

## **Effect of gun-shot stunning on the behavior of the remaining cattle herd**

Master Thesis  
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### Abstract

Stunning of cattle on-farm by gun shot, whilst still together with the herd, is an alternative slaughter method. This study aims to describe the effects on the rest of the herd, that watches whilst fellow cattle are stunned and aims to confirm that the method is lower in stress than stunning with a captive bolt in the slaughterhouse. Behavior was observed before and after the shot in two test groups in order to examine changes and to get an impression whether the remaining cattle showed aversion to the place where the cattle are stunned. Blood lactate levels were measured in the exsanguinated blood of the stunned cattle. The on-farm stunning was confirmed as stress free by comparing 30 recordings of cattle that were stunned by gunshot to 29 recordings of cattle that were conventionally slaughtered in the slaughterhouse. There was no evidence to conclude that stunning with a gun shot whilst still part of the herd was critical for the remaining cattle. While the control groups had a more tense head position after the shot ( $p = 0.005$ ), the test groups vocalized more after the shot ( $p = 0.029$ ). The cattle showed no aversion to the area where the shooting took place after the shot. Means of blood lactate levels of the cattle stunned by gun shot did not differ significantly and were 3,1 mmol/l in test groups 1 and 3,7 mmol/l in test groups 2, which indicated low stress levels. Comparisons of the video analyses confirmed this conclusion. Behavioral parameters - restless movements' ( $p = 0.000$ ) and "restless heads" ( $p = 0.000$ ) were observed significantly higher before stunning in the slaughterhouse than on-farm.