SID)	14.7			15.4	967	0.48	15.5					
Cysteine (SID)	5.3			5.3	967	0.30	5.5					
Tryptophan (SID)	5.7			5.8	967	0.28	5.6					
Arginine (SID)	30.7			31.4	967	0.98	30.6					
Valine (SID)	18.8			19.0	967	0.61	19.4					
Isoleucine (SID)	18.0			19.5	967	0.70	18.7					
Leucine (SID)	30.6			31.4	967	0.93	31.5					
Histidine (SID)	10.7			10.2	967	0.36	10.8					
Serine (SID)							20.2					
Glycine (SID)							16.4					
Proline (SID)							20.9					
Alanine (SID)												
Phenylalanine (SID)	20.6											
Aspartic acid (SID)							45.3					
Glu. acid/glu.(SID)							69.9					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			Feedipedia			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				3.9	1797	8.0	3.4	57	1	3.5
Digestible calcium										
Total phosphorus				6.9	1845	5.0	6.2	55	0.6	6.5
Available phosphorus										1.1
Phytate phosphorus							3.7			4.0
Phytate							13.12			14.0
Linoleic acid							6.7			6.7
Sodium				0.1	251	0.2	0.08	23	0.07	0.2
Chloride										0.9
Potassium				23.7	104	11.0	21.5	13	1.1	21.8
Magnesium				3.1	17	0.3	2.9	6	0.2	2.9
Manganese				0.045	32	0.009	0.032			0.04
Zinc				0.054	23	0.005	0.036			0.05
Copper				0.018	25	0.002	0.014			0.02
Iron				0.346	8	0.154				0.21
Selenium										0.001
Cobalt										0.003
Molybdenum										
Choline										
Sulphur										4.0
Total lysine	28.3	132	1.63	35.9	322	1.18	27.1	52	1.5	26.8
Total methionine	6.1	132	0.31	8.3	234	0.59	6.2	43	0.8	6.6
Total threonine	18	132	0.78	23.0	136	1.18	16.8	48	1.3	18.6
Total cysteine	6.4	132	0.37	8.8	211	0.59	6.8	34	0.6	7.0
Total tryptophan	6.3	132	0.31	23.0	38	0.59	5.9	19	0.4	8.8
Total arginine	33.5	132	1.76	43.6	141	1.77	31.8	47	2.5	35.0
Total valine	22.1	132	1.08	28.3	130	1.18	21.0	47	1.6	21.6
Total isoleucine	21.2	132	1.15	27.1	90	1.18	19.9	30	1.5	22.0
Total leucine	35.5	132	1.74	44.2	101	1.77	33.1	34	1.8	36.5
Total histidine	11.8	132	0.57	15.3	90	0.59	11.7	29	0.9	12.4
Total serine	23.2	132	1.05	29.5	125	1.18	20.9	45	1.6	23.6
Total glycine	19.6	132	0.78	24.8	120	1.18	18.3	45	1.4	20.3
Total proline	22.7	132	1.36	28.9	36	1.18	21.7	12	1.9	23.8
Total alanine	20.1	132	0.89	25.9	120	1.77	18.9	45	1.9	21.0
Total phenylalanine	23.7	132	1.25	29.5	128	1.18	22.0	47	1.4	24.5
Total aspartic acid	52.5	132	2.55	66.6	116	2.95	48.9	46	3.6	54.7
Total glu. acid/glu.	82.8	132	4.17	104.3	126	5.30	77.4	47	7.4	86.0
Lysine (SID)							23.8	1		24.7
Methionine (SID)							13.9	1		7.7
Threonine (SID)							5.6	1		12.8
Cysteine (SID)							5.1	1		5.3
Tryptophan (SID)							10.6	1		6.9
Arginine (SID)							5.3	1		24.5
Valine (SID)							17.4	1		18.6
Isoleucine (SID)							18.0	1		18.6
Leucine (SID)							28.8	1		30.6
Histidine (SID)							10.2	1		10.5
Serine (SID)							17.9	1		19.1
Glycine (SID)							15.4	1		15.9
Proline (SID)							18.7	1		19.8
Alanine (SID)							16.3	1		16.3
Phenylalanine (SID)							19.1	1		19.9
Aspartic acid (SID)							41.1	1		43.2
Glu. acid/glu. (SID)							68.9	1		69.4

Soybean meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Argentina				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	880.0	14				772.7	35619	14.9	57	14
ME						9.8				
AME (MJ)						9.8	1204	0.3	132	33
AMEn (MJ)						10.0				
Net energy						7.2				
Crude protein	456.9	14				476.3	36361	16.2	178	45
Ether extract						19.7	31068	9.1	32410	8102
Ash						170.5	10212	4.7	119	30
Crude fibre						44.7	26750	7.9	4783	1196
Acid detergent fibre						185.1	246	11.8	627	157
Neutral detergent fibre						111.8	256	13.9	2376	594
Starch						39.1	31	11.0	12183	3046
Total NSP	150.5	84	35.9	8757	2189					
Soluble NSP	29.5	84	21.8	83819	20955					
Insoluble NSP	121.0	84	22.9	5507	1377					
Oligosaccharides	78.5	13	24.8	15292	3823					
Total NSP: Rhamnose	1.8	56	0.6	17946	4486					
Total NSP: Fucose	2.4	56	1.2	36166	9041					
Total NSP: Ribose	1.0	15	0.5	35733	8933					
Total NSP: Arabinose	24.6	56	6.4	10377	2594					
Total NSP: Xylose	13.2	56	3.8	12852	3213					
Total NSP: Mannose	8.6	56	2.0	8259	2065					
Total NSP: Galactose	42.3	56	10.9	10227	2557					
Total NSP: Glucose	39.4	56	14.9	22051	5513					
Soluble NSP: Rhamnose	0.4	56	0.5	277976	69494					
Soluble NSP: Fucose	0.6	56	0.7	223245	55811					
Soluble NSP: Ribose	0.6	15	0.3	37105	9276					
Soluble NSP: Arabinose	4.8	56	2.1	30007	7502					
Soluble NSP: Xylose	1.5	56	1.1	90100	22525					
Soluble NSP: Mannose	3.6	56	1.4	23381	5845					
Soluble NSP: Galactose	8.3	56	3.4	25995	6499					
Soluble NSP: Glucose	2.5	56	3.0	216439	54110					
Insoluble NSP: Rhamnose	1.4	56	0.8	44106	11026					
Insoluble NSP: Fucose	1.8	56	1.3	84084	21021					
Insoluble NSP: Ribose	0.4	15	0.3	110645	27661					
Insoluble NSP: Arabinose	20.4	56	5.4	10792	2698					
Insoluble NSP: Xylose	12.2	56	2.6	6885	1721					
Insoluble NSP: Mannose	4.9	56	1.3	10154	2538					
Insoluble NSP: Galactose	34.7	56	11.6	17132	4283					
Insoluble NSP: Glucose	36.1	56	15.1	26940	6735					
Oligo. NSP: Rhamnose	0.4	13	0.4	118142	29535					
Oligo. NSP: Fucose	0.1	13	0.1	93686	23422					
Oligo. NSP: Ribose	0.1	13	0.1	187229	46807					
Oligo. NSP: Arabinose	0.8	13	0.3	28854	7213					
Oligo. NSP: Xylose	0.1	13	0.1	199561	49890					
Oligo. NSP: Mannose	4.0	13	4.0	158708	39677					
Oligo. NSP: Galactose	19.9	13	8.8	30254	7564					
Oligo. NSP: Glucose	44.5	13	13.6	14417	3604					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Argentina				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						3.2	1920	3.1	142966	35741
Digestible calcium										
Total phosphorus	6.8	25	0.5	936	234	6.5	1982	2.0	13867	3467
Available phosphorus						1.8	1181	0.2	2631	658
Phytate phosphorus	4.1	25	0.4	1467	367	3.9	1210	0.4	1267	317
Phytate	14.6					14.0	9	0.6	255	64
Linoleic acid						6.7				
Sodium						0.2	357	0.1	104863	26216
Chloride						0.9				
Potassium						21.8	205	4.8	7452	1863
Magnesium						2.9	57	0.2	1023	256
Manganese						0.040	66	0.0	12757	3189
Zinc						0.05	61	0.0	12638	3160
Copper						0.016	55	0.0	2948	737
Iron						0.2	31	0.1	60601	15150
Selenium						0.0004	11	0.0	526132	131533
Cobalt						0.002	4	0.0	204909	51227
Molybdenum										
Choline						2.9				
Sulphur						4.0	1			
Total lysine	29.1	14				29.6	2481	1.1	224	56
Total methionine	6.4	14				6.6	2385	0.5	809	202
Total threonine	18.2	14				18.6	2279	1.0	459	115
Total cysteine	6.8	14				7.0	2341	0.5	717	179
Total tryptophan	6.3	11				8.5	2116	0.4	360	90
Total arginine	34.0	14				34.9	2257	1.8	424	106
Total valine	22.5	14				21.9	2271	1.3	501	125
Total isoleucine	21.2	14				22.1	2215	1.2	435	109
Total leucine	35.6	14				36.4	2229	1.7	320	80
Total histidine	12.2	14				12.5	2188	0.6	372	93
Total serine	23.3	14				23.4	1059	1.7	785	196
Total glycine	19.7	14				20.2	1079	1.1	469	117
Total proline	24.0	14				23.7	962	1.7	793	198
Total alanine	20.2	14				20.9	1079	1.4	711	178
Total phenylalanine	23.5	14				24.4	1063	1.3	443	111
Total aspartic acid	53.4	14				54.3	1076	3.1	498	125
Total glu. acid/glu.	83.6	14				85.5	1088	6.1	773	193
Lysine (SID)	25.9					25.0	1182	1.1	287	72
Methionine (SID)	5.7					7.3	1182	0.2	114	29
Threonine (SID)	15.1					13.4	1182	0.6	285	71
Cysteine (SID)	5.4					5.4	1182	0.4	858	214
Tryptophan (SID)	5.6					6.7	1182	0.3	307	77
Arginine (SID)	31.2					25.9	1182	1.3	375	94
Valine (SID)	19.6					19.0	1182	0.8	244	61
Isoleucine (SID)	18.4					18.8	1182	0.7	228	57
Leucine (SID)	31.3					30.9	1182	1.2	224	56
Histidine (SID)	10.9					10.7	1182	0.5	277	69
Serine (SID)						18.9	1			
Glycine (SID)						16.0	1			
Proline (SID)						19.8	1			
Alanine (SID)						16.8	1			
Phenylalanine (SID)	20.9					20.1	1			
Aspartic acid (SID)						43.4	1			
Glu. acid/glu. (SID)						70.8	1			

