

Effects of dried distillers grains on heifer consumption of low or high quality forage.
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Ninety heifer calves (BW = 286 ± 1.71 kg) were used in a 2 x 5 factorial to determine effects of increasing levels of dried distillers grains plus solubles (DDGS) on forage intake and ADG. Heifers were individually fed using Calan electronic gates for 84 days, and were fed ad libitum diets of either a 60% alfalfa hay and 40% sorghum silage mix (66% TDN), simulating a high quality forage (HQF), or smooth brome grass hay (48% TDN), simulating a low quality forage (LQF). Diets were supplemented with one of five levels of DDGS (0, 0.68, 1.36, 2.04, or 2.72 kg DM DDGS). Heifers were limit fed five days before and at the end of the 84 day experiment and weights were recorded for three consecutive days. Orts were collected once weekly. Total forage dry matter intakes were determined by dry matter offered minus Orts, with the assumption that all DDGS were consumed. Average daily gain was significantly different ($P < 0.001$) between forage diets, and increased linearly ($P < 0.001$) within each diet as level of DDGS increased. The rate of increase was greater for the LQF diet (0.265 kg per kg DDGS) than the HQF diet (0.203 kg per kg DDGS). Forage intakes were significantly ($P < 0.001$) different between forage sources; heifers receiving no supplemental DDGS consumed 5.95 kg and 3.96 kg on the HQF and LQF diets, respectively. Forage intake linearly ($P < 0.001$) decreased for both forage diets as level of DDGS increased. Forage intake and ADG were regressed on DDGS intake and regression equations were determined as follows, for ADG: HQF $y = 0.2026x + 0.638$ ($R^2 = 0.9236$), and LQF $y = 0.265x + 0.1894$ ($R^2 = 0.8866$), for forage intake: HQF $y = -0.5312x + 5.8349$ ($R^2 = 0.9709$), and LQF $y = -0.3272x + 4.1534$ ($R^2 = 0.811$). Dried distillers grains appear to be a viable supplement to cattle on forage based diets, resulting in increased animal performance and decreased forage intakes. Forage intakes can be predicted for cattle on either high or low quality forage diets supplemented with up to 2.72 kg DM DDGS.

Key Words: Dried distiller's grains, Forage, Intake

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