

Eating quality of bull calves fed only grass or herbs match that of concentrate-fed veal calves

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The experiment aimed at elucidating the effect of purely grass or purely herb feeding of Holstein bull calves for 6 weeks prior to slaughter on the color, fatty acids and vitamin composition and eating quality of the meat in comparison with meat from traditional rosé veal calves fed a concentrate-based diet. Eleven calves were fed a ration of purely grass (Grass, n=6) or purely herb-based green feed (Herb, n=5) for 6 weeks with a daily gain of 987 and 969 g, respectively, before slaughter 10 months old. Meat was also sampled from 9-10 months old rosé veal calves (Con, n=6). The calves had a carcass weight of 178, 185 and 197 kg for Grass, Herb and Con, respectively, and similar pH 2 h (6.62 ± 0.08) and 72 h post mortem (pm) (5.87 ± 0.15). Seventy-two h pm M. longissimus dorsi (LD) and M. semimembranosus (SM) were removed and the color traits L^* , a^* and b^* were measured of each muscle after one h blooming, with no significant difference between the feeding strategies. The muscles were aged for an additional 7 days, stored at -20°C before a sensory analysis. LD were prepared as steaks to an internal temperature of 63°C and SM were prepared as roasts in an oven (100°C) to an internal temperature of 63°C . A 9-membered trained panel evaluated the aroma, flavor and texture traits of the meat. LD from Herb calves had more meat flavor ($P < 0.05$) and was more juicy ($P < 0.02$) compared with the Grass and Con, whereas SM from Herb calves were characterized as having less sweet aroma ($P < 0.02$) compared with Grass and Con, but otherwise there were no significant differences in the sensory profile of the cuts from the three feeding strategies. The meat from Herb calves contained less oleic acid ($P < 0.001$), and more α -linolenic acid ($P < 0.001$), vitamin E ($P < 0.001$) and β -carotene ($P < 0.05$) compared with the Con calves and with the Grass calves in between.