Soybean meal

Sample size calculations (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Brazil					US				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	886.1	35704	14.0	38	10	886.8	35439	15.4	46	12
ME	9.6	1								
AME (MJ)	9.7	1200	0.3	120	30	10.1	967	0.3	128	32
AMEn (MJ)	10.0	34				9.9	22			
Net energy	5.5					7.2				
Crude protein	483.6	36426	15.5	157	39	423.4	37864	13.8	162	41
Ether extract	20.6	31144	8.4	25743	6436	19.4	30848	9.2	34139	8535
Ash	169.5	10307	4.4	102	26	188.6	9991	4.8	98	24
Crude fibre	48.4	26805	7.9	4042	1011	46.9	26534	7.8	4297	1074
Acid detergent fibre	196.1	257	11.8	558	140	207.1	244	11.8	501	125
Neutral detergent fibre	119.4	267	13.9	2085	521	106.7	254	13.9	2609	652
Starch	45.0	21	11.0	9182	2295	60.0	20	11.0	5165	1291
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Brazil					US				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	3.3	1940	2.4	82267	20567	3.5	1913	3.1	123315	30829
Digestible calcium										
Total phosphorus	6.3	2019	1.6	9214	2303	6.5	1975	2.0	14172	3543
Available phosphorus	0.6	1200	0.2	12155	3039	1.1	967	0.2	5457	1364
Phytate phosphorus	3.8	1266	0.3	830	208	4.0	988	0.4	1577	394
Phytate	13.5	9	0.6	273	68	14.0	9	0.6	255	64
Linoleic acid	6.7	1				6.7				
Sodium	0.2	369	0.1	85310	21327	0.2	347	0.1	91666	22917
Chloride	0.7					0.9				
Potassium	21.6	218	4.8	7579	1895	21.8	198	4.8	7417	1854
Magnesium	2.9	69	0.2	1047	262	2.9	50	0.2	996	249
Manganese	0.038	67	0.0	13883	3471	0.04	66	0.0	12747	3187
Zinc	0.048	61	0.0	13621	3405	0.05	61	0.0	13152	3288
Copper	0.016	55	0.0	3024	756	0.02	55	0.0	3024	756
Iron	0.20	32	0.1	72998	18249	0.21	31	0.1	66257	16564
Selenium	0.0005	11	0.0	429439	107360	0.001	11	0.0	325693	81423
Cobalt	0.003	4	0.0	101871	25468	0.003	4	0.0	101871	25468
Molybdenum	0.003									
Choline										
Sulphur	4.0	1				4.0	1			
Total lysine	29.7	2509	1.1	221	55	26.8	3984	1.1	259	65
Total methionine	6.5	2413	0.5	799	200	6.6	2205	0.5	858	215
Total threonine	18.8	2307	1.0	473	118	18.6	2099	1.0	469	117
Total cysteine	7.0	2369	0.5	663	166	7.0	2161	0.5	752	188
Total tryptophan	8.5	2152	0.4	356	89	8.8	1910	0.4	371	93
Total arginine	35.3	2285	1.9	449	112	35.0	2077	1.8	408	102
Total valine	22.0	2299	1.3	512	128	21.6	2091	1.3	521	130
Total isoleucine	22.3	2243	1.2	450	112	22.0	2035	1.2	454	113
Total leucine	36.9	2257	1.7	337	84	36.5	2049	1.7	315	79
Total histidine	12.6	2216	0.6	385	96	12.4	2008	0.6	369	92
Total serine	24.0	1068	1.7	741	185	23.6	1093	1.7	767	192
Total glycine	20.5	1088	1.1	454	114	20.3	1113	1.1	464	116
Total proline	23.8	971	1.7	781	195	23.8	996	1.7	787	197
Total alanine	21.0	1088	1.4	706	176	21.0	1113	1.4	705	176
Total phenylalanine	24.8	1072	1.3	427	107	24.5	1097	1.3	437	109
Total aspartic acid	51.9	1085	3.1	546	136	54.7	1110	3.1	492	123
Total glu. acid/glu.	88.9	1097	6.1	714	179	86.0	1122	6.1	764	191
Lysine (SID)	25.5	1201	1.3	385	96	24.7	968	0.8	179	45
Methionine (SID)	7.4	1201	0.3	183	46	7.7	968	0.2	136	34
Threonine (SID)	13.8	1201	0.7	369	92	12.8	968	0.5	214	53
Cysteine (SID)	5.6	1201	0.4	622	156	5.3	968	0.3	495	124
Tryptophan (SID)	6.8	1201	0.3	356	89	6.9	968	0.3	248	62
Arginine (SID)	26.6	1201	1.7	647	162	24.5	968	1.0	245	61
Valine (SID)	19.4	1201	0.9	317	79	18.6	968	0.6	164	41
Isoleucine (SID)	19.3	1201	0.9	316	79	18.6	968	0.7	221	55
Leucine (SID)	31.9	1201	1.6	363	91	30.6	968	0.9	143	36
Histidine (SID)	10.9	1201	0.5	325	81	10.5	968	0.4	182	46
Serine (SID)	20.3	1				19.1	1			
Glycine (SID)	16.4	1				15.9	1			
Proline (SID)	20.3	1				19.8	1			
Alanine (SID)	16.9	1				16.3	1			
Phenylalanine (SID)	21.4	1				19.9	1			
Aspartic acid (SID)	38.6	1				43.2	1			
Glu. acid/glu. (SID)	77.3	1				69.4	1			

Soybean meal (full fat)

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	880.0	10		901.2		4.2				935	1		905.4
ME													
AME (MJ)													
AMEn (MJ)													
Net energy													
Crude protein	338.8	10		351.0		6.2				390	1		359.9
Ether extract				204.2		6.1							204.2
Ash				44.6		3.4							44.6
Crude fibre				50.3		5.5							50.3
Acid detergent fibre													
Neutral detergent fibre													
Starch													
Total NSP							151.5	40	25.7				151.5
Soluble NSP							36.8	40	16.5				36.8
Insoluble NSP							114.8	40	23.6				114.8
Oligosaccharides							104.0	10	31.1				104.0
Total NSP: Rhamnose							3.11	36	2.91				3.1
Total NSP: Fucose							2.64	36	2.43				2.6
Total NSP: Ribose							10.72	10	6.54				10.7
Total NSP: Arabinose							21.23	36	7.47				21.2
Total NSP: Xylose							12.88	36	5.48				12.9
Total NSP: Mannose							10.37	36	8.41				10.4
Total NSP: Galactose							40.43	36	13.27				40.4
Total NSP: Glucose							40.75	36	10.71				40.8
Soluble NSP: Rhamnose							0.56	36	0.73				0.6
Soluble NSP: Fucose							0.55	36	0.61				0.5
Soluble NSP: Ribose							7.94	10	2.49				7.9
Soluble NSP: Arabinose							5.95	36	3.42				5.9
Soluble NSP: Xylose							1.63	36	1.04				1.6
Soluble NSP: Mannose							3.85	36	3.02				3.8
Soluble NSP: Galactose							11.89	36	7.26				11.9
Soluble NSP: Glucose							2.60	36	2.20				2.6
Insoluble NSP: Rhamnose							2.37	36	2.78				2.4
Insoluble NSP: Fucose							1.83	36	1.11				1.8
Insoluble NSP: Ribose							0.36	10	0.09				0.4
Insoluble NSP: Arabinose							15.62	36	5.38				15.6
Insoluble NSP: Xylose							10.84	36	3.79				10.8
Insoluble NSP: Mannose							4.94	36	3.04				4.9
Insoluble NSP: Galactose							28.49	36	7.82				28.5
Insoluble NSP: Glucose							38.21	36	10.55				38.2
Oligo. NSP: Rhamnose							6.11	36	4.42				6.1
Oligo. NSP: Fucose							1.02	36	0.78				1.0
Oligo. NSP: Ribose							0.89	10	0.67				0.9
Oligo. NSP: Arabinose							9.66	36	4.63				9.7
Oligo. NSP: Xylose							0.54	36	0.41				0.5
Oligo. NSP: Mannose							21.71	36	6.70				21.7
Oligo. NSP: Galactose							23.02	36	4.33				23.0
Oligo. NSP: Glucose							48.42	36	10.30				48.4

