GrainCorp
Oilseeds

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Canola Meal for Beef Feedlot Use

CANOLA MEAL FOR BEEF FEEDLOT USE

Canola meal is the major protein meal used within the Australian livestock industries, this being due to the demand for canola oil and the production of meal through the oilseed crushing process. The Australian market has two differing oilseed crushing processes in the form of expeller or solvent extraction plants. GrainCorp Oilseeds operate both processing systems and the specification of the resulting canola meal depends upon the plant from which product is supplied.

The minimum protein content of canola meal varies with the protein level of the seed being crushed. Canola seed protein levels are affected by seasonal growing conditions, with drier seasons tending to result in higher protein seed and resulting meal. The range in protein levels shown occur between different crushing years and GrainCorp Oilseeds are able to confirm actual protein levels for delivery periods. Canola seed contains over 40% oil and the crushing process aims to maximise oil extraction. Through expeller processing, after initial seed heating, oil is removed through mechanical processing. The resulting finished meal has residual oil which from GrainCorp Oilseeds processing plants is in the range 9-11%. For canola processed through the GrainCorp Oilseeds Numurkah solvent extraction plant, an additional oil extraction process is applied which results in the finished meal containing 2-3% oil. The higher residual oil within expeller meal results in lower levels of protein, fibre and minerals, whilst energy content is significantly increased. Whole canola seed is processed, thus the seed coat contributes to the fibre contained within canola meal. Canola meal is an ingredient that supplies energy from sugars, starch and oil for ruminant feeding whilst at the same time providing additional ADF and NDF.

PROCESSING AND PROTEIN QUALITY

During the oil extraction process canola seed is heated to increase the efficiency of oil removal, this temperature is in the order 90-100ºC as the meal cake leaves the expeller. The heat and pressure applied through processing results in an increase in the level of rumen undegradable protein contained within canola meal. As part of the solvent extraction process, the meal undergoes further heating which exceeds 100ºC, this results in a higher level of protein protection. Data derived from cattle feeding research has identified the level of protein protection to be in the order of 35% for solvent extracted canola meal. Less work has been completed looking at expeller canola meal, a bypass protein level of 30% is recommended for use within beef cattle feeding.

CANOLA MEAL SPECIFICATION

NUTRIENT	UNITS	SOLVENT CANOLA MEAL	EXPELLER CANOLA MEAL
Moisture	%	10-12	10-12
Crude Protein	%	36-39	32-35
Oil	%	2-3	9-11
Crude Fibre	%	11.5	10.6
ADF	%	18.1	16.7
NDF	%	28.2	26.1
Ash	%	6.9	6.4

PROTEIN & ENERGY FOR BEEF CATTLE FEEDING

NUTRIENT	UNITS	SOLVENT CANOLA MEAL	EXPELLER CANOLA MEAL
Crude Protein	%	36-39	32-35
Rumen Bypass (undergradability)	%	35	30
ME	MJ/kg DMB	12.2	13.5
Nem	Kcal/kg DMB	1875	2060
Neg	Kcal/kg DMB	1250	1375

MINERAL CONTENT

NUTRIENT	UNITS	SOLVENT CANOLA MEAL	EXPELLER CANOLA MEAL
Calcium	%	0.7	0.65
Phosphorus	%	1.1	1.02
Magnesium	%	0.55	0.51
Sodium	%	0.1	0.09
Potassium	%	1.25	1.16
Sulphur	%	0.85	0.79
Copper	mg/kg	6.5	6
Iron	mg/kg	190	175
Manganese	mg/kg	105	97
Zinc	mg/kg	65	60

Canola meal is a relatively good source of minerals, particularly phosphorus together with trace minerals

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FOR ANY FURTHER INFORMATION OR TECHNICAL INFORMATION REGARDING THESE PRODUCTS OR ANY OF THE CANOLA MEAL RANGE PLEASE VISIT OUR WEBSITE WWW.GRAINCORP.COM.AU, EMAIL CSOILSEEDS@GRAINCORP.COM.AU OR CALL US 03 5862 1666.

Your Local Sales Representative is: