

# BIO-MEAL

## What is Bio-Meal?

Milligan's Bio-meal is a quality, high oil meal produced from non-food grade Canola. Milligan's proprietary processing technology allows for distressed canola seed to be crushed in a cold press process using no solvents, producing a multi use meal with high value for feeding.

## How is it made?

The cold press meal is conditioned and processed into a ready to use crumble form that is easily put into animal diets. The processed canola is carefully blended for consistency and screened for foreign material. The screenings are sold as raw feed back into the livestock industry. Milligan also ensures there are no unprocessed add backs in the meal.

Milligan's Bio-meal is produced under controlled conditions and monitored by extensive laboratory analysis at Milligan Bio-Fuels ISO 9001 certified plant. Like all Milligan products, Milligan's Bio-meal is backed by our Quality Guarantee.



## Specifications:

Nutrient	Milligan's Bio-Meal	Regular Canola Meal
Moisture %	<8.00	10.00
Crude Protein %	38.12	38.88
E.E. (oil) %	12.60	3.88
Ash %	6.63	6.66
Crude Fibre %	12.62	13.33
ADF %	19.63	19.11
Calcium %	0.64	0.70
Phosphorus %	1.09	1.14
Est. Total Digestible Nutrients %	81 - 83	74.50
Est. DE. Kcal/Kg	3900	3450

The above table compares an average of analysis of samples of Milligan's Bio-meal to Regular Canola Meal (RCM) on a dry matter basis. Note, the increased oil content and energy.

*\*From : "Canola Meal Feed Industry Guide" 3rd Edition, 2001, written by D. Hickling, Canadian International Grains Institute for Canola Council of Canada.*

## Great feed supplement for Poultry, Pigs, Dairy, & Beef Cattle!

When using **Milligan's Bio-meal** in diets, take advantage of all the features the meal has to offer and thereby maximize the benefits to your feed dollar. For swine, poultry and horses, this means the effective use of the high quality available protein (amino acids) and a source of oil to provide extra energy and essential fatty acid such a linolenic (omega 6) and alpha linolenic acid (omega 3). For ruminants such as beef, dairy and sheep it means a feed with high available protein content with sufficient bypass along with an alternate energy source that provides energy through oil and not through starch with less digestive up-sets.

It should be noted that for ruminants, the total oil added through **Milligan's Bio-meal** should not exceed 3.0% of total diet dry matter fed, or the diet formulated to have less that 6% total fat in the overall diet dry matter. As an example with a barley grain oat green feed ration, growing calves consuming 6 kg of ration dry matter could receive up to 1.5 kg per day of **Milligan's Bio-meal** at 12% fat and still only have added 3.0% fat to the overall diet. This assumes the other ingredients are not higher in fat and contributing in excess of 3%.

The following are suggested guidelines for use of Milligan's Bio-meal in various classes of animals in properly balanced diets:

### Suggested Guidelines

<u>Animal</u>	<u>Class</u>	<u>Maximum Inclusion Level &amp; Comments for Use in Mixed Diets</u>
<b>Poultry:</b>	Broilers:	12 - 15% of total diet
	Layers:	8 - 10% of total diet
	Duck Goose:	12 - 15% of total diet
<b>Swine:</b>	Pig Starter:	5% of total diet
	Hog Grower Finisher:	18% in balanced diet
	Sows:	15% in total diet
<b>Horses:</b>		15% in total balanced diet
<b>Beef:</b>	Calves:	20% of diet, limited by fat addition
	Cows:	20% of diet, limited by fat addition
<b>Dairy:</b>	Lactating Cows	Feed up to 300 grams of added oil/cow/day from all added fat sources. <b>Milligan's Bio-meal</b> can be used up to 20% of concentrate or to oil limit whichever is reached first.