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Poultry Hub Australia			Bryden 2009			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium													
Digestible calcium													
Total phosphorus													
Available phosphorus													
Phytate phosphorus													
Phytate													
Linoleic acid													
Sodium													
Chloride													
Potassium													
Magnesium													
Manganese													
Zinc													
Copper													
Iron													
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine	20.8	10		22.4	0.4					26.0	1		23.1
Total methionine	4.9	10		5.1	0.2					4.2	1		4.7
Total threonine	13.3	10		14.4	0.8					16.3	1		14.7
Total cysteine	5.5	10		5.6	0.3								5.6
Total tryptophan	4.8	2		5.6	0.1								5.2
Total arginine	24.6	10		25.7	1.7					29.6	1		26.6
Total valine	15.8	10		18.3	0.3					18.4	1		17.5
Total isoleucine	14.9	10		17.4	0.2					17.4	1		16.6
Total leucine	25.4	10		27.1	0.5					29.8	1		27.4
Total histidine	9.1	10		8.8	0.4					11.0	1		9.6
Total serine	17.2	10								22.4	1		19.8
Total glycine	14.7	10								15.9	1		15.3
Total proline	17.8	10											17.8
Total alanine	14.7	10								16.1	1		15.4
Total phenylalanine	16.7	10								18.5	1		17.6
Total aspartic acid	37.7	10								43.0	1		40.4
Total glu. acid/glu.	61.1	10								72.0	1		66.6
Lysine (SID)	17.9			18.8	0.2					23.4	1		20.0
Methionine (SID)	4.3			4.6	0.2					3.7	1		4.2
Threonine (SID)	11.1			11.7	0.7					13.5	1		12.1
Cysteine (SID)	3.8			4.5	0.3								4.2
Tryptophan (SID)	4.0			4.7	0.1								4.4
Arginine (SID)	21.2			24.4	1.7					27.8	1		24.5
Valine (SID)	13.4			15.8	0.5					16.2	1		15.1
Isoleucine (SID)	12.7			15.6	0.3					15.5	1		14.6
Leucine (SID)	21.4			24.3	0.4					26.8	1		24.2
Histidine (SID)	7.9			8.0	0.3					9.4	1		8.4
Serine (SID)										19.5	1		19.5
Glycine (SID)										14.6	1		14.6
Proline (SID)													
Alanine (SID)										14.2	1		14.2
Phenylalanine (SID)	14.0									16.8	1		15.4
Aspartic acid (SID)										38.3	1		38.3
Glu. acid/glu. (SID)										61.2	1		61.2

Soybean meal (full fat)

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			Ajinomoto		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880.0	614		875.0								
ME				12.59								
AME (MJ)												
AMEn (MJ)	13.73	214		14.5								
Net energy	11.10											
Crude protein	355.7	614		355.0			429.0	2	29	371	37	14.55
Ether extract	195.8	260					202.0	2	8			
Ash	50.7	262		53.0			41.2	1				
Crude fibre	61.9	214		58.0			42.8	1				
Acid detergent fibre	84.2	214		78.0								
Neutral detergent fibre	125.6	214		117.0								
Starch	10.5	76										
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	887.0	7315	18	886.0	631	28	925	40	18.8	890.6
ME							13.56	5	0.21	13.1
AME (MJ)										
AMEn (MJ)	17.1	6	2.6	13.2	14	0.5				14.6
Net energy	13.81			10.67			11.21			11.7
Crude protein	446	7125	14	357.0	648	16	373	77	14.7	383.8
Ether extract	241.3	3466	17	197.0	114	15	188	4	17.5	204.8
Ash	64.3	3372	4	49.0	140	3	47.5	4	3	51.0
Crude fibre	69.9	3753	13	58.0	1140	13	51.9	4	13.4	57.1
Acid detergent fibre	86.8	84	17	72.0	45	13	101	3	32.1	84.4
Neutral detergent fibre	148.8	90	3	122.0	43	41	144	3	30.1	131.5
Starch	72.2	125	19	51.0	15	19	67	2	0	50.2
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Soybean meal (full fat)

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Premier Nutrition			Novus			Ajinomoto		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	2.2	262		2.2								
Digestible calcium												
Total phosphorus	5.0	262		5.0								
Available phosphorus												
Phytate phosphorus	3.0	262		3.4								
Phytate	10.64			12.06								
Linoleic acid												
Sodium	0	254		0.2								
Chloride				0.4								
Potassium	16.4	262		17.0								
Magnesium	2.1	262		2.3								
Manganese				0.03								
Zinc				0.04								
Copper				0.012								
Iron				0.13								
Selenium				0.00018								
Cobalt				0.00018								
Molybdenum				0.0025								
Choline												
Sulphur				0.0003								
Total lysine	22.0	614		21.9						22.5	37	1
Total methionine	4.8	614		4.8						4.9	37	0.29
Total threonine	13.8	614		13.8						14.2	37	0.85
Total cysteine	5.5	614		5.3						5.1	37	0.27
Total tryptophan	4.8	290		4.8						5.0	37	0.27
Total arginine	26.1	614		25.9						26.4	37	1.24
Total valine	16.8	614		16.8						17.5	37	0.83
Total isoleucine	16.0	614		16.0						16.7	37	0.78
Total leucine	26.9	614		26.9						28.0	37	1.28
Total histidine	9.3	614		9.3						9.3	37	0.43
Total serine	17.8	614		17.9						18.3	37	0.77
Total glycine	15.2	614		15.2						15.6	37	0.6
Total proline	17.7	614		17.8						18.2	37	1.32
Total alanine	15.3	614								15.9	37	0.66
Total phenylalanine	17.9	614								18.7	37	0.92
Total aspartic acid	40.4	614		41.2						41.3	37	1.73
Total glu. acid/glu.	63.4	614		63.2						65.1	37	2.84
Lysine (SID)	18.9			18.6								
Methionine (SID)	4.2			4.1								
Threonine (SID)	11.5			11.5								
Cysteine (SID)	3.8			4.3								
Tryptophan (SID)	4.0			4.0								
Arginine (SID)	22.4			13.9								
Valine (SID)	14.3			13.9								
Isoleucine (SID)	13.6			13.4								
Leucine (SID)	22.6			21.0								
Histidine (SID)	8.1			7.7								
Serine (SID)				14.7								
Glycine (SID)				12.0								
Proline (SID)				15.1								
Alanine (SID)												
Phenylalanine (SID)	15.1											
Aspartic acid (SID)				36.7								
Glu. acid/glu.(SID)				56.2								

Nutrient (g/kg as fed, unless otherwise specified)	Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	3.2	617	0.8	3.0	145	0.7	2.4	4	0.5	2.6
Digestible calcium										
Total phosphorus	6.1	600	0.6	5.3	143	0.5	5.3	4	1.1	5.3
Available phosphorus							1.7			1.7
Phytate phosphorus				3.2			3.6	2	1.3	3.3
Phytate				11.35			12.77			11.7
Linoleic acid				101			94.5	2	0	97.8
Sodium	0	109	0	0.09	21	0.14	0.3	3	0.4	0.1
Chloride							0.3	3	0.1	0.4
Potassium	18.0	54	1.8	17.4	23	1.0	17.2	3	1.1	17.2
Magnesium	2.4	30	0.1	2.2	15	0.2	3.2	1		2.4
Manganese	0.029	19	0.009	0.023	7	0.006	0.0248	1		0.03
Zinc	0.043	19	0.013	0.029	7	0.011	0.0416	1		0.04
Copper	0.019	18	0.011	0.02	7	0.016	0.0137	1		0.02
Iron	0.121	16	0.03	0.097	7	0.061	0.1791	1		0.13
Selenium				0.0003			0.0002	1		0.0002
Cobalt										0.0002
Molybdenum				0.004						0.003
Choline										
Sulphur				2.8			2.8	1		1.9
Total lysine	27.7	102	1	22.2	41	1.6	23.2			23.2
Total methionine	6.2	82	0	5.2	32	1.0	5.0			5.2
Total threonine	17.4	62	1	14.4	31	1.8	14.4			14.7
Total cysteine	6.7	71	1	5.3	28	0.6	5.8			5.6
Total tryptophan	5.8	20	0	4.5	8	0.3	5.1			5.0
Total arginine	32.1	51	1	26.1	29	2.4	26.7			27.2
Total valine	21.0	49	1	17.2	29	1.2	17.7			17.8
Total isoleucine	20.1	48	1	16.6	30	1.1	17.1			17.1
Total leucine	33.5	45	1	27.0	29	2.0	28.6			28.5
Total histidine	11.6	48	1	9.7	30	0.8	9.6			9.8
Total serine	22.3	46	1	18.8	30	1.5	19.0			19.0
Total glycine	18.7	45	0	15.4	30	1.9	16.0			16.0
Total proline	22.3	41	1	18.0	29	3.7	19.2			18.9
Total alanine	19.2	45	1	15.2	29	1.1	16.0			16.3
Total phenylalanine	22.3	48	0	18.1	30	1.2	18.9			19.2
Total aspartic acid	49.5	50	2	39.8	29	5.2	25.8			39.7
Total glu. acid/glu.	79.4	39	2	63.0	29	5.2	70.3			67.4
Lysine (SID)				18.9			19.9			19.1
Methionine (SID)				4.3			4.3			4.2
Threonine (SID)				11.1			12.1			11.6
Cysteine (SID)				3.6			4.8			4.1
Tryptophan (SID)				3.4			4.2			3.9
Arginine (SID)				22.7			24.4			20.9
Valine (SID)				14.1			15.0			14.3
Isoleucine (SID)				13.8			15.1			14.0
Leucine (SID)				22.4			25.0			22.8
Histidine (SID)				8.2			8.4			8.1
Serine (SID)				15.2			15.6			15.2
Glycine (SID)				11.8			14.8			12.9
Proline (SID)				14.9			16.3			15.4
Alanine (SID)				12.3			13.2			12.8
Phenylalanine (SID)				15.2			16.7			15.7
Aspartic acid (SID)				32.2			23.1			30.7
Glu. acid/glu. (SID)				52.9			64.4			57.8

