REDUCTION OF SLAUGHTERHOUSE STRESS IN BEEF CATTLE BY FACILITATING ANIMAL TAMENESS

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The relationship between animals and humans is important for animal husbandry and welfare. Loose-housing and grazing systems with low management input often result in frail relationships between humans and animals. This study investigated whether a positive handling, applied during the first days of the animals' life, had a calming and stress reducing effect on suckler beef calves at slaughter. Twenty-seven calves (male: n=12, female: n=15) were assigned to a handled group (HG: n=13) or to a control group (CG: n=14), balanced for sex and age. Handling treatment, including elements of the TTouch©-Method, was conducted by a person being unfamiliar to the animals. Handling started the second day after birth and was continued on the third and fourth day of animal's life. Additional handling sessions were performed on three non-consecutive days during the following 3 weeks. Every session lasted 10 min and was repeated after 30 min. Handling treatments were always conducted in the home pen of the animal. At the age of 10 months, the not yet weaned animals were slaughtered at an abattoir in 30 km distance to the farm. Cattle transporters were loaded at the home pen with $\leq$ eight animals familiar with each other. They were kept within their familiar group until stunning. The routine captive bolt method was used for stunning.

Animals were observed in the single-file race (order of entrance, prodding, going backwards, vocalization) and during detention in the stunning box (duration of detention, head position in front of stunning operator, vocalization). After slaughter steaks from the *musculus longissimus dorsi* were analyzed after 21 days of ageing for cooking loss (after 1 h cooking at 72°C), texture (Warner-Bratzler shear force analyses) and colour of the meat surface directly after cutting and after blooming for 1 h (L*a*b* values). The two-sided Mann-Whitney-U-test was used for comparison of the means.

The HG animals showed less avoiding behavior towards the stunning operator (head position in front of stunning operator) than CG animals ($p<0.01$). Furthermore prevalence of HG animals being the first ones to enter the single-file race was higher ($p<0.05$). Meat from the HG animals had a lower shear force than that of CG animals ($p<0.05$). We suggest that handled animals were less fearful towards humans at the abattoir and therefore showed less stress-related behavior. This caused meat to get more tender. We conclude that actively facilitated animal tameness could be an approach to improve welfare and meat quality of cattle.