

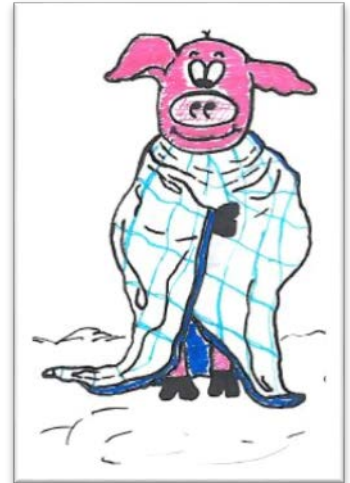


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Pigs Don't Get Blankets: Controlled transport environments for pigs

Ever wonder what it would feel like to drive in winter with the windows open in your car on the highway?



Pigs transported in Western Canada are exposed to extreme temperatures whether it be cold in the winter or heat in the summer, not to mention the long distances that pigs are often transported across the country. All of these factors can lead to stressed or sick pigs.

Over the years there has been an increase in awareness towards the welfare of livestock during transport between facilities. North America has lagged behind Europe in developing and updating animal welfare regulations for the transport of livestock for slaughter. In fact for over 40 years, livestock transportation regulations in Canada have not changed (Harper, 2017).



Current pig transport trailers are typically open air containers with two decks – the top deck consisting of five compartments and the bottom deck of six compartments. Pigs are loaded and unloaded by a ramp system to each deck. During transport, conventional trailers risk exposing pigs to airborne disease such as porcine reproductive and respiratory syndrome (PRRS) and porcine epidemic diarrhea (PED). These airborne diseases are a major concern in the pig industry because of the devastating effects both diseases can have on swine herds. Conventional

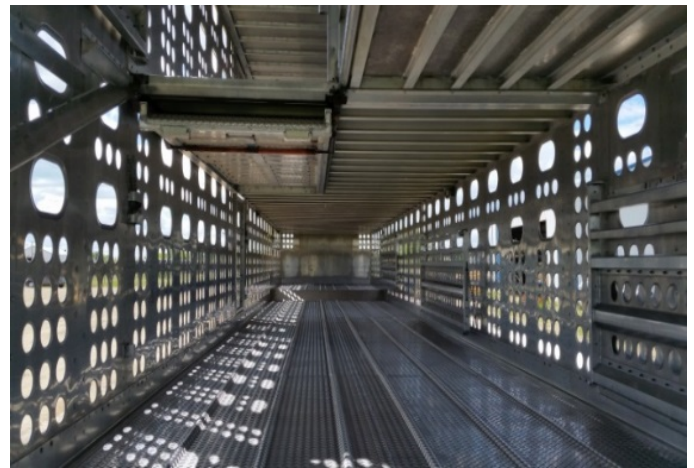
trailers also do little to protect the pigs from extreme seasonal weather in Canada. This can increase the chance that pigs will become sick or stressed and lower their market value.

The *Canadian AgriSafety Applied Research Program project Reducing Pathogen Distribution from Animal Transport* is developing a solution. Utilizing computer simulations, the project team has designed a prototype swine transport trailer that has a closed air environment with both an air filtration system and fans for temperature regulation.



The project found that in conventional transport trailers air enters the trailer randomly through the openings in the sides of the trailer. The tests also showed a temperature difference of up to 5°C between the inside the trailer and the outside air. In the summer when temperatures outside can reach 25°C, the temperature inside the trailer would be 30°C, which is high enough to cause heat stress to pigs. By designing the prototype trailer with fans, the temperature inside the pig compartment is more regulated. This will aid in preventing the pigs from becoming heat stressed.

Based on the results of the computer simulations the project team was able to design and construct the prototype trailer to minimize the risk of exposure to airborne diseases during transport. To do this the trailer has a front compartment with a series of air filters to remove tiny particles that may contain disease-causing agents. Linked to the air filtration are air inlets and outlets coupled with more fans that will help in creating a regulated temperature for the animals. The trailer is anticipated to undergo several types of testing to determine its feasibility for commercial use in swine transport.



To learn more about the Reducing Pathogen Distribution from Animal Transport project, visit www.agrivita.ca.

References:

Harper, Maureen. "Legalized cruelty: the gaps in Canada's animal transport laws." 26 May 2017. *iPolitics*.

The *Reducing Pathogen Distribution from Animal Transport* project, is one of two projects in the Animal Housing Environment priority area, under Agrivita Canada Inc.'s *Canadian AgriSafety Applied Research Program*, led by a national team of researchers from Prairie Swine Centre (PSC), the Canadian Centre for Health and Safety in Agriculture (CCHSA), the University of Saskatchewan College of Engineering, the School of Population and Public Health at the University of British Columbia and the Canadian Agricultural Safety Association (CASA).

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