Soybean meal (full fat)

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	905.4	11	4.2	3	1	890.6	8600	21.6	90	23
ME						13.1	5	0.2	40	10
AME (MJ)										
AMEn (MJ)						14.6	234	1.6	1724	431
Net energy						11.7				
Crude protein	359.9	11	6.2	46	11	383.8	8503	17.7	325	81
Ether extract	204.2	0				204.8	3846	14.4	757	189
Ash	44.6	0				51.0	3779	3.3	658	164
Crude fibre	50.3	0				57.1	5112	13.1	8134	2033
Acid detergent fibre						84.4	346	20.7	9243	2311
Neutral detergent fibre						131.5	350	24.7	5423	1356
Starch						50.2	218	12.7	9793	2448
Total NSP	151.5	40	25.7	4419	1105					
Soluble NSP	36.8	40	16.5	30836	7709					
Insoluble NSP	114.8	40	23.6	6513	1628					
Oligosaccharides	104.0	10	31.1	13728	3432					
Total NSP: Rhamnose	3.1	36	2.9	134532	33633					
Total NSP: Fucose	2.6	36	2.4	130987	32747					
Total NSP: Ribose	10.7	10	6.5	57242	14311					
Total NSP: Arabinose	21.2	36	7.5	19039	4760					
Total NSP: Xylose	12.9	36	5.5	27811	6953					
Total NSP: Mannose	10.4	36	8.4	101022	25256					
Total NSP: Galactose	40.4	36	13.3	16541	4135					
Total NSP: Glucose	40.8	36	10.7	10610	2652					
Soluble NSP: Rhamnose	0.6	36	0.7	258628	64657					
Soluble NSP: Fucose	0.5	36	0.6	191644	47911					
Soluble NSP: Ribose	7.9	10	2.5	15059	3765					
Soluble NSP: Arabinose	5.9	36	3.4	50847	12712					
Soluble NSP: Xylose	1.6	36	1.0	63004	15751					
Soluble NSP: Mannose	3.8	36	3.0	94847	23712					
Soluble NSP: Galactose	11.9	36	7.3	57386	14347					
Soluble NSP: Glucose	2.6	36	2.2	109627	27407					
Insoluble NSP: Rhamnose	2.4	36	2.8	211158	52789					
Insoluble NSP: Fucose	1.8	36	1.1	56852	14213					
Insoluble NSP: Ribose	0.4	10	0.1	10073	2518					
Insoluble NSP: Arabinose	15.6	36	5.4	18198	4550					
Insoluble NSP: Xylose	10.8	36	3.8	18782	4695					
Insoluble NSP: Mannose	4.9	36	3.0	58091	14523					
Insoluble NSP: Galactose	28.5	36	7.8	11574	2894					
Insoluble NSP: Glucose	38.2	36	10.6	11717	2929					
Oligo. NSP: Rhamnose	6.1	36	4.4	80154	20039					
Oligo. NSP: Fucose	1.0	36	0.8	90583	22646					
Oligo. NSP: Ribose	0.9	10	0.7	88004	22001					
Oligo. NSP: Arabinose	9.7	36	4.6	35368	8842					
Oligo. NSP: Xylose	0.5	36	0.4	90476	22619					
Oligo. NSP: Mannose	21.7	36	6.7	14613	3653					
Oligo. NSP: Galactose	23.0	36	4.3	5445	1361					
Oligo. NSP: Glucose	48.4	36	10.3	6950	1737					

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						2.6	1028	0.7	10103	2526
Digestible calcium										
Total phosphorus						5.3	1009	0.7	2898	724
Available phosphorus						1.7				
Phytate phosphorus						3.3	264	1.3	23847	5962
Phytate						11.7				
Linoleic acid						97.8	2			
Sodium						0.1	387	0.2	357563	89391
Chloride						0.4	3	0.1	12544	3136
Potassium						17.2	342	1.3	878	219
Magnesium						2.4	308	0.2	581	145
Manganese						0.03	27	0.0	12125	3031
Zinc						0.04	27	0.0	15006	3752
Copper						0.02	26	0.0	107041	26760
Iron						0.13	24	0.0	18320	4580
Selenium						0.0002	1			
Cobalt						0.0002				
Molybdenum						0.003				
Choline										
Sulphur						1.9	1			
Total lysine	23.1	11	0.4	46	12	23.2	794	1.2	385	96
Total methionine	4.7	11	0.2	274	69	5.2	765	0.6	1935	484
Total threonine	14.7	11	0.8	457	114	14.7	744	1.2	996	249
Total cysteine	5.6	10	0.3	449	112	5.6	750	0.6	1681	420
Total tryptophan	5.2	2	0.1	57	14	5.0	355	0.2	222	55
Total arginine	26.6	11	1.7	626	157	27.2	731	1.7	571	143
Total valine	17.5	11	0.3	45	11	17.8	729	1.0	459	115
Total isoleucine	16.6	11	0.2	22	6	17.1	729	0.9	450	112
Total leucine	27.4	11	0.5	51	13	28.5	725	1.4	367	92
Total histidine	9.6	11	0.4	265	66	9.8	729	0.7	801	200
Total serine	19.8	11				19.0	727	1.1	472	118
Total glycine	15.3	11				16.0	726	1.0	577	144
Total proline	17.8	10				18.9	721	2.1	1939	485
Total alanine	15.4	11				16.3	725	0.9	451	113
Total phenylalanine	17.6	11				19.2	729	0.9	306	76
Total aspartic acid	40.4	11				39.7	730	2.9	824	206
Total glu. acid/glu.	66.6	11				67.4	719	3.4	396	99
Lysine (SID)	20.0	1				19.1				
Methionine (SID)	4.2	1				4.2				
Threonine (SID)	12.1	1				11.6				
Cysteine (SID)	4.2	0				4.1				
Tryptophan (SID)	4.4	0				3.9				
Arginine (SID)	24.5	1				20.9				
Valine (SID)	15.1	1				14.3				
Isoleucine (SID)	14.6	1				14.0				
Leucine (SID)	24.2	1				22.8				
Histidine (SID)	8.4	1				8.1				
Serine (SID)	19.5	1				15.2				
Glycine (SID)	14.6	1				12.9				
Proline (SID)		0				15.4				
Alanine (SID)	14.2	1				12.8				
Phenylalanine (SID)	15.4	1				15.7				
Aspartic acid (SID)	38.3	1				30.7				
Glu. acid/glu. (SID)	61.2	1				57.8				

Sunflower meal

Australia

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				910	1					910.0
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein				346	1					346.0
Ether extract										
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP	228.5	18	48.5							228.5
Soluble NSP	25.1	18	22.4							25.1
Insoluble NSP	206.1	18	41.1							206.1
Oligosaccharides	51.0	1	0.0							51.0
Total NSP: Rhamnose	4.97	12	1.97							5.0
Total NSP: Fucose	1.78	12	0.82							1.8
Total NSP: Ribose	0.85	10	0.94							0.9
Total NSP: Arabinose	31.43	12	2.75							31.4
Total NSP: Xylose	52.84	12	15.95							52.8
Total NSP: Mannose	14.43	12	4.24							14.4
Total NSP: Galactose	12.90	12	2.04							12.9
Total NSP: Glucose	114.97	12	26.23							115.0
Soluble NSP: Rhamnose	1.94	14	1.90							1.9
Soluble NSP: Fucose	0.72	14	0.63							0.7
Soluble NSP: Ribose	0.82	10	0.87							0.8
Soluble NSP: Arabinose	3.85	14	2.00							3.8
Soluble NSP: Xylose	1.13	14	0.63							1.1
Soluble NSP: Mannose	3.26	14	2.15							3.3
Soluble NSP: Galactose	2.48	14	0.76							2.5
Soluble NSP: Glucose	3.46	14	4.40							3.5
Insoluble NSP: Rhamnose	2.44	14	0.81							2.4
Insoluble NSP: Fucose	0.86	14	0.40							0.9
Insoluble NSP: Ribose	0.10	10	0.07							0.1
Insoluble NSP: Arabinose	25.13	14	5.79							25.1
Insoluble NSP: Xylose	45.14	14	22.19							45.1
Insoluble NSP: Mannose	10.07	14	3.60							10.1
Insoluble NSP: Galactose	9.53	14	2.68							9.5
Insoluble NSP: Glucose	110.77	14	21.88							110.8
Oligo. NSP: Rhamnose	0.14									0.1
Oligo. NSP: Fucose	0.22									0.2
Oligo. NSP: Ribose	0.32									0.3
Oligo. NSP: Arabinose	0.02									0.0
Oligo. NSP: Xylose	0.04									0.0
Oligo. NSP: Mannose	6.13									6.1
Oligo. NSP: Galactose	6.74									6.7
Oligo. NSP: Glucose	37.33									37.3

