



CANFARMSAFE™

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A Safe Ride: *For People & Pigs*

This project on *Improving Biosecurity and Welfare of Animals during Transportation* is a Prairie Swine Centre (PSC) continuation of their project under the 2014 - 2018 Canadian AgriSafety Applied Research Program, details at www.agrivita.ca. This project focused on developing and constructing a prototype swine transport trailer that was designed to prevent the transmission of airborne infections during livestock transport and included the following features:

- Front compartment with power generators, bank of six air filters, ventilation controller, supplemental heater, and two axial fans.
- Livestock compartment with solid aluminum walls, two decks with a hinged upper deck floor, a roof that can be lifted open, and a hydraulic loading platform. Capacity of 70 market pigs.

Why Continue the Project?

Since the initial design and construction of the prototype trailer, the livestock transportation industry continues to face growing concerns over animal welfare friendly vehicles, worker health and safety, new emerging diseases, and increased demand for stringent biosecurity.

The driving forces behind the need for continuation of this project:

- Protection of livestock from airborne disease transmission during transport, including porcine reproductive and respiratory syndrome virus (PRRSv).
- Enhanced animal welfare of livestock during transportation including better control of thermal conditions and provisions for food and water to reduce the incidence of fatigued animals.
- Improved health and safety for workers responsible for loading/unloading and cleaning livestock trailers.



The Upgrades

Proposed improvements to the prototype trailer under this project include:

1. Disease control

- Filters at the exhaust air outlets to protect pigs from unfiltered air entering through the exhaust vents during transport.

2. Animal welfare

- Water supply lines for pig hydration.
- Misting/sprinkler system for cooling pigs during hot weather.
- Emergency hatch for temporary ventilation in case of power system failure and to provide easy access for inspection of pigs during transport.
- Control of thermal conditions in pig compartment and an alarm system in the truck cab that can be monitored by the driver during livestock transport.

3. Worker safety

- Improved hydraulic system that functions at extreme conditions such as -40°C .
- Re-designed loading platform that functions with existing barn load out facilities.
- Installation of a cover for the loading platform that extends beyond the back of the trailer to the barn load out to protect pigs and workers from extreme weather conditions.
- Ease of cleaning. No planks/ramps, minimize corners and hard to clean spots for improved faster cleaning and disinfection.



Images of the original prototype trailer completed in the 2014 - 2018 Canadian AgriSafety Program