

Corn or soybean hull incorporation into haylage-based backgrounding diets; effect on growth and efficiency during the backgrounding and finishing phases.

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This experiment was conducted to evaluate the effects of corn or soybean hull incorporation into haylage-based diets on backgrounding calf performance and subsequent feedlot performance. Cross-bred steers ($n=48$, initial BW= 302.5 ± 3.4 kg) were individually fed for ad libitum intake using Calan gates. Dietary treatments included: 1) haylage (17.4% CP, DM basis; control), 2) haylage+20% (DM basis) cracked corn (CC), and 3) haylage+20% (DM basis) soybean hulls (SBH) during a 112-d backgrounding phase. Feed refusals were collected weekly and BW were recorded every 28 d throughout the experiment. During the backgrounding phase, blood samples were obtained every 28 d and analysed for plasma urea nitrogen (PUN). After the backgrounding phase, all steers were adapted to a common high moisture corn-based finishing diet. Steers were slaughtered when ultrasound estimated backfat thickness reached 7 mm. Means were compared using contrast statements (Control vs. CC+SBH, CC vs. SBH). During the backgrounding phase, steers fed CC or SBH had greater ($P<0.01$) average daily gain (ADG), dry matter intake (DMI) and gain:feed (G:F) as compared to controls (0.96, 0.91 vs. 0.55 kg/d; 7.02, 6.95 vs. 6.14 kg/d; 0.13, 0.13 vs. 0.08, respectively). Steers fed CC or SBH had lower ($P<0.01$) PUN concentration as compared to controls (12.8, 12.8 vs. 13.7 g/dl). ADG, DMI and G:F did not differ between steers fed CC or SBH. During the finishing phase, steers fed SBH had lower ($P<0.07$) ADG and finished BW than steers fed CC (1.59 vs. 1.76 kg/d; 617.9 vs. 648.7 kg). DMI (10.9 kg/d), G:F (0.16) and days required to finish (139 d) did not differ between steers fed CC or SBH. Including CC or SBH at 20% of the diet in haylage-based backgrounding diets improved growth performance suggesting that either CC or SBH could be included to improve growth and efficiency. However, when finished on a common high-concentrate diet, steers previously fed CC had greater ADG than those fed SBH suggesting that source of supplemental energy during the backgrounding phase may influence subsequent feedlot performance.