



LONG DISTANCE TRANSPORT OF PIGLETS

## Effects of long distance transport on the health and welfare of early weaned pigs

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### Why is this project important?

Pig transport is a key component of the swine industry in North America. Weaned pigs move regularly over the Canada–U.S. border, and roughly 120,000 isowean pigs arrive at U.S. swine barns on a weekly basis. Though all-in, all-out management practices improve health by reducing piglets' exposure to pathogens, it has led to increased transport of weaner pigs, including both short and long movements. There has been minimal research on how transport affects weaned pigs, particularly the impact of long duration travel. In recent years, trip durations in North America have increased due to the locating of sow herds in remote areas, while most grower facilities are situated closer to feed-producing areas and packing plants.

Given the increased focus by the hog industry, consumers and media on pig health during transport, it is vital to identify the factors affecting the health and welfare of weaner pigs. This is especially important given proposed updates to the Canadian livestock transport regulations, as any amendments should be based on scientific evidence rather than public opinion.



Piglets on board a transport trailer. Photo: Prairie Swine Centre

## What will researchers do?

Using standard 4-deck pot-belly trailers, piglets were transported during one season under commercial conditions for two durations: short (1 – 2 hours) and long (approximately 36 hours).

During the study, body temperature, heart rate, and body weight of the piglets were recorded. For certain piglets, behaviors such as lying, standing, sitting and huddling were also recorded, and some piglets were blood sampled to measure dehydration and stress markers before and after transport. Trailer conditions were measured for temperature, humidity and vibrations.

Piglet behaviour in the nursery was monitored after transport to observe aggression, postures, and feeding and drinking. Piglet health, including morbidity and mortality rates, were tracked until the time of nursery exit.

## What will be the benefit of this research?

This research may result in the following for the industry:

- Aid in identifying best practices for transport, while providing a basis for transport policy and direction for future study and improvement.
- Have an impact on innovation, productivity and production costs in the pork industry. Areas of innovation include ideas to control trailer temperature during transport, and enhancements to ramp structures or vehicle design to reduce loading times, pig stress and labour costs.
- Help increase efficiencies in the pork value chain, such as labor efficiency at loading, unloading and during transport.
- Potential to improve welfare and, in doing so, demonstrate the industry's commitment to animal welfare.
- Have a potential impact on pig health and disease control. By gaining a better knowledge of the risk factors affecting pig health and welfare during transport, industry can develop strategies to mitigate those risks. Since stress tends to impair immunity in pigs, reducing transport stress will lessen the impact of pig diseases.

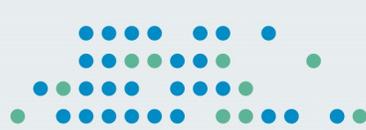


*Top photo: Members of the research team attach a heart rate monitor to a piglet.*

*Bottom photo: Piglets with and without heart rate monitors.*

*Photos courtesy of : Prairie Swine Centre*





## What has been done so far?

As of 2021: The observed results indicate that piglets underwent different physiological challenges in each duration group. Whether a short or long transport duration is more optimal for piglet wellbeing is indiscernible, though areas for mitigations that may further increase piglet welfare during transport have been identified.

## Collaborators

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## Project status

Currently in progress.  
Results expected in 2023.



Photos : Prairie Swine Centre

## Additional resources and information about this project

### R&D Featured Articles by Swine Innovation Porc:

- [Research Drives Progress for Weaner Transport](#)  
February 25, 2021

### Farmscapes:

- [Research Provides Insight into the Effects of Transport on Weaner Pigs](#)  
March 26, 2021
- [Effects of Long Versus Short Duration Transport Different But Equal](#)  
March 19, 2021
- [Research Gives New Insight into Stress During Transport](#)  
September 2, 2020
- [Understanding Stress During Transport Key to Minimising Impact](#)  
August 21, 2020
- [Long Distance Transport Results in Greater Physiological Effects on Weaned Pigs than Short Distance Transport](#)  
August 13, 2020
- [Researchers Work to Improve Piglet Comfort During Transport](#)  
December 6, 2019
- [Research to Benefit Shippers of Young Pigs](#)  
October 30, 2019
- [Scientists Seek Strategies to Reduce Stress During Transport](#)  
October 25, 2019
- [Researchers Target Improved Comfort During Transport](#)  
September 20, 2019
- [Research to Provide Producers and Regulators Direction on Pig Transport](#)  
September 12, 2019
- [Scientists Examine Effects of Transport on Early-Weaned Piglets](#)  
September 6, 2019

### Financial support for this project

This project is part of the Swine Cluster 3 (2018-2023) research program, made possible through financial support from Agriculture and Agri-Food Canada's Canadian Agricultural Partnership, eight provincial pork producer organizations and over 30 industry partners. [Click here to learn more about the financial partners for Swine Cluster 3.](#)