BEEF CATTLE RESEARCH UPDATE

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Effect of Tasco Supplementation on Carcass Characteristics of Feedlot Cattle

Tasco is a feed additive produced from brown seaweed that is commonly found in the coastal waters of the Northern Atlantic Ocean. Previous research has shown that beef steers grazing Tasco treated tall fescue pasture (3 lb/acre of water soluble Tasco applied twice during grazing season) for 161 to 168 days and then finished in a feedlot for 133 to 160 days had higher marbling scores and tended to have higher USDA quality grades than steers that grazed non-Tasco treated pastures.[1] In addition, grazing Tasco-treated pastures improved color stability and improved beef shelf life.[2] Texas Tech University and Auburn University researchers recently supplemented crossbred cattle (499 lb initial weight) with 2% Tasco in a commercial feedlot in South Texas to evaluate the effect of Tasco on marbling score, USDA quality grade, sensory traits and retail display shelf life.[3] The treatment cattle were fed steam-rolled corn based diets containing 2% Tasco meal (DM basis) on days 45 through 60 and days 156 through 170 of a 170 day finishing period. The control cattle were fed the same diet without Tasco.

Carcasses from cattle supplemented with Tasco had greater marbling scores and more USDA Choice carcasses and fewer USDA Select carcasses than non-Tasco supplemented cattle. In addition, Tasco supplemented cattle tended to have lower USDA yield grades. However, Tasco supplementation had no effect on Warner-Bratzler shear force or taste panel evaluation of striploin or inside round steaks, except that initial tenderness (sensory analysis before aging) of inside round steaks was significantly better with lower off-flavor scores for Tasco animals than control animals. Tasco steaks were generally redder and less discolored during extended postmortem aging and retail exposure. These researchers concluded that Tasco meal supplementation may improve carcass quality and prolong retail shelf life. They also noted that Tasco could be used in “natural feeding programs”.

Genetics of Beef Palatability

The 1991 National Beef Tenderness Study found that, except for the tenderloin, considerable variability occurred in tenderness, and a significant proportion of longissimus muscle (LM) steaks were unacceptable in tenderness.[4] Tenderness is generally measured on the LM because it has the most total value and is expected to be acceptably tender, juicy and flavorful.[5] Market studies have shown that consumers were able to distinguish between varying levels of steak tenderness and were willing to pay a premium for improved tenderness.[6]

Recent research obtained carcass and Warner-Bratzler shear force (WBSF) data from strip loin steaks from 7,179 progeny of Angus, Brahman, Charolais, Gelbvieh, Hereford, Limousin, Maine-Anjou, Red Angus, Salers, Shorthorn, Simbrah, Simmental and South Devon sires (data provide by 13 breed associations).[5] Trained sensory panel (TSP evaluations were obtained on 2,320 steaks from groups of progeny from one to five sires of each breed. Expected progeny differences (EPD) from marbling and WBSF were developed for 103 Simmental sires, 23 Shorthorn sires and 69 Hereford sires in this study. This data showed that marbling was lowly correlated with WBSF (-0.21) and with TSP

overall tenderness (0.18). Heritability estimates for marbling score, WBSF, and TSP tenderness and juiciness were 0.68, 0.40, 0.37, and 0.46, respectively. This study also demonstrated that considerable variation exists in WBSF of LM steaks from progeny of different breeds and from progeny among sires within breeds. These researchers concluded that 1) selection for marbling would result in little improvement in meat tenderness; 2) heritability of marbling, tenderness, and juiciness are high; and 3) EPDs for tenderness are sufficiently large in Simmental, Shorthorn, and Hereford breeds to allow breeders to begin to improve LM tenderness genetically.

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