

# Canola Meal.

It's doing amazing things for dairy rations.



## Ruminal degradability and intestinal digestibility of protein and amino acids in canola meal.

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Differences in processing by different plants may result in canola meal (CM) with varying nutritional composition. The Dairy NRC (2001) estimated CM to be 35.7% rumen undegradable protein (RUP) with an intestinal digestibility of 75% when DMI was set at 4% of BW. Seven CM samples were obtained from different processing plants and 1 soybean meal (SBM) to evaluate the variability in ruminal degradability and intestinal digestibility of CP. Dacron bags containing 5 g of each feed were incubated in the rumen in duplicate for 0, 2, 4, 8, 12, 16, 24 and 48 h using three ruminally cannulated lactating cows. The rate of passage was calculated at 6.6%/h. The A fraction (rapidly degradable CP) varied from 26.6% to 17.8% respectively, for CM10 and CM5 ( $P < 0.05$ ). The B fraction (slowly degradable CP) was highest for CM5 (79.9%) and lowest for CM12 (62.4%), whereas the C fraction (undegradable CP) was highest for CM12 (14.6%) and lowest for SBM (0.6%). The

rate of degradation of B fraction,  $K_d$  (%/h) was highest for SBM (11.1%/h) and lowest for CM12 (4.0%/h). The RUP (% of CP) was highest for CM12 (53.8%), whereas lowest for SBM (31.0%), while the IDP (measured by pepsin-pancreatin digestion) ranged from 94.5% for SBM to 71.6% for CM10. The total digestible protein (TDP) was highest for SBM (98.2%) and CM ranged from 85.1% to 90.8% for CM12 and CM10 ( $P < 0.01$ ), respectively. The mean ruminal and intestinal digestibilities of CM are in agreement with NRC, however considerable variation exists between CM processing plants.

### KEYWORDS

Canola meal  
Rumen degradability  
Intestinal digestibility

TABLE 1143

ITEM <sup>2</sup>	FEEDS <sup>1</sup>								SEM
	SBM	CM5	CM6	CM7	CM9	CM10	CM11	CM12	
A, %	23.0 <sup>c</sup>	17.8 <sup>b</sup>	21.7 <sup>bc</sup>	26.4 <sup>c</sup>	24.8 <sup>c</sup>	26.6 <sup>a</sup>	25.1 <sup>a</sup>	23.1 <sup>ab</sup>	1.18
B, %	76.5 <sup>ab</sup>	79.9 <sup>a</sup>	76.8 <sup>ab</sup>	66.3 <sup>cd</sup>	69.8 <sup>bcd</sup>	69.6 <sup>bcd</sup>	72.6 <sup>abc</sup>	62.4 <sup>d</sup>	1.84
C, %	0.6 <sup>b</sup>	2.3 <sup>b</sup>	1.5 <sup>b</sup>	7.4 <sup>b</sup>	5.4 <sup>b</sup>	3.8 <sup>b</sup>	2.3 <sup>b</sup>	14.6 <sup>a</sup>	1.42
$K_d$ , % h	11.1 <sup>a</sup>	5.6 <sup>bc</sup>	5.2 <sup>c</sup>	9.1 <sup>ab</sup>	4.6 <sup>c</sup>	9.7 <sup>ab</sup>	6.2 <sup>bc</sup>	4.0 <sup>c</sup>	1.32
RUP, % of CP	31.0 <sup>d</sup>	46.1 <sup>b</sup>	44.8 <sup>b</sup>	35.4 <sup>cd</sup>	46.6 <sup>b</sup>	32.3 <sup>d</sup>	40.8 <sup>bc</sup>	53.8 <sup>a</sup>	2.05
IDP, %	94.5 <sup>a</sup>	76.8 <sup>bc</sup>	75.8 <sup>bcd</sup>	72.0 <sup>de</sup>	77.4 <sup>b</sup>	71.6 <sup>e</sup>	75.3 <sup>bcde</sup>	73.0 <sup>cde</sup>	2.50
TDP, %	98.2 <sup>a</sup>	89.3 <sup>bc</sup>	89.1 <sup>c</sup>	90.1 <sup>bc</sup>	89.4 <sup>bc</sup>	90.8 <sup>b</sup>	89.3 <sup>bc</sup>	85.1 <sup>d</sup>	0.73

<sup>a-c</sup>Means in rows with different superscripts differ significantly ( $P < 0.05$ )

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Contact your feed supplier about complementing your herd's ration with a balanced, efficient source of protein: canola meal.