Monitoring the effects of transport on the behaviour, physiology, carcass and meat quality of pigs through the study of truck micro-climate, vibrations and cooling systems

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Overview

This study is working on evaluating the impacts of ventilation, in warm conditions and combined with water misting, on the behaviour, physiology, carcass and meat quality of pigs waiting to be unloaded at the slaughterhouse. Researchers are also looking into assessing the impacts of vibration during transport to the slaughterhouse on the posture of the pigs (for example, standing, sitting or lying down).

Highlights

Cooling system

Preliminary results have shown that the use of a fan-assisted misting bank appears to improve thermal comfort and reduce dehydration in pigs that are kept in a stationary truck before unloading.

During the summer of 2015, and using two identical pot-belly trailers, twelve loads of 191 pigs each (six loads per trailer) were transported over a two-hour period to the slaughter plant. On arrival at the plant, the trailers remained stationary for 30 minutes before unloading. During this period, one trailer was exposed to external forced ventilation and misting for 10 minutes using fan-mister banks located near the unloading dock. The other trailer (the control) was not exposed to any cooling procedure at all over that 30-minute wait.

In each trailer, 12 pigs were equipped with gastro-intestinal tract temperature monitors. Analysis of data from these temperature monitors seemed to show that the pigs in the control trailer had reached a higher body temperature than those exposed to the cooling treatment.

Implications for the swine industry

- More details will be available in 2018 about the impact that the studied cooling system has on pigs.
- Results of the study on the impact of vibration during transport will be communicated.
- New knowledge will also be developed about vehicle design features in order to limit animal losses during transport and to improve pork quality.

Collaborators

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Combined water sprinkling and ventilation system.
Source: Sherbrooke Research and Development Centre, AAFC
Additional project information
Click on the links below for further information on this project

Additional reading:


  Retrieved from: https://www.banffpork.ca/proceedings/search


Farmscape Interviews:

- *Banff Pork Seminar Audio Special: Swine Transportation: Science-based Solutions to Current Issues*
  - January 12, 2017
- *Scientists Examine Effects of Vibration in Transit on Pig Comfort and Meat Quality*
  - October 21, 2016
- *Research Shows Fan Bank Ventilation Effective in Regulating Swine Body Temperature*
  - October 14, 2016
- *Study to Examine Benefits of Water Sprinkling and Ventilation Fans in Reducing Heat Stress During Transport*
  - November 27, 2014

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