Canola Meal Nutrient Content

Table 1: Chemical Composition of solvent extracted canola meal (as received)

Solvent extracted Canola Meal					
Nutrient	**Units**	**Mean**	**Min.**	**Max.**	**SD**
Moisture[a]	%	10.7	9.3	12.0	0.86
Crude Protein[a c]	%	37.4	33.3	42.5	1.90
Crude Fat[a c]	%	4.2	1.8	4.8	0.84
Linoleic Acid[a]	%	0.9	0.5	1.2	0.16
Crude Fibre[a]	%	9.85	9.1	10.2	0.39
NDF[a c]	%	25.3	21.7	28.0	1.10
ADF[a c]	%	17.7	14.6	20.0	1.01
Free Sugars[a]	%	10.5	10.0	11.1	0.47
Non-starch Polysaccharides[b]	%	10.7	na	na	na
Ash[a]	%	7.3	6.7	8.7	0.60
Glucosinolates[a c]	µmoles/g	2.5	0.5	8.0	1.47
Sinapine[a c]	g/kg	8.1	6.0	10.0	0.83
Bulk Density[a]	kg/hl	52.4	47.5	52.5	2.61

Source: [a]Spragg and Mailer 2007; [b]Perez-Maldonado 2003; [c]Spragg 2013

The variation in meal chemical composition for individual crushing plants is lower than that shown within Table 1, and data provided should be used as a guide only. Differences in equipment, processing conditions and seed stock results in variation in canola meal composition and end users are encouraged to work with their meal supplier to define meal quality composition.

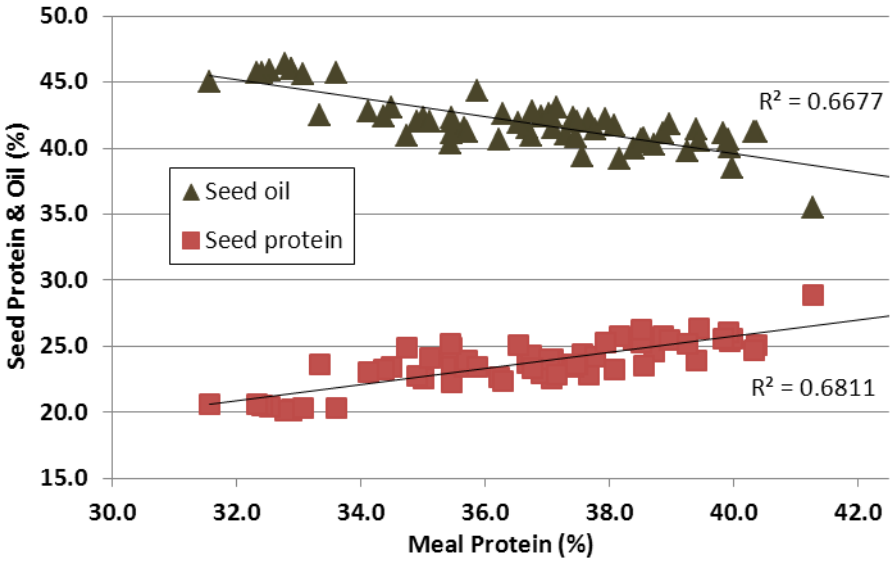
Canola Seed and Resulting Meal Quality

Australia has an active canola breeding program which has resulted in the production of higher oil and protein varieties with thinner seed coats. This has resulted in the fibre content of Australian canola meal declining over recent years. The fibre levels identified in the following table are considerably lower than those previously reported for either Canadian or Australian canola meal. This lower fibre content will be resulting in higher available energy levels for animal feeding.

Crude protein in the finished meal is positively correlated with canola seed protein content and negatively correlated with oil content as shown in figure 1. Climatic growing conditions significantly impact on canola seed production and the composition of resulting canola seed. Protein and amino acid levels can vary from season to season and nutritionists need to take this into account within feed formulations.

Cargill Australia (New Zealand Branch),
Level 1, Building C, Ascot Office Park 93-95 Ascot Ave, Greenlane, Auckland
Phone: 09 520 0871 or 09 520 0870 Fax: 09 520 0872
Email: cargilldirectnz@cargill.com, www.cargill.co.nz

Figure 1: Canola seed oil and protein content versus resulting meal protein content



Source: Spragg and Mailer 2007

Amino Acid Composition

Table 2. Amino acid content of solvent canola meal (g/kg, as received)

	Solvent Meal			
Amino Acid	**Mean**	**Min.**	**Max.**	**SD**
Methionine	7.2	6.7	7.7	0.26
Cystine	8.7	8.2	9.4	0.39
M+C	16.0	15.0	17.3	0.64
Lysine	20.2	19.5	21.4	0.58
Threonine	15.6	14.9	16.5	0.46
Tryptophan	5.1	4.8	5.4	0.18
Arginine	22.1	20.8	24.0	0.92
Isoleucine	14.3	13.5	15.2	0.45
Leucine	25.3	23.7	27.4	1.03
Valine	18.6	17.5	19.5	0.53
Histidine	9.9	9.3	10.5	0.36
Phenylalanine	14.6	13.7	15.6	0.50

Source: Spragg and Mailer 2007

Reference:: Canola Meal Guide for the Feed Industry published by Australian Oilseeds Federation 2014

Cargill Australia (New Zealand Branch),
Level 1, Building C, Ascot Office Park 93-95 Ascot Ave, Greenlane, Auckland
Phone: 09 520 0871 or 09 520 0870 Fax: 09 520 0872
Email: cargilldirectnz@cargill.com, www.cargill.co.nz