

عنوان مقاله:

Feeding heat-treated soybean to mid-lactation Holstein cows: Production performance, predicted efficiency of nitrogen utilization, and blood metabolites

محل انتشار:

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خلاصه مقاله:

The objective of this study was to compare the effects of soybean (SB) meal (SBM) with increased rumen undegradable protein as roasted SB (RSB), extruded SB (ESB) or their equal blend (RSB + ESB) on production performance, nutrient digestibility, N-utilization efficiency, and blood metabolites in mid-lactation dairy cows. Eight lactating Holstein cows (BW = 534 ± 52 and DIM = 104 ± 5; mean ± SD) were used in a replicated 4 × 4 Latin square design with four 28-d periods receiving 4 diets: (1) 13.88% of diet dry matter (DM) as SBM; (2) 15.22% of diet DM as RSB, (3) 15.55% of diet DM as ESB, and (4) 7.69% RSB plus 7.69% ESB (RSB + ESB). Each experimental period consisted of a 14-d diet adaptation followed by 14-d data collection. Dry matter intake, actual milk and 3.5% fat-corrected milk yield were not affected by the diet. Average milk fat and protein percentages (3.42 and 3.11%) and yields (1.28 and 1.17 kg/d), respectively, were not different among the diets. Plasma urea N concentration was similar across SB products but decreased compared with SBM. Feeding processed SB reduced NH₃-N concentration in the rumen (14.0 vs. 17.2 mg/dL; processed SB vs. SBM), indicating lower ruminal degradation of processed SB protein, and thereby improved N-utilization. Based on our results, RSB and ESB and their equal blend had a similar effect on productivity and N-utilization efficiency in mid-lactation Holstein cows

کلمات کلیدی:

dairy cow, soybean meal, roasted – and extruded soybean, nitrogen efficiency

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