

## MEAT QUALITY OF BULL CALVES FED ONLY GRASS OR ONLY HERBS FOR 8 WEEKS PRIOR TO SLAUGHTER MATCHES THAT OF CONCENTRATE-FED BULL CALVES

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The organic rules require that bull calves are raised outdoor at least 6 months a year in Denmark and are fed at least 60% roughage of the total diet. These rules are a constraint for an organic production of beef based on the bull calves born in the organic dairy herds because of extra labor costs, expected lower growth rate, difficulties in raising bull calves outdoor, possibly lower meat quality and lack of sufficiently high organic premium payment for the carcass. Thus, the bull calves are sold for conventional fattening. The supply of organic beef from young cattle is concomitantly very limited. However, in order to obtain the necessary higher payment for beef from organic-raised young cattle, it is important that consumers like the beef from grass- and herb-fed young cattle.

The present experiment aimed at elucidating the effect of purely grass or herb feeding of Holstein bull calves for 8 weeks prior to slaughter on color, fatty acid composition, vitamin content and eating quality of the meat in comparison with meat from traditional rosé veal calves fed a concentrate-based diet and slaughtered at 9-10 months of age. Eleven calves purchased at 8 months of age were, after a 2-week adaption period, fed purely grass (Grass, n=6) or purely herb based green feed (Herb, n=5) for 6 weeks prior to slaughter 10 months old. Traditionally concentrate-fed Holstein bull calves were also included in the meat quality analyses (Con, n=6). All calves were less than 10 months old at time of slaughter. Seventy-two h pm *M. longissimus dorsi* (LD) and *M. semimembranosus* (SM) were removed and the color traits L\*, a\* and b\* were measured, with no difference between the three feeding strategies. The muscles were aged for additional 7 days, before sensory analysis. Except for more meat flavor and juiciness in LD and less sweet aroma in SM from Herb calves compared with Grass and Con calves, there were no significant differences in the sensory profile. The meat from Herb calves contained less oleic acid, and more linoleic acid,  $\alpha$ -linolenic acid,  $\alpha$ -tocopherol and  $\beta$ -carotene compared with Con calves and with Grass calves in between. The (n-6)/(n-3) ratio in the meat improved from 8.6 for Con to 4.6 and 5.3 for Herb and Grass calves, respectively.

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