Nutrient (g/kg as fed, unless otherwise specified)	Poultry Hub Australia			Bryden 2009			Selle 2003			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus							9.05	2		9.1
Available phosphorus										
Phytate phosphorus							7.48	2		7.5
Phytate							26.52			26.5
Linoleic acid										
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine				11.9	1					11.9
Total methionine				8.5	1					8.5
Total threonine				13.2	1					13.2
Total cysteine										
Total tryptophan				3.6	1					3.6
Total arginine				29	1					29.0
Total valine				16	1					16.0
Total isoleucine				12.7	1					12.7
Total leucine				22	1					22.0
Total histidine				8.1	1					8.1
Total serine				15.7	1					15.7
Total glycine				19.5	1					19.5
Total proline										
Total alanine				14.6	1					14.6
Total phenylalanine				15.5	1					15.5
Total aspartic acid				31.6	1					31.6
Total glu. acid/glu.				66.8	1					66.8
Lysine (SID)				9.8	1					9.8
Methionine (SID)				8.1	1					8.1
Threonine (SID)				10.0	1					10.0
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)				27.3	1					27.3
Valine (SID)				13.9	1					13.9
Isoleucine (SID)				11.3	1					11.3
Leucine (SID)				19.4	1					19.4
Histidine (SID)				6.2	1					6.2
Serine (SID)				11.9	1					11.9
Glycine (SID)				14.2	1					14.2
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)				14.0	1					14.0
Aspartic acid (SID)				26.9	1					26.9
Glu. acid/glu. (SID)				62.1	1					62.1

Sunflower meal

Global

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	880	739		906.4	151	6.7	920			922.4	1	
ME							8					
AME (MJ)												
AMEn (MJ)	6.27	239					7.96					
Net energy	4.57512											
Crude protein	322.4	739		354.2	152	20.6	290			301	1	
Ether extract	18.4	239		18.2	151	4.7				192.1	1	
Ash	67.9	239		71.1	152	4.3	60			55.1	1	
Crude fibre	188.6	238		183.5	151	22.4	240			116	1	
Acid detergent fibre	225	238					280					
Neutral detergent fibre	321.5	238					380					
Starch							30					
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter				890.0	14806	14	889	3306	19	896	22	9.2	900.5
ME										7.51	3	0.787	7.8
AME (MJ)													
AMEn (MJ)							5.5	1					6.6
Net energy							4.04			5.85			4.8
Crude protein	334	9	50.91	364.0	14755	31	273	3961	16	334	23	53.9	321.6
Ether extract				24.7	9688	9	19	2896	7	19.8	13	5.3	48.7
Ash				79.8	5882	7	60	1020	5	61.1	17	8.6	65.0
Crude fibre				313.5	14519	33	263	3815	17	247	5	30.6	221.7
Acid detergent fibre				359.6	644	36	300	596	30	263	7	43.7	285.5
Neutral detergent fibre				505.6	647	44	418	597	38	407	7	35.6	406.4
Starch							34	223	10	43.8	2	8.8	35.9
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Sunflower meal

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Evonik			Adisseo			Premier Nutrition			Novus		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium	3.9	239					3.0					
Digestible calcium												
Total phosphorus	10.3	239					77.0					
Available phosphorus												
Phytate phosphorus	8.8	239		9.3	171	0.7	6.2					
Phytate	31.20						21.99					
Linoleic acid												
Sodium	0.1	239					0.2					
Chloride							1.3					
Potassium	13.7	239					13.0					
Magnesium	5.7	239					3.5					
Manganese							0.055					
Zinc							0.065					
Copper							0.03					
Iron							0.24					
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur							4.0					
Total lysine	11.2	739		13.8	151	1.7	10.6					
Total methionine	7.1	739		8.1	151	0.5	6.8					
Total threonine	11.6	739		13.9	151	0.9	11.0					
Total cysteine	5.2	739		6.0	151	0.4	4.8					
Total tryptophan	4.3	301		5.2	151	0.3	3.9					
Total arginine	25.7	739		27.6	150	2.0	23.5					
Total valine	15.7	739		18.0	151	1.0	14.6					
Total isoleucine	12.9	739		15.1	151	1.1	12.0					
Total leucine	20.1	739		23.1	151	1.9	18.6					
Total histidine	7.8	739		8.2	151	0.6	7.3					
Total serine	13.3	739					12.3					
Total glycine	18.6	739					17.4					
Total proline	13.6	739					12.8					
Total alanine	13.6	739										
Total phenylalanine	14.5	739										
Total aspartic acid	28.6	739					26.1					
Total glu. acid/glu.	60.5	739					55.1					
Lysine (SID)	9.7			11.1	120	1.7	8.2					
Methionine (SID)	6.5			7.5	99	0.4	5.8					
Threonine (SID)	9.5			11.0	137	0.8	8.7					
Cysteine (SID)	4.2			4.5	137	0.4	3.6					
Tryptophan (SID)	3.7			4.5	105	0.4	3.1					
Arginine (SID)	23.9			26.3	108	1.6	20.9					
Valine (SID)	13.7			15.4	92	0.9	12.3					
Isoleucine (SID)	11.5			13.2	142	1.1	10.6					
Leucine (SID)	17.6			20.6	128	2.0	16.1					
Histidine (SID)	6.9			7.2	54	0.7	6.2					
Serine (SID)							10.0					
Glycine (SID)							13.2					
Proline (SID)							10.6					
Alanine (SID)												
Phenylalanine (SID)	13.1											
Aspartic acid (SID)							21.9					
Glu. acid/glu.(SID)							46.3					

Nutrient (g/kg as fed, unless otherwise specified)	Ajinomoto			Feedipedia			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium				4.4	1017	0.7	3.8	748	0.7	3.5	7	0.5	3.7
Digestible calcium													
Total phosphorus				11.6	1143	1.7	9.7	857	1.3	9.8	6	1	23.7
Available phosphorus							1.7						1.7
Phytate phosphorus							8.3	1		6.6	1		7.8
Phytate							29.43			23.40			26.5
Linoleic acid							9.1	2					9.1
Sodium				0.1	154	0.1	0.11	167	0.23	0.2	6	0.1	0.1
Chloride										1.5	3	0.5	1.4
Potassium				16.9	35	1.4	14.1	30	2	14.2	6	2.5	14.4
Magnesium				5.6	27	0.5	4.7	15	0.9	6.5	3	0.9	5.2
Manganese				0.038	24	0.01	0.034	36	0.016	0.0003			0.0
Zinc				0.096	24	0.01	0.077	32	0.008	0.079			0.1
Copper				0.032	23	0.01	0.03	31	0.006	0.026			0.0
Iron				0.271	8	0.1	0.176	14	0.065	0.248			0.2
Selenium							0.0003	4		0.0005			0.0
Cobalt							0.0001	2					0.0
Molybdenum							0.0006	2					0.0
Choline													
Sulphur							3.9			3.2	2	0.2	3.7
Total lysine	11.7	9	1.87	12.7	86	0.73	10	68	1	11.4			11.6
Total methionine	7.2	9	1.18	8.4	70	0.73	6.1	47	0.6	7			7.2
Total threonine	12.0	9	1.77	13.1	67	0.73	9.9	46	0.9	11.6			11.9
Total cysteine	5.0	9	0.72	6.2	68	0.73	4.6	44	0.7	5.6			5.3
Total tryptophan	4.4	9	0.77	4.7	19	0	3.5	23	0.1	4.3			4.3
Total arginine	25.7	9	4.4	29.5	54	1.82	21.9	42	2.2	26.7			25.8
Total valine	15.7	9	2.53	17.9	67	1.09	13.3	46	1.5	15.3			15.8
Total isoleucine	12.1	9	2.12	14.9	67	0.73	11.1	46	1	12.5			12.9
Total leucine	20.1	9	3.03	22.6	67	1.09	16.6	44	1.5	19.8			20.1
Total histidine	7.8	9	1.23	8.8	52	0.73	6.6	43	0.8	7.9			7.8
Total serine	13.8	9	2.04	15.3	56	0.73	11.4	42	0.9	14			13.3
Total glycine	19.2	9	2.76	20.4	60	1.09	15.4	42	1.3	17.5			18.1
Total proline	13.5	9	2.36	15.3	26	1.46	11.3	29	1.4	16.6			13.8
Total alanine	13.8	9	2.03	15.7	54	1.09	11.7	40	1	14			13.8
Total phenylalanine	14.7	9	2.35	16.0	64	0.73	12	44	1.1	14.5			14.3
Total aspartic acid	29.0	9	4.48	32.0	56	1.46	23.6	41	1.9	15.9			25.9
Total glu. acid/glu.	61.0	9	10.3	68.8	56	5.10	51	42	5.6	63.4			60.0
Lysine (SID)							8.2			9.4			9.3
Methionine (SID)							5.7			6.4			6.4
Threonine (SID)							7.6			9.6			9.3
Cysteine (SID)							3.4			4.5			4.0
Tryptophan (SID)							3.0			3.7			3.6
Arginine (SID)							19.9			24.5			23.1
Valine (SID)							11.0			13.5			13.2
Isoleucine (SID)							9.5			11.2			11.2
Leucine (SID)							13.9			17.6			17.2
Histidine (SID)							5.1			6.9			6.5
Serine (SID)							8.9			11.7			10.2
Glycine (SID)							11.0			14.4			12.9
Proline (SID)							10.7						10.7
Alanine (SID)							9.7			12.0			10.9
Phenylalanine (SID)							10.4			13.1			12.2
Aspartic acid (SID)							18.9			13.8			18.2
Glu. acid/glu. (SID)							44.4			59			49.9

