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Measuring welfare of finishing pigs

from loading at the producer until sticking at a commercial abattoir

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Introduction

The market and the consumers show increasing interest in and demands towards animal welfare. Documentation of animal welfare is mandatory at larger slaughterhouses from 2013 in the EU due to the regulation (1099/2009). Compliance with these requirements necessitates the development of tools for continuous monitoring of animal welfare. The aim was to evaluate different indicators of animal welfare to identify possible measures for future development of documentation of animal welfare on the day of slaughter.

Materials and Methods

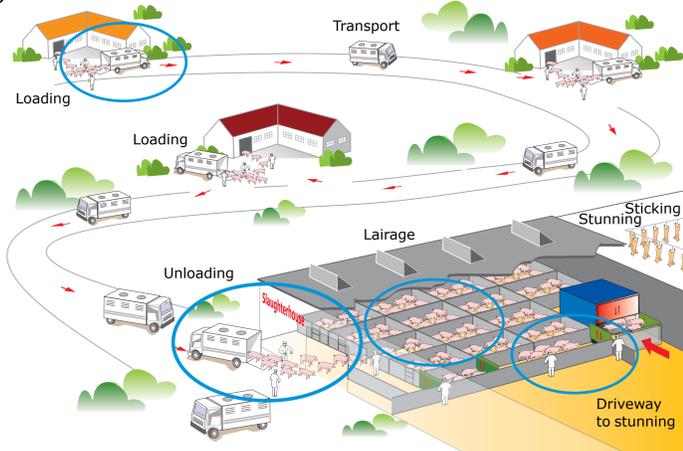
Welfare indicators inspired by the Welfare Quality[®] Protocol (2009) were recorded.

Behavioral and management recordings included:

- Turning back
- Reluctance to move
- Slipping and falling
- Postures during lairage
- Overlapping in the driveway to stunning
- Driving

Post mortem recordings included:

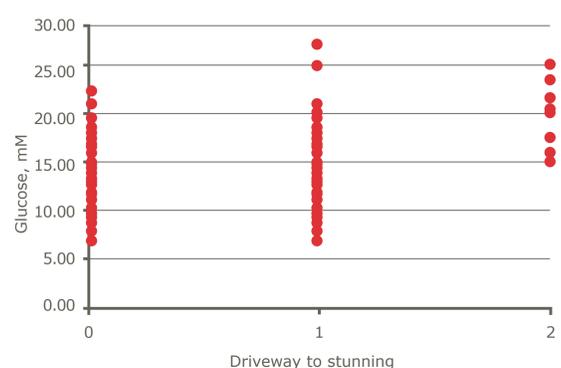
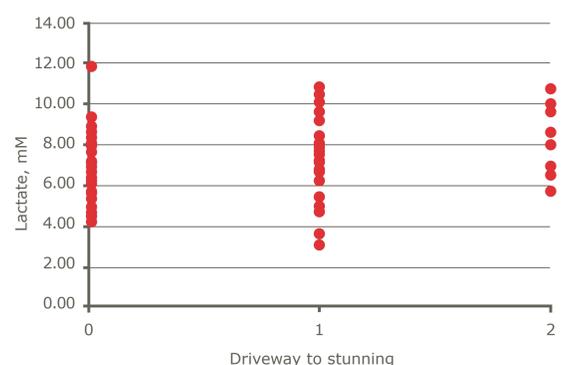
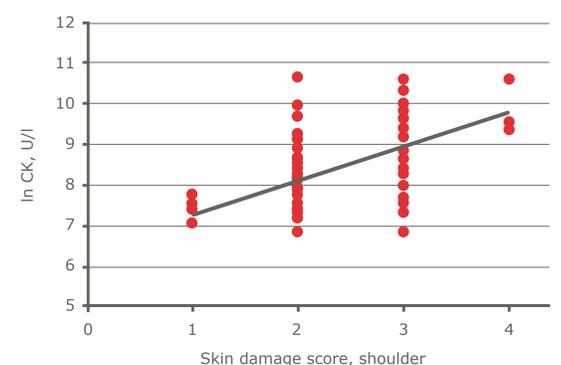
- Collection of blood samples at sticking
- Blood temperature
- Assessment of skin damage
- Loin temperature and pH 45 min after sticking



In total 80 pigs from four producers were included. Correlations between the measured variables were calculated. For every event, i.e. loading, unloading, lairage and driveway to stunning, the recordings were summarized. Analyses of variance were performed to investigate the effect of the four events prior to slaughter on the post mortem blood concentration of glucose, lactate and creatine kinase activity (CK), blood and loin temperature and pH.

Results

There was a significant correlation between CK and skin damage score on the shoulder ($P < 0.0001$) and between CK and slipping and falling in the driveway to stunning ($P = 0.03$). Handling in the driveway to stunning affected the blood concentration of lactate ($P = 0.03$) and glucose ($P = 0.005$) significantly. There was no effect of handling in the driveway to stunning on CK. Further, there was a significant difference between producers on the concentration of lactate and CK. There were no significant effects of the behavior and management recordings on blood or loin temperature or pH.



Conclusion

The study indicates that the blood concentration of lactate, glucose and the creatine kinase activity are related to the behavior and management prior to slaughter and might be relevant indicators for documentation of animal welfare on the day of slaughter.

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