

SHORT SPOKEN PRESENTATION; AWSSEL; RESEARCH

**Mobile abattoirs as a means to reduce stress in slaughter cattle**

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This research was funded by the Marie-Claire Cronstedt Foundation and the Swedish Animal Welfare Association. The authors have no conflicts of interest to declare.

Stress during pre-slaughter transport and handling can affect cattle welfare and meat quality negatively. We report preliminary results from an observational study of commercial mobile cattle slaughter (Hälsingestintan AB, Sweden). Stun box and slaughter hall were housed in a truck trailer on farm. Stunning was carried out using penetrating captive bolt gun.

Observations were made at four farms. Stress-related stockperson actions and animal behaviours were recorded in 69 animals (39 dairy and 30 beef breed) through direct continuous observations during driving and in stun box. Blood lactate levels were analysed at sticking (Lactate Plus, Nova Biomedical, USA). Meat pH was recorded at cutting 6-7 days later (Testo 205, Nordtec Instrument AB, Sweden). Behaviours (0=not occurring, 1=occurring), blood lactate (mmol/l, log-transformed) and pH were regressed univariably on animal type, breed, age category, driving using hands or tools (binary), adjusting for farm clustering. Odds ratios (OR) were calculated for binary outcomes.

Steers displayed stress behaviours less often than bulls during driving (OR=0.15; p=0.023), but more in stun box (OR=13.5; p=0.003). Cows had 1.4 times higher lactate levels than steers (p=0.017). Dairy animals displayed stress behaviours in stun box more often than beef animals (OR=5.2; p=0.006). Animals 8-20 months old displayed stress behaviours in stun box less often and had lower lactate levels than older animals. Driving using hands was associated with stress behaviour during driving (OR=5.0; p=0.046).

These results indicate that human contact during driving into the stun box is associated with increased cattle stress. Comparisons with conventional large-scale slaughter will follow.