

# Canola Meal.

It's doing amazing things for dairy rations.



## Determination of the optimum dietary forage concentration when using canola meal as a primary protein source in lactating dairy cow diets.

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Canola meal (CM) is a high-quality protein supplement that can be fed to lactating dairy cows. Presently, there is little research evaluating the optimum dietary forage concentration when CM is included as the primary protein source in lactating dairy cow diets. Twelve multiparous and 4 primiparous Holstein cows ( $96 \pm 54$  DIM) were used in a 4 x 4 Latin square design with 3-wk periods to determine the optimum dietary concentration of forage when using CM as the primary protein source.

Diets were formulated to include 42% forage (42F), 50% forage (50F), 58% forage (58F) and 66% forage (66F) concentrations on a DM basis. All diets included 11% canola meal (DM basis). The corn-silage-to-alfalfa haylage ratio (70:30) was maintained across treatment regardless of dietary forage concentration. Diets were similar in crude protein and metabolizable protein. Dry-matter intake (DMI) linearly decreased with increasing

forage concentration ( $P = 0.001$ ). Milk production was similar ( $P > 0.10$ ) among treatments. Milk fat percentage and yield linearly increased with increasing dietary forage concentration ( $P < 0.05$ ). Milk protein percentage tended to decrease with increasing forage concentration ( $P = 0.06$ ). Milk protein yield and energy-corrected milk were not affected by forage concentration. Feed efficiency (FE) increased linearly with increasing forage levels ( $P = 0.001$ ). Mid-lactation Holstein dairy cows fed an increasing forage-to-concentrate ratio in conjunction with CM as the primary protein source did not alter milk yield while decreasing DMI, resulting in improved feed efficiency.

### KEYWORDS

Canola meal,  
Dairy cow,  
Forage concentration

ITEM	TREATMENT				SEM	P-value <sup>1</sup>
	42F	50F	58F	66F		
DMI, kg/d	28.0	27.0	25.8	24.8	0.69	L
Milk, kg/d	40.1	40.4	40.8	39.1	1.12	NS
Fat, %	3.17	3.22	3.37	3.52	0.17	L
Fat, kg/d	1.26	1.28	1.35	1.37	0.07	L
Protein, %	2.98	3.00	2.96	2.94	0.05	LT
Protein, kg/d	1.19	1.21	1.20	1.14	0.04	NS
ECM, kg/d	38.0	38.4	39.5	38.7	1.23	NS
FE (ECM/DMI)	1.36	1.44	1.54	1.57	0.05	L

<sup>1</sup>L = linear effect ( $P < 0.05$ ); LT = linear trend ( $P < 0.10$ ); NS =  $P > 0.10$

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