

# **ANIMAL WELFARE CONCERNS IN MOBILE CATTLE SLAUGHTER**

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The slaughter of farm animals to produce meat for human consumption involves a number of animal welfare risks. Pre-slaughter handling can be one of the most stressful events in the life of an animal. Despite comprehensive legal restrictions and official control of commercial abattoirs, animal welfare outcomes at slaughter vary considerably and are in some cases unacceptably poor. The high line-speed at large-scale slaughter results in demanding working conditions, making it difficult for stockpersons to deal with hassle and balking. A considerable proportion of the animals transported to slaughter spend one night in lairage at the abattoir before being slaughtered, which may increase stress levels if lairage conditions are poor. On-farm slaughter may be conducted in a mobile unit temporarily parked at or near the farm. It may have a potential to reduce pre-slaughter animal stress by shorter or eliminated transports, minimised exposure to unfamiliar environments, animals and persons, less time in lairage and a reduced slaughter line speed, in line with the increasing consumer awareness of animal welfare issues. With the objective to contribute to the development and evaluation of systems for slaughter of cattle to achieve as good animal welfare as possible, we studied animal handling; animal behaviour; time needed for driving, stunning and sticking; blood chemistry (cortisol, glucose and lactate); and carcass characteristics at a Swedish mobile cattle slaughter plant, and compared it to a Swedish large-scale stationary plant.

During one year, we observed the slaughter of 596 cattle, half at each plant. The mobile plant had capacity for about 4 animals per hour or 30-35 animals per day and the stationary about 45-50 animals per hour or 290-320 animals per day. The mobile plant, including the cooling unit and staff spaces, was built into two trucks with trailers. Observations of mobile slaughter were performed on 17 days during slightly more than one year in 2016-2017 at 15 cattle farms in southern and central Sweden. During the same period, stationary slaughter of animals from 144 farms was observed on 17 days. The studies did not cover the transport to or the stay at the stationary plant before slaughter. The observed part of the driveway was 2.4-5.7 m long at the mobile plant and 7.3 m at the stationary plant. At both abattoirs a cartridge-driven penetrating captive bolt weapon was used to stun the animals and after stunning the animals were bled by thoracic sticking. The effects of different animal and farm factors were studied in multivariable statistical models. Most animals were driven actively a few times and only a small number of animals were driven many times. Similarly, only a small number of animals exhibited many stress-related behaviours, while most only showed few such behaviours.

The project shows the importance of the animals being calm when driving to the stun box begins, that the layout of the premises, driveways and equipment is appropriate, and that the handling of the animals during driving, stunning and bleeding is correct. The differences between the plants were relatively few and mainly due to factors specific to the facilities studied, rather than general differences between mobile and stationary slaughter in general. There are options for good animal welfare and meat quality in both mobile and stationary slaughter of cattle. Based on this study, it is not possible to conclude that animal welfare is generally better with one or the other type of slaughterhouse.