

# 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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This study showed that using a fan-misting bank on stationary pig trailers prior to unloading at the slaughter plant significantly improves internal trailer conditions and pig comfort.



Combined water sprinkling and ventilation system.  
Source: Sherbrooke Research and Development Centre, AAFC

ventilation, followed by 10 minutes of ventilation and water misting, and then finally 10 minutes of ventilation using the fan-mister banks located near the unloading dock. The second trailer (the control) was not exposed to any cooling procedure at all over the 30-minute wait.

The results of this study indicated that employing a fan-misting bank efficiently reduced the temperature within the compartments of the trailer. For the pigs, it also resulted in better thermal comfort as well as a reduction in dehydration at slaughter. However, the effects of the fan-misting bank varied between the different compartments of the trailer. This suggests a need for improvements to be made to trailer design, especially regarding the pattern of side ventilation openings and internal gate types, in order to increase the efficiency of this cooling system. Finally, it was found that the cooling system had no major impact on carcass or meat quality.

## Why was this study done?

Researchers wanted to evaluate, in warm conditions, the impact that ventilation and water misting would have on the behaviour, physiology, carcass and meat quality of pigs waiting to be unloaded at the slaughterhouse. Researchers also wanted to assess the impact of vibration during transport to the slaughterhouse on the posture of the pigs (for example, standing, sitting or lying down).

## What was done and what was the outcome?

Over the summer of 2015, two identical pot-belly trailers were used to transport twelve loads of pigs (six loads per trailer) to the slaughter plant. Upon arrival, the trailers remained stationary for 30 minutes prior to unloading. During this period, one trailer was exposed to 10 minutes of fan-assisted

## Collaborators

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