



Effect of rest stop duration and quality on the behaviour and welfare of cattle transported by road.

## EFFECT OF REST STOP DURATION AND QUALITY DURING TRANSPORT ON CATTLE WELFARE

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**Background:** Cattle transport is one of the beef industry's practices that is most visible to the public, and is facing increased public and regulatory scrutiny. It is important to have valid Canadian science to ensure that potential regulatory changes will truly benefit the animals they are designed to protect. This research will focus on the benefit of providing a rest stop during long distance transportation of feeder calves.

**Objectives:** To determine the effects of varying rest stop (RS) duration, time of RS, condition of RS, and calf source on calf health and welfare.

**What they will do:** This team will conduct three pairs of experiments, each with detailed data collection in a research facility (Agriculture Agri-Food Lethbridge) with field data collection in a commercial rest stop and feedlot setting (University of Guelph).

Effects of transport and rest stop duration: Four loads of 100 commercial auction mart calves will be purchased, have their weights and temperatures recorded, and sampled for physiological measures related to stress, immunity, dehydration and nutritional status.

The calves will be loaded and transported for 12 hours (two loads) or 36 hours (two loads). After 12 or 36 hours, 40 calves will remain on each truck. The other 60 will be unloaded and rested for 4, 8 or 12 hours at the research facility with access to water and long hay (20 head each). Calves will be weighed, sampled, and have their temperature recorded on arrival and after resting. The calves will then be reloaded, transported for more 5 hours, then all calves will be unloaded, weighed and sampled. Calves will be backgrounded for 30 days to monitor performance, physiological parameters, and health. Feeding, resting and movement behavior will be recorded during the rest and backgrounding periods.

Calves sourced from Western Canadian auction marts will be unloaded and rested in Thunder Bay for either 8 or 12 hours on route to a commercial feedlot in Ontario. Cattle will be video monitored and observed for resting, feeding and drinking behavior during the rest period and on arrival at the feedlot. Animal health and performance will be monitored during the first 30 days on feed.

Effect of calf source and rest stop duration: Four loads of commercial calves (100 head each) will be purchased, two carrying recently-weaned auction mart calves and two carrying ranch-direct calves. After 36 hours of transport, 20 calves will remain on the trailer and 80 calves will be unloaded at the research facility for rest stops of 0, 4, 8 or 12 hours. The calves will then be reloaded, transported

for 5 more hours, then backgrounded for 30 days. Weight, physiological, health and behavior measurements will be recorded at each step.

Calves sourced from Western Canada ranches and auction marts will be unloaded and rested at Thunder Bay for either 8 or 12 hours en route to a commercial feedlot in Ontario. Cattle will be video monitored and observed for resting, feeding and drinking behavior during the rest period and on arrival at the feedlot. Animal health and performance will be monitored during the first 30 days on feed.

Effects of rest stop quality: Four loads of 100 commercial auction mart calves will be purchased. After 36 hours of transport, 20 calves will remain on the trailer. The other 80 will be rested (20 calves per treatment) for 8 vs. 20 hours under high quality (ample room, bedding, feed and water access, hay quality) or low quality (half as much room, no bedding, half as much feed and water space, poor hay) rest stop conditions. The calves will then be reloaded, transported for 5 more hours, then backgrounded for 30 days. Weight, physiological, health and behavior measurements will be recorded at each step.

Calves sourced from Western Canadian auction marts will be unloaded and rested at Thunder Bay in pens with or without bedding. Cattle will be video monitored and observed for resting, feeding and drinking behavior during the rest period and on arrival at the feedlot. Animal health and performance will be monitored during the first 30 days on feed.

**Implications:** This project will develop science-based recommendations for the duration and management of rest-stops during long-distance transit. This information is valuable to support the refinement of effective and outcome-based Canadian livestock transport regulations as well as improve welfare outcomes for Canadian feeder calves and reinforce public confidence in Canada's beef industry.

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