

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

^{a-c}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.