Sunflower meal

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	910.0	1				900.5	19025	12.2	28	7
ME						7.8	3	0.8	1583	396
AME (MJ)										
AMEn (MJ)						6.6	240			
Net energy						4.8				
Crude protein	346.0	1				321.6	19640	34.5	1767	442
Ether extract						48.7	12988	6.5	2737	684
Ash						65.0	7311	6.2	1409	352
Crude fibre						221.7	18729	25.8	2074	518
Acid detergent fibre						285.5	1485	36.6	2520	630
Neutral detergent fibre						406.4	1489	39.2	1430	357
Starch						35.9	225	9.4	10516	2629
Total NSP	228.5	18	48.5	6914	1728					
Soluble NSP	25.1	18	22.4	122304	30576					
Insoluble NSP	206.1	18	41.1	6109	1527					
Oligosaccharides	51.0	1								
Total NSP: Rhamnose	5.0	12	2.0	24164	6041					
Total NSP: Fucose	1.8	12	0.8	32318	8080					
Total NSP: Ribose	0.9	10	0.9	186684	46671					
Total NSP: Arabinose	31.4	12	2.7	1173	293					
Total NSP: Xylose	52.8	12	16.0	14005	3501					
Total NSP: Mannose	14.4	12	4.2	13251	3313					
Total NSP: Galactose	12.9	12	2.0	3830	958					
Total NSP: Glucose	115.0	12	26.2	7996	1999					
Soluble NSP: Rhamnose	1.9	14	1.9	147000	36750					
Soluble NSP: Fucose	0.7	14	0.6	118000	29500					
Soluble NSP: Ribose	0.8	10	0.9	172686	43171					
Soluble NSP: Arabinose	3.8	14	2.0	41765	10441					
Soluble NSP: Xylose	1.1	14	0.6	47791	11948					
Soluble NSP: Mannose	3.3	14	2.2	67136	16784					
Soluble NSP: Galactose	2.5	14	0.8	14601	3650					
Soluble NSP: Glucose	3.5	14	4.4	248060	62015					
Insoluble NSP: Rhamnose	2.4	14	0.8	16779	4195					
Insoluble NSP: Fucose	0.9	14	0.4	33567	8392					
Insoluble NSP: Ribose	0.1	10	0.1	63356	15839					
Insoluble NSP: Arabinose	25.1	14	5.8	8143	2036					
Insoluble NSP: Xylose	45.1	14	22.2	37151	9288					
Insoluble NSP: Mannose	10.1	14	3.6	19586	4896					
Insoluble NSP: Galactose	9.5	14	2.7	12125	3031					
Insoluble NSP: Glucose	110.8	14	21.9	5995	1499					
Oligo. NSP: Rhamnose	0.1									
Oligo. NSP: Fucose	0.2									
Oligo. NSP: Ribose	0.3									
Oligo. NSP: Arabinose	0.0									
Oligo. NSP: Xylose	0.0									
Oligo. NSP: Mannose	6.1									
Oligo. NSP: Galactose	6.7									
Oligo. NSP: Glucose	37.3									

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium						3.7	2011	0.6	4454	1114
Digestible calcium										
Total phosphorus	9.1	2				23.7	2245	1.3	487	122
Available phosphorus						1.7				
Phytate phosphorus	7.5	2				7.8	412	0.7	1225	306
Phytate	26.5					26.5				
Linoleic acid						9.1	2			
Sodium						0.1	566	0.1	156563	39141
Chloride						1.4	3	0.5	19600	4900
Potassium						14.4	310	2.0	2874	719
Magnesium						5.2	284	0.8	3340	835
Manganese						0.0	60	0.0	21834	5458
Zinc						0.1	56	0.0	1768	442
Copper						0.0	54	0.0	5341	1335
Iron						0.2	22	0.1	9625	2406
Selenium						0.0	4			
Cobalt						0.0	2			
Molybdenum						0.0	2			
Choline										
Sulphur						3.7	2	0.2	449	112
Total lysine	11.9	1				11.6	1053	1.3	1992	498
Total methionine	8.5	1				7.2	1016	0.8	1658	415
Total threonine	13.2	1				11.9	1012	1.1	1259	315
Total cysteine						5.3	1011	0.6	2186	546
Total tryptophan	3.6	1				4.3	503	0.3	700	175
Total arginine	29.0	1				25.8	994	2.6	1567	392
Total valine	16.0	1				15.8	1012	1.5	1446	362
Total isoleucine	12.7	1				12.9	1012	1.2	1403	351
Total leucine	22.0	1				20.1	1010	1.9	1342	335
Total histidine	8.1	1				7.8	994	0.8	1797	449
Total serine	15.7	1				13.3	846	1.2	1289	322
Total glycine	19.5	1				18.1	850	1.7	1386	347
Total proline						13.8	803	1.7	2422	606
Total alanine	14.6	1				13.8	842	1.4	1534	384
Total phenylalanine	15.5	1				14.3	856	1.4	1449	362
Total aspartic acid	31.6	1				25.9	845	2.6	1566	392
Total glu. acid/glu.	66.8	1				60.0	846	7.0	2099	525
Lysine (SID)	9.8	1				9.3	120	1.7	5113	1278
Methionine (SID)	8.1	1				6.4	99	0.4	604	151
Threonine (SID)	10.0	1				9.3	137	0.8	1142	285
Cysteine (SID)						4.0	137	0.4	1506	377
Tryptophan (SID)						3.6	105	0.4	1897	474
Arginine (SID)	27.3	1				23.1	108	1.6	737	184
Valine (SID)	13.9	1				13.2	92	0.9	717	179
Isoleucine (SID)	11.3	1				11.2	142	1.1	1482	371
Leucine (SID)	19.4	1				17.2	128	2.0	2087	522
Histidine (SID)	6.2	1				6.5	54	0.7	1804	451
Serine (SID)	11.9	1				10.2				
Glycine (SID)	14.2	1				12.9				
Proline (SID)						10.7				
Alanine (SID)						10.9				
Phenylalanine (SID)	14.0	1				12.2				
Aspartic acid (SID)	26.9	1				18.2				
Glu. acid/glu. (SID)	62.1	1				49.9				

Fats and oils

Canola oil

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			RCI			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	995.0			999.0			999.0	255	6	995.0	1		997.0
ME	36.3			38.74						36.75	1		37.3
AME (MJ)				38.77									38.8
AMEn (MJ)	38.6						37.6						38.1
Net energy										33.08			33.1
Crude protein	0												
Ether extract	990.0			990.0			996.0	121	5	995.0	1		992.8
Ash	0						2.0	6	2				1.0
Crude fibre	0												0.0
Acid detergent fibre	0												0.0
Neutral detergent fibre	0												0.0
Starch	0												0.0
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			RCI			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	0												0.0
Digestible calcium													
Total phosphorus	0												0.0
Available phosphorus													
Phytate phosphorus													
Phytate													
Linoleic acid	210.7						203	17	15.9	187	1		200.2
Sodium	0												0.0
Chloride	0												0.0
Potassium	0												0.0
Magnesium	0												0.0
Manganese	0												0.0
Zinc	0												0.0
Copper	0												0.0
Iron	0												0.0
Selenium	0												0.0
Cobalt	0												0.0
Molybdenum	0												0.0
Choline													
Sulphur	0												0.0
Total lysine													
Total methionine													
Total threonine													
Total cysteine													
Total tryptophan													
Total arginine													
Total valine													
Total isoleucine													
Total leucine													
Total histidine													
Total serine													
Total glycine													
Total proline													
Total alanine													
Total phenylalanine													
Total aspartic acid													
Total glu. acid/glu.													
Lysine (SID)													
Methionine (SID)													
Threonine (SID)													
Cysteine (SID)													
Tryptophan (SID)													
Arginine (SID)													
Valine (SID)													
Isoleucine (SID)													
Leucine (SID)													
Histidine (SID)													
Serine (SID)													
Glycine (SID)													
Proline (SID)													
Alanine (SID)													
Phenylalanine (SID)													
Aspartic acid (SID)													
Glu. acid/glu.(SID)													

Canola oil

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			997.0	256	6.0	6	1
ME						37.3	1			
AME (MJ)						38.8				
AMEn (MJ)						38.1				
Net energy						33.1				
Crude protein										
Ether extract						992.8	122	5.0	4	1
Ash						1.0	6	2.0	614656	153664
Crude fibre						0.0				
Acid detergent fibre						0.0				
Neutral detergent fibre						0.0				
Starch						0.0				
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No data*			0.0				
Digestible calcium										
Total phosphorus						0.0				
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid						200.2	18	15.9	969	242
Sodium						0.0				
Chloride						0.0				
Potassium						0.0				
Magnesium						0.0				
Manganese						0.0				
Zinc						0.0				
Copper						0.0				
Iron						0.0				
Selenium						0.0				
Cobalt						0.0				
Molybdenum						0.0				
Choline										
Sulphur						0.0				
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Poultry oil

Global

Nutrient (g/kg as fed, unless otherwise specified)	RCI			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	998.0			1000	299	7	996.0	1		998.0
ME	34.56						36.32	1		35.4
AME (MJ)	34.59									34.6
AMEn (MJ)				36.9						36.9
Net energy							32.69	1		32.7
Crude protein										
Ether extract	990.0						996.0	1		993.0
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	RCI			Feedtables.com			Brazilian Tables			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid				191	7	38.5				191
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Poultry oil

