

Canola Meal.

It's doing amazing things for dairy rations.



Effects of feeding canola meal (CM) and wheat dried distillers grains with solubles (W-DDGS) as the major protein source in low or high crude protein diets on ruminal nitrogen utilization, omasal nutrient flow, and milk production in dairy cows.

T. Mutsvangwa*¹ and K. Doranalli²

¹University of Saskatchewan, Saskatoon, Canada

²Evonik (SEA) Pte. Ltd., Singapore

The objective was to determine the effects of feeding CM or W-DDGS as the major source of protein in diets varying in CP content on ruminal N utilization, omasal flows, and milk production. Eight Holstein cows (109 ± 36 DIM) were used in a replicated 4 x 4 Latin square design with 28-d periods. Four cows in one Latin square were ruminally-cannulated to facilitate ruminal and omasal sampling. Treatments were: 1) source of protein (CM vs. W-DDGS); and 2) dietary CP content (15 vs. 17%). Interactions between source of protein x CP content were nonsignificant. Dry matter intake and milk yield were unaffected by diet ($P > 0.05$). Feeding CM increased milk lactose content compared to feeding W-DDGS ($P = 0.003$). Milk urea-nitrogen ($P < 0.001$) and ruminal NH₃-N ($P = 0.05$) concentrations were greater in cows fed the high CP compared to those fed the low CP diet. Dry matter apparently digested in the rumen was greater in cows fed the high CP compared to those fed the low CP diet, with the difference in DM apparently digested in the rumen being greater in cows fed W-DDGS as compared to those fed CM (interaction, $P = 0.02$). The RDP supply was greater in cows fed the high CP when compared to those fed the low CP diet when diets contained CM, whereas RDP

supply was lower in cows fed the high CP when compared to those fed the low CP diet when diets contained W-DDGS (tendency for interaction, $P = 0.08$). The omasal flow of NH₃-N was greater in cows fed CM when compared to those fed W-DDGS ($P = 0.03$). The RUP supply was greater in cows fed the low CP when compared to those fed the high CP diet when diets contained CM, whereas RUP supply was lower in cows fed the low CP when compared to those fed the high CP diet when diets contained W-DDGS (tendency for interaction, $P = 0.06$). Omasal flows of threonine and tryptophan were greater ($P \leq 0.03$), whereas that of histidine and lysine tended ($P \leq 0.08$) to be greater, in cows fed CM when compared to those fed W-DDGS. In conclusion, when diets are formulated to contain 15 or 17% CP, CM or W-DDGS can support similar levels of milk production when used as the major protein source.

KEYWORDS

Canola meal
Milk production
Wheat dried distillers grains with solubles

2014 J. Dairy Sci. 97 (E-Suppl. 1):826

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

Canola Council of Canada
400 - 167 Lombard Avenue
Winnipeg, MB
Canada R3B 0T6

(204) 982-2100
www.canolacouncil.org



CANOLAMAZING.com