

ABSTRACT

Effect of Wagyu- versus Angus-sired calves on feedlot performance, carcass characteristics, and tenderness.

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Wagyu-sired (n = 20) and Angus-sired (n = 19) steers and heifers were used to compare the effects of sire breed on feedlot performance, carcass characteristics, and meat tenderness. Calves were weaned at 138 +/- 5 d of age and individually fed a finishing diet consisting of 65% whole corn, 20% protein/vitamin/mineral supplement, and 15% corn silage on a DM basis. Heifers and steers were slaughtered at 535 and 560 kg of BW, respectively. Carcasses were ribbed between the 12th and 13th (USDA grading system) and the 6th and 7th ribs (Japanese grading system) to measure fat thickness, LM area (LMA), and intramuscular fat (IMF). Two steaks were removed from the 12th rib location and aged for 72 h and 14 d to determine Warner-Bratzler shear force and cooking loss. Sire breed x sex interactions were not significant (P > 0.05). Angus-sired calves had greater (P < 0.05) ADG and DMI than Wagyu. Wagyu-sired calves had improved (P < 0.05) feed efficiency than Angus. Sire breed did not affect (P > 0.20) HCW, 12th-rib fat, or USDA yield grade. Carcasses of Wagyu had greater (P = 0.0001) marbling scores at the 12th rib than those of Angus (770.9 vs. 597.3 +/- 41.01, respectively). Carcasses of Wagyu also had greater (P < 0.02) 12th-rib IMF and 6th-rib IMF than Angus, resulting in a greater proportion of carcasses grading Prime (65.0 vs. 21.1%; P = 0.006). Carcasses from Wagyu tended (P = 0.08) to have greater LMA at the 12th rib, whereas Angus carcasses had greater (P < 0.05) LMA at the 6th rib. Steaks from Angus and Wagyu had similar (P > 0.50) tenderness at aging times of 72 h and 14 d. Cooking loss was greater (P < 0.01) for Angus than Wagyu steaks at 72 h and 14 d. Using Wagyu sires vs. Angus sires on British-based commercial cows combined with early weaning management strategies has the potential to produce a product with greater marbling, but is unlikely to significantly enhance tenderness.

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