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			998.0	300	7.0	8	2
ME						35.4	1			
AME (MJ)						34.6				
AMEn (MJ)						36.9				
Net energy						32.7	1			
Crude protein										
Ether extract						993.0	1			
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No data*							
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid						191.0	7	38.5	6243	1561
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Soybean oil

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Novus			RCI			Feedtables.com		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	995.0			998.57	7	1.87	998.0			998.0	602	9
ME	35.2						37.99					
AME (MJ)							37.89					
AMEn (MJ)	37.7									37.6	3	
Net energy												
Crude protein												
Ether extract				1000.0	2	0	997.0			997.0	47	5
Ash												
Crude fibre												
Acid detergent fibre												
Neutral detergent fibre												
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Brazilian Tables			Average of the mean
	Mean	n	SD	
Dry matter	996.0	1		997.1
ME	36.78	2	0	36.7
AME (MJ)				37.9
AMEn (MJ)				37.7
Net energy	33.1			33.1
Crude protein				
Ether extract	996.0			997.5
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Soybean oil

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Novus			RCI			Feedtables.com		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium												
Digestible calcium												
Total phosphorus												
Available phosphorus												
Phytate phosphorus												
Phytate												
Linoleic acid	519.5			510	4	37.6				530	15	32.5
Sodium												
Chloride												
Potassium												
Magnesium												
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine												
Total methionine												
Total threonine												
Total cysteine												
Total tryptophan												
Total arginine												
Total valine												
Total isoleucine												
Total leucine												
Total histidine												
Total serine												
Total glycine												
Total proline												
Total alanine												
Total phenylalanine												
Total aspartic acid												
Total glu. acid/glu.												
Lysine (SID)												
Methionine (SID)												
Threonine (SID)												
Cysteine (SID)												
Tryptophan (SID)												
Arginine (SID)												
Valine (SID)												
Isoleucine (SID)												
Leucine (SID)												
Histidine (SID)												
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)												
Aspartic acid (SID)												
Glu. acid/glu.(SID)												

Nutrient (g/kg as fed, unless otherwise specified)	Brazilian Tables			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid	526	1		521.4
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine				
Total methionine				
Total threonine				
Total cysteine				
Total tryptophan				
Total arginine				
Total valine				
Total isoleucine				
Total leucine				
Total histidine				
Total serine				
Total glycine				
Total proline				
Total alanine				
Total phenylalanine				
Total aspartic acid				
Total glu. acid/glu.				
Lysine (SID)				
Methionine (SID)				
Threonine (SID)				
Cysteine (SID)				
Tryptophan (SID)				
Arginine (SID)				
Valine (SID)				
Isoleucine (SID)				
Leucine (SID)				
Histidine (SID)				
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				
Glu. acid/glu. (SID)				

Soybean oil

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No Data*			997.1	610	5.4	5	1
ME						36.7	2			
AME (MJ)						37.9				
AMEn (MJ)						37.7	3			
Net energy						33.1				
Crude protein										
Ether extract						997.5	49	2.5	1	1
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No data*							
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid						521.4	20	35.1	694	174
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Sunflower oil

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Novus			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	995.0			994.1	1		993.0	111	17	994.0
ME	35.8									35.8
AME (MJ)										
AMEn (MJ)	38.2						37.4			37.8
Net energy										
Crude protein										
Ether extract							995.0	37	11	995.0
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Novus			Feedtables.com			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium										
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid	639						646	8	40.7	642.5
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Sunflower oil

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			994.0	112	17.0	45	11
ME						35.8				
AME (MJ)										
AMEn (MJ)						37.8				
Net energy										
Crude protein										
Ether extract						995.0	37	11.0	19	5
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	*No data*									
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid						642.5	8	40.7	617	154
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Tallow

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Novus			RCI			Feedtables.com		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Dry matter	990			998.53	21	0.46	1000			1000	119	6
ME	30.6						33.05					
AME (MJ)							33.08					
AMEn (MJ)	30.4									30.2		
Net energy												
Crude protein	5											
Ether extract	990						990			1000	42	7
Ash												
Crude fibre												
Acid detergent fibre												
Neutral detergent fibre												
Starch												
Total NSP												
Soluble NSP												
Insoluble NSP												
Oligosaccharides												
Total NSP: Rhamnose												
Total NSP: Fucose												
Total NSP: Ribose												
Total NSP: Arabinose												
Total NSP: Xylose												
Total NSP: Mannose												
Total NSP: Galactose												
Total NSP: Glucose												
Soluble NSP: Rhamnose												
Soluble NSP: Fucose												
Soluble NSP: Ribose												
Soluble NSP: Arabinose												
Soluble NSP: Xylose												
Soluble NSP: Mannose												
Soluble NSP: Galactose												
Soluble NSP: Glucose												
Insoluble NSP: Rhamnose												
Insoluble NSP: Fucose												
Insoluble NSP: Ribose												
Insoluble NSP: Arabinose												
Insoluble NSP: Xylose												
Insoluble NSP: Mannose												
Insoluble NSP: Galactose												
Insoluble NSP: Glucose												
Oligo. NSP: Rhamnose												
Oligo. NSP: Fucose												
Oligo. NSP: Ribose												
Oligo. NSP: Arabinose												
Oligo. NSP: Xylose												
Oligo. NSP: Mannose												
Oligo. NSP: Galactose												
Oligo. NSP: Glucose												

Nutrient (g/kg as fed, unless otherwise specified)	Brazilian Tables			Average of the mean
	Mean	n	SD	
Dry matter	994	1		996.5
ME	30.97	1		31.5
AME (MJ)				33.1
AMEn (MJ)				30.3
Net energy	27.87			27.9
Crude protein				5.0
Ether extract	994	1		994.7
Ash				
Crude fibre				
Acid detergent fibre				
Neutral detergent fibre				
Starch				
Total NSP				
Soluble NSP				
Insoluble NSP				
Oligosaccharides				
Total NSP: Rhamnose				
Total NSP: Fucose				
Total NSP: Ribose				
Total NSP: Arabinose				
Total NSP: Xylose				
Total NSP: Mannose				
Total NSP: Galactose				
Total NSP: Glucose				
Soluble NSP: Rhamnose				
Soluble NSP: Fucose				
Soluble NSP: Ribose				
Soluble NSP: Arabinose				
Soluble NSP: Xylose				
Soluble NSP: Mannose				
Soluble NSP: Galactose				
Soluble NSP: Glucose				
Insoluble NSP: Rhamnose				
Insoluble NSP: Fucose				
Insoluble NSP: Ribose				
Insoluble NSP: Arabinose				
Insoluble NSP: Xylose				
Insoluble NSP: Mannose				
Insoluble NSP: Galactose				
Insoluble NSP: Glucose				
Oligo. NSP: Rhamnose				
Oligo. NSP: Fucose				
Oligo. NSP: Ribose				
Oligo. NSP: Arabinose				
Oligo. NSP: Xylose				
Oligo. NSP: Mannose				
Oligo. NSP: Galactose				
Oligo. NSP: Glucose				

Tallow

Global (cont.)

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			Novus			RCI			Feedtables.com		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
Total calcium												
Digestible calcium												
Total phosphorus												
Available phosphorus												
Phytate phosphorus												
Phytate												
Linoleic acid	43.3			55.5	1					27.6	4	15.7
Sodium												
Chloride												
Potassium												
Magnesium												
Manganese												
Zinc												
Copper												
Iron												
Selenium												
Cobalt												
Molybdenum												
Choline												
Sulphur												
Total lysine												
Total methionine												
Total threonine												
Total cysteine												
Total tryptophan												
Total arginine												
Total valine												
Total isoleucine												
Total leucine												
Total histidine												
Total serine												
Total glycine												
Total proline												
Total alanine												
Total phenylalanine												
Total aspartic acid												
Total glu. acid/glu.												
Lysine (SID)												
Methionine (SID)												
Threonine (SID)												
Cysteine (SID)												
Tryptophan (SID)												
Arginine (SID)												
Valine (SID)												
Isoleucine (SID)												
Leucine (SID)												
Histidine (SID)												
Serine (SID)												
Glycine (SID)												
Proline (SID)												
Alanine (SID)												
Phenylalanine (SID)												
Aspartic acid (SID)												
Glu. acid/glu.(SID)												

Nutrient (g/kg as fed, unless otherwise specified)	Brazilian Tables			Average of the mean
	Mean	n	SD	
Total calcium				
Digestible calcium				
Total phosphorus				
Available phosphorus				
Phytate phosphorus				
Phytate				
Linoleic acid	31	1		39.4
Sodium				
Chloride				
Potassium				
Magnesium				
Manganese				
Zinc				
Copper				
Iron				
Selenium				
Cobalt				
Molybdenum				
Choline				
Sulphur				
Total lysine				
Total methionine				
Total threonine				
Total cysteine				
Total tryptophan				
Total arginine				
Total valine				
Total isoleucine				
Total leucine				
Total histidine				
Total serine				
Total glycine				
Total proline				
Total alanine				
Total phenylalanine				
Total aspartic acid				
Total glu. acid/glu.				
Lysine (SID)				
Methionine (SID)				
Threonine (SID)				
Cysteine (SID)				
Tryptophan (SID)				
Arginine (SID)				
Valine (SID)				
Isoleucine (SID)				
Leucine (SID)				
Histidine (SID)				
Serine (SID)				
Glycine (SID)				
Proline (SID)				
Alanine (SID)				
Phenylalanine (SID)				
Aspartic acid (SID)				
Glu. acid/glu. (SID)				

