

Canola Meal.

It's doing amazing things for dairy rations.



Impacts of feeding ruminally protected phenylalanine and/or methionine to early lactation cows fed diets containing high levels of canola meal.

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The objective of this study was to determine if either Met or Phe was limiting performance of dairy cows fed a ration containing 200 g/kg of diet DM as canola meal (CM). The design used four pens of 320 early lactation (DIM < 125) cows/pen in a 4x4 Latin square with 28 d periods. Treatments were designed to deliver 8.0 and 7.5 g/cow/d of intestinally absorbable Met and Phe, respectively with treatment pens fed ruminally protected (RP) Phe (RPP) and RP Met (RPM), separately or in combination, mixed into the same control TMR based on alfalfa hay, winter wheat and corn silage, almond hulls, corn grain, fuzzy and cracked pima cottonseed and mineral premix. There were no difference in the chemical profiles of the TMR fed to the four treatments with CP, NDF, Fat and Starch amounting to 170, 310, 53, and 193 g/kg DM in the base TMR. There were no changes in plasma AA levels except plasma Met, which increased with both Met treatments, and plasma Trp that decreased with both Phe treatments. DM intake was not affected (avg: 27.6 ± 0.40 kg/d) by feeding either RP AA or the combination. Compared to control, supplemental Met increased milk protein (30.71 vs. 30.18 g/kg; P < 0.01) and fat (34.74 vs. 34.16 g/kg; P = 0.01) content, while decreasing milk lactose (47.47 vs. 47.80 g/kg; P < 0.01) content, thereby shifting

milk energy amongst milk components without affecting milk energy output. Even though Phe alone had no effect at all on animal performance, adding it in combination with Met diverted energy away from milk components towards body condition score (BCS) gain, which increased (0.08 vs. 0.04 BCS unit change/28d; P < 0.01). Even though the supplemented Phe did not increase plasma Phe levels, or animal performance, it was clearly delivered and biologically active based on the finding that it changed the way that Met was utilized. While results suggest that neither Met nor Phe was a limiting AA in this study, results do suggest that both were bioactive. It may be time to reconsider the limiting AA concept in lactating dairy cows in favor of accepting that AA may be bioactive to the extent of changing animal performance, even when they are not limiting.

KEYWORDS

Urine spot samples
Amino acids
Allantoin

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

