Fisher’s LSD multiple-comparison test were used to determine the differences among genotypes. Feeding efficient varied from 5.20 to 6.87, with the highest feed efficiency in St. Croix lambs. Standardized daily live weight gain ranged from 0.34 to 0.55 kg, with the highest rate of gain in the Callipyge wool x St. Croix lambs. Whole sale weight (kg) was the highest in the Callipyge wool x wool (19.26) and lowest in the St. Croix (15.38). Quality grade among the seven genotypes of lambs ranged from 5.5 to 7.6, with the St. Croix and St. Croix x wool lambs having the higher values. The highest value for the percent wholesale body weight was observed in the Callipyge wool x wool (64.1) while the value for St. Croix was the lowest (55.6). Percent loin eye of carcass weight was the highest in the Callipyge wool x wool (4.5) and the lowest is the St. Croix (3.0). The overall sensory acceptance rating was the highest in the St. Croix (6.8) and the lowest in the Callipyge wool x wool.

**Key Words:** Carcass evaluation, Feed efficiency, Sheep

### Beef Species: Beef cattle performance and genetic relationships in the feedlot

**W148** Genetic relations among carcass fat, tenderness, and age at slaughter in beef cattle managed under a constant finishing program. T. L. Fernandes1, L. W. Wilton1, L. B. McMillan1, and C. J. Devitt2, 1University of Guelph, Department of Animal and Poultry Science, 2Beef Improvement Ontario.

Objectives were to estimate genetic parameters on carcass fat traits, tenderness at 7 days of aging (Angus x Simmental cows), and age at slaughter. Data on 744 crossbred animals from 3 research herds, fed at the Elora Beef Research Centre. Each year throughout the five-year period, the cattle were fed either a high-energy diet from start to finish or a haylage based diet the first 112 days and then a high-energy diet. All animals were targeted to finish at a constant backfat thickness of 8 mm, as determined by ultrasound measurements taken every 28 days. Forty sires were included, with a range of 8 to 34 progeny per sire. Carcass fat traits included: subcutaneous fat % and intermuscular fat % as measured from a rib section dissected into lean, fat (subcutaneous, body cavity, and intermuscular fat), and bone. Subcutaneous fat (SUBQ %) and intermuscular fat (INTER %) were calculated as percentages of overall rib weight. Chemical fat was determined by ether extraction of the dissected lean. Marbling score was determined subjectively. Tenderness was measured using Warner-Brazler shear force with samples aged for 7 days. A multiple trait model was used to analyze the data with the model including regression on breed proportion, the covariate diversity, and INTER. Selection for marbling was the highest in the Callipyge wool x wool (15.38) and lowest in the St. Croix (3.0). The overall sensory acceptance rating was the highest in the St. Croix (6.8) and the lowest in the Callipyge wool x wool.

**Key Words:** Carcass evaluation, Feed efficiency, Sheep

### Ruminant Nutrition: Dairy and Beef

**W150** Ruminal and intestinal protein digestion of tropical alfalfa and corn silage measured by mobile nylon bag technique in steer. A. Taghizadeh, M. Danesh Mesgaran*, R. Valizadeh, and F. Eftekhar Shahroodi, Ferdowsi university, Mashhad, Iran.

The ruminal and intestinal disappearance of dry matter (DM) and crude protein (CP) of tropical (Iranian) alfalfa and corn silage were measured in three steers (370±16), with ruminal and intestinal canulae, using mobile nylon-bag technique. The experimental samples, 18 replicates, were placed in nylon bags (3 x 6 cm, pore size 47μm), then incubated in the rumen of steers for 12 h prior to being inserted into the intestine. Dry matter and crude protein disappearances in the rumen, intestine and total tract were calculated as the difference between the each nutrient in the intact feeds and the remaining after incubation in the rumen and intestine. The disappearance of DM in the rumen, intestine and total tract for alfalfa and corn silage was 410 and 380, 190 and 460, 540 and 810 g kg-1, respectively. The disappearance of CP in the rumen, intestine and total tract for alfalfa and corn silage was 510 and 290, 730 and 890, 870 and 730 kg-1, respectively. The results of intestinal and total tract DM disappearance of alfalfa was significantly different from the corn silage (P<0.05). The alfalfa CP disappearances in the rumen, intestine and total tract was significantly higher compared with corn silage (p<0.05). The disappearance results of DM and CP of alfalfa and corn silage may related to the growing condition, species ans conservative processing.

**Key Words:** Dry matter, Nylon bag, Intestine

**W151** Influence of low-level protein supplementation on forage intake, diet digestion and selection by beef steers grazing tallgrass-prairie range during the fall. D. A. Llewellyn*, R. C. Cochran, T. T. Marston, C. G. Farmer, and T. A. Wickersham, Kansas State University, Manhattan, KS.

An experiment was conducted to evaluate the effect on forage utilization of providing a limited quantity of a high-protein (45.5% CP, DM basis) supplement to beef cattle grazing tallgrass-prairie during the fall period. Sixteen ruminally fistulated Hereford x Angus steers (BW = 250 kg) were blocked by weight and randomly assigned to one of two treatments (i.e., fall supplementation or no fall supplementation) in a two-period study to evaluate the effect of low-level supplementation on forage intake and digestion during September and November. Within each treatment, four steers were used for measuring diet selection (by ruminal evacuation) and four were used for total fecal collection (via fecal bags). Each period consisted of a 15-d diet adaptation, a 4-d diet sample collection period, and a 6-d period in which total feces production was measured. The diet to feces ratio of the internal marker acid detergent insoluble ash was used to calculate diet digestibility and this