Tallow

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter	*No data*					996.5	141	3.2	2	1
ME						31.5	1			
AME (MJ)						33.1				
AMEn (MJ)						30.3				
Net energy						27.9				
Crude protein						5.0				
Ether extract						994.7	43	7.0	8	2
Ash										
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium	*No data*									
Digestible calcium										
Total phosphorus										
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid						39.4	6	15.7	24461	6115
Sodium										
Chloride										
Potassium										
Magnesium										
Manganese										
Zinc										
Copper										
Iron										
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Minerals

Limestone

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			RCI			Feedtables.com			Novus			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	990			995			995	11	10				993.3
ME													
AME (MJ)													
AMEn (MJ)													
Net energy													
Crude protein													
Ether extract													
Ash	990												990
Crude fibre													
Acid detergent fibre													
Neutral detergent fibre													
Starch													
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			RCI			Feedtables.com			Novus			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	380			380			350	6	21.1	196.6	1		336.7
Digestible calcium													
Total phosphorus										0.4	1		0.4
Available phosphorus													
Phytate phosphorus													
Phytate													
Linoleic acid													
Sodium										0.02	1		0.0
Chloride													
Potassium										0.1	1		0.1
Magnesium										81.8	1		42.1
Manganese										0.031	1		0.0
Zinc										0.01	1		0.0
Copper													
Iron										0.51	1		0.5
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine													
Total methionine													
Total threonine													
Total cysteine													
Total tryptophan													
Total arginine													
Total valine													
Total isoleucine													
Total leucine													
Total histidine													
Total serine													
Total glycine													
Total proline													
Total alanine													
Total phenylalanine													
Total aspartic acid													
Total glu. acid/glu.													
Lysine (SID)													
Methionine (SID)													
Threonine (SID)													
Cysteine (SID)													
Tryptophan (SID)													
Arginine (SID)													
Valine (SID)													
Isoleucine (SID)													
Leucine (SID)													
Histidine (SID)													
Serine (SID)													
Glycine (SID)													
Proline (SID)													
Alanine (SID)													
Phenylalanine (SID)													
Aspartic acid (SID)													
Glu. acid/glu.(SID)													

Limestone

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			993.3	11	10.0	16	4
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein										
Ether extract										
Ash						990.0				
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No data*			336.7	7	21.1	603	151
Digestible calcium										
Total phosphorus						0.4	1			
Available phosphorus										
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium						0.0	1			
Chloride										
Potassium						0.1	1			
Magnesium						42.1	1			
Manganese						0.0	1			
Zinc						0.0	1			
Copper										
Iron						0.5	1			
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										

Monodicalcium phosphate

Global

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			RCI			Feedtables.com			Novus			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Dry matter	980			982			982	156	14				981.3
ME													
AME (MJ)													
AMEn (MJ)													
Net energy													
Crude protein													
Ether extract													
Ash	780			823			823	216	15				808.7
Crude fibre													
Acid detergent fibre													
Neutral detergent fibre													
Starch													
Total NSP													
Soluble NSP													
Insoluble NSP													
Oligosaccharides													
Total NSP: Rhamnose													
Total NSP: Fucose													
Total NSP: Ribose													
Total NSP: Arabinose													
Total NSP: Xylose													
Total NSP: Mannose													
Total NSP: Galactose													
Total NSP: Glucose													
Soluble NSP: Rhamnose													
Soluble NSP: Fucose													
Soluble NSP: Ribose													
Soluble NSP: Arabinose													
Soluble NSP: Xylose													
Soluble NSP: Mannose													
Soluble NSP: Galactose													
Soluble NSP: Glucose													
Insoluble NSP: Rhamnose													
Insoluble NSP: Fucose													
Insoluble NSP: Ribose													
Insoluble NSP: Arabinose													
Insoluble NSP: Xylose													
Insoluble NSP: Mannose													
Insoluble NSP: Galactose													
Insoluble NSP: Glucose													
Oligo. NSP: Rhamnose													
Oligo. NSP: Fucose													
Oligo. NSP: Ribose													
Oligo. NSP: Arabinose													
Oligo. NSP: Xylose													
Oligo. NSP: Mannose													
Oligo. NSP: Galactose													
Oligo. NSP: Glucose													

Nutrient (g/kg as fed, unless otherwise specified)	Premier Nutrition			RCI			Feedtables.com			Novus			Average of the mean
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD	
Total calcium	245			180			170	100	15.7	328.43	3	71.82	233.7
Digestible calcium													
Total phosphorus	182			210			222	108	13.3	66.53	3	93.67	173.1
Available phosphorus				210									197.5
Phytate phosphorus													
Phytate													
Linoleic acid													
Sodium							1.69	9	1.09	0.14	2	0.06	0.9
Chloride													
Potassium				0.8			0.8	1		0.25	2	0.15	0.6
Magnesium				9.4			9.4	7	3.2	4.65	2	1.95	7.8
Manganese				0.231			0.231	4		0.0785	2	0.0225	0.2
Zinc				0.411			0.411	4		0.0105	2	0.0005	0.3
Copper				0.02			0.02	3		0.0065	2	0.0025	0.0
Iron				3.185			3.185	7	1.155	3.829	3	2.186	3.4
Selenium													
Cobalt													
Molybdenum													
Choline													
Sulphur													
Total lysine													
Total methionine													
Total threonine													
Total cysteine													
Total tryptophan													
Total arginine													
Total valine													
Total isoleucine													
Total leucine													
Total histidine													
Total serine													
Total glycine													
Total proline													
Total alanine													
Total phenylalanine													
Total aspartic acid													
Total glu. acid/glu.													
Lysine (SID)													
Methionine (SID)													
Threonine (SID)													
Cysteine (SID)													
Tryptophan (SID)													
Arginine (SID)													
Valine (SID)													
Isoleucine (SID)													
Leucine (SID)													
Histidine (SID)													
Serine (SID)													
Glycine (SID)													
Proline (SID)													
Alanine (SID)													
Phenylalanine (SID)													
Aspartic acid (SID)													
Glu. acid/glu.(SID)													

Monodicalcium phosphate

Sample size calculations

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Dry matter			*No data*			981.3	156	14.0	31	8
ME										
AME (MJ)										
AMEn (MJ)										
Net energy										
Crude protein										
Ether extract										
Ash						808.7	216	15.0	53	13
Crude fibre										
Acid detergent fibre										
Neutral detergent fibre										
Starch										
Total NSP										
Soluble NSP										
Insoluble NSP										
Oligosaccharides										
Total NSP: Rhamnose										
Total NSP: Fucose										
Total NSP: Ribose										
Total NSP: Arabinose										
Total NSP: Xylose										
Total NSP: Mannose										
Total NSP: Galactose										
Total NSP: Glucose										
Soluble NSP: Rhamnose										
Soluble NSP: Fucose										
Soluble NSP: Ribose										
Soluble NSP: Arabinose										
Soluble NSP: Xylose										
Soluble NSP: Mannose										
Soluble NSP: Galactose										
Soluble NSP: Glucose										
Insoluble NSP: Rhamnose										
Insoluble NSP: Fucose										
Insoluble NSP: Ribose										
Insoluble NSP: Arabinose										
Insoluble NSP: Xylose										
Insoluble NSP: Mannose										
Insoluble NSP: Galactose										
Insoluble NSP: Glucose										
Oligo. NSP: Rhamnose										
Oligo. NSP: Fucose										
Oligo. NSP: Ribose										
Oligo. NSP: Arabinose										
Oligo. NSP: Xylose										
Oligo. NSP: Mannose										
Oligo. NSP: Galactose										
Oligo. NSP: Glucose										

Nutrient (g/kg as fed, unless otherwise specified)	Australia					Global				
	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy	Mean	Sum n	SD	Sample n for 95% accuracy	Sample n for 90% accuracy
Total calcium			*No data*			233.7	103	43.8	5388	1347
Digestible calcium										
Total phosphorus						173.1	111	53.5	14669	3667
Available phosphorus						197.5				
Phytate phosphorus										
Phytate										
Linoleic acid										
Sodium						0.9	11	0.6	60683	15171
Chloride										
Potassium						0.6	3	0.2	9092	2273
Magnesium						7.8	9	2.6	16676	4169
Manganese						0.2	6	0.0	2397	599
Zinc						0.3	6	0.0	1	1
Copper						0.0	5	0.0	3998	999
Iron						3.4	10	1.7	37102	9275
Selenium										
Cobalt										
Molybdenum										
Choline										
Sulphur										
Total lysine										
Total methionine										
Total threonine										
Total cysteine										
Total tryptophan										
Total arginine										
Total valine										
Total isoleucine										
Total leucine										
Total histidine										
Total serine										
Total glycine										
Total proline										
Total alanine										
Total phenylalanine										
Total aspartic acid										
Total glu. acid/glu.										
Lysine (SID)										
Methionine (SID)										
Threonine (SID)										
Cysteine (SID)										
Tryptophan (SID)										
Arginine (SID)										
Valine (SID)										
Isoleucine (SID)										
Leucine (SID)										
Histidine (SID)										
Serine (SID)										
Glycine (SID)										
Proline (SID)										
Alanine (SID)										
Phenylalanine (SID)										
Aspartic acid (SID)										
Glu. acid/glu. (SID)										