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**10 A SNP in the bovine leptin gene: effect on gain and carcass characteristics.** D. Larson\*, M. Bauer, E. DeVuyst, P. Berg, and J. Bullinger, *North Dakota State University, Fargo.*

A 2-yr study was conducted to determine the effects of a SNP (cytosine to thymine, exon 2) in the bovine leptin gene on growth and carcass characteristics. Calves were identified by genotype (CC = 169, CT = 417, TT = 212). Body weight, 12th rib fat, and LM area were measured serially. Calves were fed a common diet and slaughtered in 4 groups each yr (160 to 208 days on feed). Data were analyzed with PROC MIXED of SAS and mean separation by LSD (P = 0.05). Quality and yield grades were analyzed with PROC FREQ of SAS. Twelfth rib fat and LM area change were fitted to an allometric growth model using weighted least squares regression. Initial BW (274 ± 4 kg), final BW (586 ± 4 kg), and ADG (1.63 ± 0.02) were not different (P = 0.56) by genotypes. The TT calves had greater (P = 0.006) initial 12th rib fat (0.26 ± 0.01 cm) when compared to CT (0.22 ± 0.008 cm) and CC calves (0.22 ± 0.01 cm). Carcass 12th rib fat was greater (P < 0.001) in TT (1.36 ± 0.03 cm) compared to CT (1.23 ± 0.02 cm) and CC calves (1.14 ± 0.04 cm). No LM area differences were detected between genotypes at d 0; however, CC calves (83.1 ± 0.80 cm<sup>2</sup>) had greater (P < 0.001) final LM area compared to CT (81.4 ± 0.52 cm<sup>2</sup>) and TT calves (78.6 ± 0.69 cm<sup>2</sup>). The CC calves had a slower (P < 0.001) rate of 12th rib fat accretion and an increased (P = 0.001) rate of LM area accretion compared to TT calves. The TT calves had greater (P < 0.001) yield grade (3.35 ± 0.05) compared to CC (2.88 ± 0.06) and CT calves (3.06 ± 0.04). Marbling score (400 = small) was greater (P = 0.01) in TT calves (457 ± 6) compared to CC (433 ± 7) and CT (439 ± 6) calves. The percentage of carcasses grading average choice or above tended to be different (Chi<sup>2</sup>; P = 0.09) among genotypes (22.0%, 24.8%, and 31.3% for CC, CT, and TT, respectively). The percentage of carcasses with a yield grade = 4 was different (Chi<sup>2</sup>; P = 0.05) among genotypes (4.8%, 10.2%, and 15.2% for CC, CT, and TT, respectively). The CC calves appear leaner, with a slower rate of 12th rib fat accretion and lower marbling scores compared to TT calves.

**Key Words:** Bovine, Leptin, Fatness

**12 Effect of Amaferm supplementation to concentrate or forage based diets on growth performance and carcass characteristics of finishing lambs.** J. L. Bard\*<sup>1</sup>, F. L. Fluharty<sup>1</sup>, S. C. Loerch<sup>1</sup>, P. S. Kuber<sup>1</sup>, G. D. Lowe<sup>2</sup>, D. D. Clevenger<sup>2</sup>, and H. N. Zerby<sup>1</sup>, <sup>1</sup>The Ohio State University, Columbus, <sup>2</sup>Ohio Agricultural Research and Development Center, Wooster, OH.

Amaferm<sup>®</sup> (AMF) is a fermentation extract produced from a select strain of *Aspergillus oryzae* fungi. Ninety-six Dorset × Hampshire lambs (initial weight range 22.7 to 34.0 kg) were used in a complete block experiment with a 2 × 2 factorial arrangement of treatments to determine the effects of AMF supplementation in diets containing either a high proportion of starch (high concentrate; CON) or high proportion of cellulose (high forage; FOR) on growth performance and carcass characteristics. Lambs were allotted to 24 pens (four lambs per pen) that were blocked by sex and weight. Twelve pens of lambs received the FOR diet and 12 pens were fed the CON diet. Within each diet treatment group, six pens received AMF. Lambs were fed until the average live weight of each pen reached the target weight (55.4 kg for wethers and 50 kg for ewes), at which time the entire pen of lambs was harvested. Live weight was included in the model as a covariate for the analysis of ribeye area,

