

74 Feeding optaflexx™ 45 (ractopamine-HCl) to cull cows: effects on carcass composition and yield. R. Dijkhuis*, J. Carter, and D. Johnson, *University of Florida, Gainesville.*

The objective of this study was to conduct a titration study using ractopamine-HCl during the last 30 days of feeding to determine if muscle mass could be increased in mature cows, and effects on meat quality of selected muscles. Culled crossbred beef cows (n=98) representing two breed types (beefmaster and angus type) were randomly sorted based on breed into one of four pens and fed for 54 days on concentrate feed, and assigned to one of four treatment groups – Control fed, Optaflexx™ at 100, 200, and 300 mg/hd/day. Except for the control, experimental groups received Optaflexx™ during the last 30 days of the 54 day feeding trial. At 24 hours post harvest the carcasses were fabricated and nine muscles [adductor (ADD), gracilis (GRA), infraspinatus (INF), longissimus dorsi (LD), rectus femoris (REF), semimembranosus (SMB), teres major (TEM), triceps brachii (TRB_{LAT}, TRB_{LONG}), and vastus lateralis (VAL)] were removed weighed, measured, and aged in a cryovac B2570 (Sealed Air Corp., Duncan, SC) vacuum bag for 14 days. The 9-10-11 rib section was removed for compositional analysis. Warner-Bratzler shear force (WBSF) was performed on all muscles, and ether extraction was performed on a sample of the LD to determine percent intramuscular fat. Data were analyzed using the MIXED procedure of SAS utilizing animal as the experimental unit. Significance was determined at $P < 0.05$. Hot carcass weight tended ($P = 0.14$) to be lower for the 100 mg/hd/d group compared to the control. Dressing percent tended ($P = 0.19$) to be lower for the 200 mg/hd/d group compared to the control. There were no differences ($P > 0.05$) in ribeye area, or percent intramuscular fat. There was a trend ($P = 0.11$) for percent fat-free lean to increase as ractopamine-HCl dose increased. Whole muscle dimensions and weight based on a hot carcass weight percentage were not affected ($P > 0.05$) by ractopamine-HCl at any treatment level. Differences for WBSF occurred in four out of the nine muscles evaluated. Ractopamine-HCl treatment increased ($P < 0.05$) WBSF values for the INF across all treatment levels compared to the control group, and WBSF values for the SMB were lower ($P < 0.05$) for the 100 mg/hd/d group compared to the control group. In contrast, the REF in the 100 mg/hd/d group had higher ($P < 0.05$) WBSF values compared to the 200 mg/hd/d and the TRB_{lat} in the 100 mg/hd/d fed group had higher ($P < 0.05$) WBSF values compared to the 300 mg/hd/d fed cows. In conclusion, feeding ractopamine-HCl at the 100, 200, or 300 mg/hd/d level to cull beef cows has little to no affect on carcass characteristics in comparison to feeding with the exclusion of ractopamine-HCl, but ractopamine did have minimal affects on total fat-free lean percentage and WBSF values.