

# Variation in temperature within trucks transporting pigs during two seasons in two locations

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Temperatures were recorded within compartments of trucks transporting market pigs at two locations, Saskatchewan (West) and Quebec (East), during both summer and winter (6 replicates). A three-deck pot-belly truck (PB) was used in the West, while both a PB and a double-deck truck (DD) were used in the East. In the West, ambient temperatures at loading (21:00 h) ranged from 7.4 to 22.9 C and -24.5 to -3.8 C in summer and winter, respectively. The average temperature within the truck ranged from 17.3 to 26.4 C and 6.2 to 16.4 C prior to departure in the summer and winter, respectively, and did not differ among compartments. The average temperature during transport ranged from 15.7 to 22.0 C and -3.3 to 4.3 C during summer and winter, respectively. Overall, during transport, the highest temperature was in the front compartment of the middle deck (14.2 C), the lowest temperatures in the upper deck (6.5 C), and intermediate in the remainder of the middle and lower decks (12.3 C) ( $P < 0.05$ ). In the East, ambient temperatures at loading (05:00 h) ranged from 15.1 to 23.6 C and -12.8 to 3.1 C during summer and winter, respectively. Overall, the DD was cooler (18.2 C) than the PB (20.0 C) just prior to departure ( $P < 0.05$ ), but no interactions among season, compartment or truck type were found ( $P > 0.05$ ). Within the PB truck, summer and winter temperatures prior to departure ranged from 23.7 to 30.4 C and 9.3 to 20.4 C, respectively. The coolest compartments were in the upper level and the rear middle (18.9 C), compared to the front middle and lower compartments (22.4 C) ( $P < 0.05$ ). Temperatures during transport in summer and winter ranged from 23.2 to 28.6 C and -0.1 to 10.8 C, respectively. The coolest compartments were in the upper level (14.7 C), and the warmest was in the front lower level (18.9 C) ( $P < 0.05$ ).

**Implications:** The temperature conditions during transport vary considerably between seasons and among compartments within a vehicle.