backfat thickness, and body wall thickness. Lambs that received the CON diet consumed less (P < 0.05) average DMI (1.42 vs. 1.93 kg) and produced carcasses that had greater (P < 0.05) backfat (0.79 vs. 0.65 cm), body wall (2.36 vs. 1.95 cm), and ribeye area (15.13 vs. 13.31 cm<sup>2</sup>). Supplementation of AMF had no effect (P > 0.05) on carcass characteristics. For lambs that received the CON diet, AMF supplementation resulted in improved (P < 0.05) feed efficiency (0.257 vs. 0.245) and greater (P < 0.05) ADG (0.37 vs. 0.35 kg/d), however, it did not (P > 0.05) impact days on feed to reach target end point (73 vs. 70 d). For lambs that received the FOR diet, AMF supplementation resulted in decreased (P < 0.05) feed efficiency (0.122 vs. 0.135) and ADG (0.23 vs. 0.26 kg/d), and resulted in a greater (P < 0.05) number of days on feed to reach the targeted market endpoint (106 vs. 97 d). Results indicate that at the levels fed, Amaferm<sup>®</sup> may improve growth performance for lambs finished on high concentrate diets, but not high forage diets.

**Key Words:** Growth, Carcass, Lamb

**13 Effect of corn hybrid and processing method on site and extent of nutrient digestibility using the mobile bag technique.** M. Luebke\*<sup>1</sup>, G. Erickson<sup>1</sup>, T. Klopfenstein<sup>1</sup>, and W. Fithian<sup>2</sup>, <sup>1</sup>University of Nebraska, Lincoln, <sup>2</sup>Golden Harvest Seeds, Inc., Waterloo, NE.

Two ruminally and duodenally fistulated steers were used to determine site and extent of nutrient digestion of 3 hybrids: 1) H-8562; 2) 33P67; and 3) H-9230Bt processed as dry-rolled (DRC) or high-moisture corn (HMC) using the mobile bag technique. Dacron bags were the experimental unit for DM disappearance (replications n = 25/treatment), and composited bags were the experimental unit for protein and starch disappearance (replications n = 4/treatment). Two ruminal incubation times of 30 and 20 h were used to represent mean retention time (MRT) and 66% MRT (66MRT), respectively. A hybrid\*processing\*time interaction (P < 0.05) existed for only postruminal DMD. Ruminal DMD was greater (P = 0.01) for hybrid 1 and 3 compared to hybrid 2. Three interactions (P < 0.05) existed for total-tract DMD: hybrid\*processing, processing\*time, and hybrid\*time. Total-tract DMD was greater for hybrid 1 compared to 2 and 3 when processed as DRC. When processed as HMC, total-tract DMD was similar among hybrids. The % increase in total-tract DMD for DRC samples was greater than HMC when incubated longer. Total-tract DMD was greater for hybrids 1 and 3 at the 66MRT than hybrid 2. At the MRT, total-tract DMD for hybrid 1 was greater than either hybrid 2 or 3. Ruminal starch degradability (SD) was similar (P = 0.14) among hybrids but greater (P < 0.01) for HMC than DRC. Postruminal and total-tract SD were greater (P < 0.01) for hybrid 1 and 3 than hybrid 2, and greater (P < 0.01) for HMC than DRC. Degradable intake protein (DIP; % CP) was similar (P = 0.12) among hybrids, but 32% greater (P < 0.01) for HMC than DRC (71.8 and 54.2%, respectively). Undegradable intake protein (UIP) disappearance was greatest (P = 0.02) for hybrid 1, intermediate for hybrid 3, and least for hybrid 2. Digestible UIP was 5.4% greater (P = 0.03) for HMC than DRC (77.7, and 73.7%, respectively). Differences exist among hybrids for site and extent of nutrient digestibility. Extent of nutrient degradability for HMC was greater than DRC, except postruminal DMD. Digestible UIP and DIP are greater for HMC compared to DRC.

**Key Words:** Corn hybrid, Digestibility, Kernel traits