

Eating quality of meat from grazing Holstein bulls and Limousine x Holstein bulls and heifers

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We examined the eating quality of meat from spring-born crossbred Limousine x Holstein bulls (CB) and heifers (CH) compared with Holstein bulls (HB) raised over two grazing seasons on high-yielding pastures and slaughtered directly from pasture after the 2nd grazing season at a fixed slaughter age (16.9 months). The meat quality was evaluated by a nine-member trained sensory panel on an unstructured scale from 0 to 15, with 0 representing minor aroma and taste characteristics and tough meat and 15 representing intense aroma and taste characteristics as well as tender meat. The evaluation was done on M. longissimus dorsi (LD) and M. semimembranosus (SM) sampled from 8 HB, 8 CB and 8 CH animals 24 h post mortem and aged at 4°C for additional 13 days. The filet (LD) was prepared as 20 mm steaks on a frying pan to an internal temperature of 63°C and the round (SM) was prepared as a roast in an oven (100°C) to an internal temperature of 63°C. The panel recognised no variation in the aroma and the taste of SM whereas the LD from HB had more gamy ($P < 0.003$) and liver ($P < 0.02$) aroma and more gamy ($P < 0.004$) and bitter ($P < 0.001$) and less meaty ($P < 0.001$) taste compared with CB and CH. The texture of both cuts was affected by the sex of the animals, thus the tenderness and bite resistance was inferior in cuts from HB and CB compared with CH ($P < 0.02$). The tenderness score of 5.7 and 5.2 for SM and 6.2 and 6.1 for LD from HB and CB, respectively, is expected to be too low to fulfil consumer expectations of tender beef. In conclusion crossbred Limousine X Holstein bulls and heifers may be an alternative to purebred Holstein bull because of the aroma and taste, but the texture of the crossbreed bulls need to be improved either through changes in the production strategy or in the pre and post mortem handling.