

**T85 Summer forage species alters animal performance, carcass characteristics and fatty acid composition of grazing beef steers.** J. R. Schmidt, J. G. Andrae, S. K. Duckett\*, and M. Miller, *Clemson University, Clemson, SC.*

The objective of this study was to evaluate various summer forages and their effects on live animal performance, carcass quality, and fatty acid composition of finishing beef cattle. Angus-cross steers ( $n=60$ ) were finished on alfalfa (AL), bermudagrass (BG), chicory (CH), cowpea (CO), and pearl millet (PM) during this two year grazing study. Ten 2-ha paddocks were blocked and assigned to forage species (2 reps per species). Each year, three tester steers were randomly assigned to paddocks. Grazing began when adequate forage growth for individual species was present. Put and take grazing techniques were utilized throughout the trial. Animal gains and herbage mass were monitored at 28 d intervals. Steers were slaughtered when sufficient forage mass for individual species was inadequate for supporting animal gains or when average steer weight exceeded 568 kg. Carcass data were collected at 24 h postmortem. Data were analyzed using PROC MIXED of SAS. Average daily gains were greater ( $P=0.02$ ) for AL than BG, CO, and PM, while CH produced higher ADG than BG and PM. Dressing percentages were greater ( $P=0.01$ ) for AL and CO than BG and PM, while CH was higher than BG. Cowpea carcasses had the highest ( $P<0.05$ ) quality grades and marbling scores. Postmortem aging decreased ( $P<0.01$ ) LM shear force measures. Shear force scores were lower ( $P=0.05$ ) for AL and CO than BG and CH with PM being intermediate. CLA cis-9, trans-11 concentration was greater ( $P=0.02$ ) in BG and PM than other treatments. Chicory and CO treatments had higher ( $P<0.01$ ) concentrations of linolenic acid than other treatments, while AL was higher ( $P<0.01$ ) than PM. Stearic acid concentration was higher ( $P=0.02$ ) in CO than CH, PM, and AL, while BG was higher than PM and AL, and CH was higher than AL.

**Key Words:** beef, forages, fatty acid

**T86 Performance by spring and fall-calving cows grazing with full access, limited access, or no access to endophyte-infected tall fescue 2 year summary.** J. Caldwell<sup>1</sup>\*, K. Coffey<sup>1</sup>, D. Philipp<sup>1</sup>, J. Jennings<sup>3</sup>, D. Hubbell III<sup>1</sup>, T. Hess<sup>1</sup>, D. Kreider<sup>1</sup>, M. Looer<sup>2</sup>, M. Popp<sup>1</sup>, M. Savin<sup>1</sup>, and C. Rosenkrans Jr.<sup>1</sup>, <sup>1</sup>University of Arkansas, Fayetteville, <sup>2</sup>USDA-ARS, Booneville, AR, <sup>3</sup>Cooperative Extension Service, Little Rock, AR.

Replacing toxic *Neotyphodium coenophialum*-infected tall fescue (E+) with a non-toxic endophyte-infected fescue (NE+) has improved cow performance greatly, but producer acceptance of NE+ has been slow. Our objective was to compare performance by spring (S) and fall-calving (F) cows grazing either E+ or NE+ at different percentages of the total pasture area to determine to what extent having limited access to NE+ will enhance cow/calf performance. Gelbvieh Angus crossbred cows ( $n=178$ ) were stratified by weight and age within calving season and allocated randomly to 1 of 14 groups representing 5 treatments: 1) F on 100% E+ (F100); 2) S on 100% E+ (S100); 3) F on 75% E+ and 25% NE+ (F75); 4) S on 75% E+ and 25% NE+ (S75); and 5) S on 100% NE+ (NE100; 2 replications). Cow BW at breeding, BW and BCS at the end of breeding, BW, BCS, and hair score at weaning, and calving rates were greater ( $P<0.05$ ) for F compared with S. A calving season by NE+ % interaction tendency ( $P=0.07$ ) was detected for cow BCS at weaning. Cow BCS at the end of breeding tended to be greater ( $P=0.08$ ) for F100 and S100 compared with F75 and S75, but cow BW at weaning and calving rates were greater ( $P<0.05$ ) for F75 and S75 compared with F100 and S100. Calf gain, actual weaning weight, ADG, and adjusted

weaning weight were greater ( $P<0.05$ ) for F compared with S. Therefore, a fall-calving season may be more desirable for cows grazing E+, resulting in greater calving rates, BW and BCS at critical times, and heavier calves at weaning. Limited access to NE+ may not improve calf BW through weaning, but may improve calving rates and cow BCS at certain stages of production. This project was supported by the National Research Initiative of the Cooperative State Research, Education and Extension Service, USDA, grant # 2006-55618-17114.

**Key Words:** calves, cows, novel endophyte fescue

**T87 Characteristics of Tanzania (*Panicum maximum*) and Xaraés (*Brachiaria brizantha*) pastures under dairy cows grazing with two supplementation levels.** C. A. M. Gomide\*, D. S. C. Paciullo, D. Vilela, and J. H. Bruschi, *Embrapa Dairy Cattle Research Center, Juiz de Fora, MG, Brasil.*

In spite of the importance of comprehension of the plant-animal relationships to grazing management, there are few works that evaluate the influences of supplementation strategies under the pasture characteristics. This work aimed to evaluate the effect of two levels of supplementation on the characteristics of Tanzania grass and Xaraés grass pastures along the dry and rain seasons. The study was carried out with lactating dairy cows, under rotational grazing. The levels of supplementation were 3 and 6 kg of concentrate ration/cow/d. A  $2 \times 2 \times 2$  factorial blocks design with two replications was used. The total forage mass (TFM) did not vary with the studied factors, the average value was 6,894 kg/ha. Probably the high percentage of dead vegetation in the dry season (48.3%) caused the TFM to be overestimated in this period. A higher canopy was observed in the summer as well as higher values of leaf-stem ratio and percentage of leaf in the pre grazing forage. These two last attributes also were favorable regarding Tanzania grass, showing values of 2.03 and 43.2%, respectively. In Marandu grass pasture these values were 1.05 and 36.5%, respectively. The levels of supplementation influenced only the pasture height after grazing, when it was observed a residue of 58.1 cm with the 6 kg of concentrate supplementation against a residual height of 50.8 cm for the treatment of 3 kg of concentrate. Leaf-stem ratio and the percentage of leaves after grazing varied with the grass  $\times$  season interaction. The percentage of residual leaves was higher in Tanzania grass during the dry season, while in the rainy season that percentages were 29.2 and 36.3%, respectively for Tanzania and Xaraés. The factor season was the more effective affecting the characteristics of the pasture, showing a bigger loss during the dry season. *Support by FAPEMIG/CNPq.*

**Key Words:** rotational stocking, sward structure, tropical pasture

**T88 Characteristics of forages utilized by the Przewalski horse (*Equus ferus przewalskii*) in Hustai National Park, Mongolia.** B. N. Petrukovich\*, J. P. Stevens, and D. A. Christensen, *University of Saskatchewan, Saskatoon, Saskatchewan, Canada.*

Przewalski horses were reintroduced to the Hustai National Park in Mongolia in 1990. Their reintroduction has been carefully monitored, but information on supply and quality of forage is limited. Therefore, the goal of this research was to collect representative samples of the forage available to three harems in the Park and to measure the composition, amount, digestibility and adequacy of pasture forages to meet horse nutrient requirements and for use in providing guidelines for other species. Within each three home ranges forage was clipped from seven

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