



Effectiveness of Sprinkling During Transport

Research funded by Swine Innovation Porc, and lead by Dr. Luigi Faucitano (Centre for Research and Development of the Dairy and Swine Agriculture and Agri-Food Canada, Sherbrooke, Quebec) has found sprinkling pigs on-farm prior to transport, and just prior to unloading at the packing plant, improve pig comfort and meat quality when outside air temperatures exceed 20 °C.

It has been generally accepted high temperatures contribute to the mortality of pigs during transport, and sprinkling during transport effectively reduces the pig's body temperature. Currently there are no standard guidelines when to sprinkle pigs during summer months, rather truckers sprinkle the pigs when they feel it is "hot".

From June to mid-September 2011, nearly 5,000 market pigs were transported (for 2 hours) to slaughter in one of two pot belly trailers with a capacity of 208 hogs. Trailer #1 was equipped with a sprinkling system designed to sprinkle the pigs 5 minutes prior to departure at loading (on-farm), and 5 minutes before unloading prior to slaughter at the slaughter plant in order to reduce the stress associated with loading and wait before unloading.



Evaluation of Temperature Conditions in Trucks During Transport of Market Pigs to Slaughter in Four Seasons

<http://www.prairieswine.com/evaluation-of-temperature-conditions-in-trucks-during-transport-of-market-pigs-to-slaughter-in-four-seasons/>

Effects of Different Moving Devices at Loading on Stress Response and Meat Quality in Pigs

<http://www.prairieswine.com/effects-of-different-moving-devices-at-loading-on-stress-response-and-meat-quality-in-pigs/>

Scientific Review will help to define New Pig Transport Standards

<http://www.prairieswine.com/scientific-review-will-help-to-define-new-pig-transport-standards/>

Spraying 125 liters of water for five minutes after loading (on-farm) and just prior to unloading (at slaughterhouse) was effective in reducing stress associated with transport, and subsequently improving carcass meat quality of pigs located in critical compartments - when outside air temperatures exceed 20 °C. Results were obtained by measuring blood lactate levels at slaughter and pH one hour after slaughter and drip loss in the loin muscle one hour after bleeding.

Impact of Heat During Transportation

During summer, the temperature inside a pot-belly trailer can be hotter than the ambient outside temperature up to 6 °C, especially in the lower compartments and those on the front of the middle bridgedeck. When these conditions exist it is beneficial to cool pigs through sprinkling, reducing body temperature in hot weather and improving the pig's well-being. The current guidelines for use of sprinkler systems are based on industry practices, and are inconsistent because some guidelines recommend watering pigs in a stationary vehicle at ambient temperatures of 15°C, while other guidelines recommend sprinkling at 27 °C.

Benefits of Sprinkling

Pigs transported in semi-trailer equipped with a sprinkling system showed a lower blood lactate level than pigs transported with no sprinkling system. The lower lactate level indicates an improvement in their physical condition caused by reduced fatigue during slaughter. An hour after bleeding, the rate of acidification of the meat, as measured by the pH in the loin muscle is lower in pigs showered, indicating a pig less stressed and a better quality of meat. Very few Canadian trucks are equipped with a sprinkling system because of uncertainty about its effectiveness and the lack of guidelines for its use. Recommendations generated from this project will make a difference as they are now included in the training program "Canadian Livestock Transport".

