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Research domain: Animal welfare

Title:
More than meets the eye: Using pig carcasses to assess on-farm animal welfare

Short description (60 words, Calibri 11pt): (English)
The evaluation of animal welfare indicators on swine carcasses could offer a cost-effective method for the routine evaluation of swine welfare for farms supplying pigs to abattoirs. This project evaluates whether measuring animal-based indicators of welfare on swine carcasses can accurately inform about the welfare of swine on-farm and during pre-slaughter handling, and the relationship between welfare indicators, and economic loss.

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Summary: (3000 characters including spaces, Calibri 11pt):

Animal-care assurance schemes typically rely on on-farm audits for verification. On-farm audits are time-consuming, costly and are consequently performed infrequently and not always by a third party which can compromise credibility. Animal-based indicators of welfare are characteristics measured on the animals (i.e., skin lesions) and are a powerful approach to assess the welfare of animals raised in a variety of systems, providing information on the wellbeing of groups and individuals regardless of the production system and resources provided. The evaluation of animal-based indicators of welfare on swine carcasses could offer a cost-effective method for the routine evaluation of swine welfare for farms supplying pigs to abattoirs. This project evaluates whether measuring animal-based indicators of welfare on swine carcasses can accurately inform about the welfare of swine on-farm and during pre-slaughter handling.

Over a period of five months that included seasonal variation (winter and summer), five maternity, 10 nursery and 10 finisher barns located in Western Canada were visited three times (approximately 300 batches). A defined number of animals at each stage of production were assessed for 43 animal-based indicators (i.e., tail-biting, skin lesions), and barns for five environmental (i.e. ventilation, dust level) and six resource-based indicators (i.e. floor type, enrichment). Per finisher barn visit at least one transport load of pigs from an assessed batch was followed from loading to slaughter (n = 31 market loads). Loading assessment included animal-based and human-animal interaction indicators (i.e., prod use, pig reaction to handling). The assessment of the market pigs continued through the unloading, lairage and pre-slaughter management, utilising abattoir video footage. A camera located on the slaughter line collected

video of the carcasses after scalding before dehairing. Carcasses will be assessed for ten animal-based indicators that relate to animal-based injury (i.e., tail biting), environmental (i.e., injury, frostbite) and human-handler (i.e., bruising from tool use).

Data processing is ongoing and preliminary results will become available in early 2023.

This work will determine whether the assessment of animal-based indicators of welfare on swine carcasses at slaughter can be a sensitive and specific tool to monitor pig welfare at different parts of the production chain. Incorporating camera-based assessment of animals at slaughter, paves the way for the development of automated animal welfare monitoring as a tool for the Canadian swine industry.