# Stall dimensions and prevalence of cow injuries on Canadian free-stall dairy farms

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Hock, knee and neck injuries on dairy cows are important indicators of poor welfare (Whay et al., 2003), management, and stall design (Haskell et al., 2006). The objective of this study is to investigate the relationship between stall dimensions and injuries on Canadian dairy farms. As part of a national dairy cow comfort and longevity study, commercial free -stall herds were visited in Ontario (n=40) and Alberta (n=51). On each farm stall dimensions were recorded, and hock, knee and neck injuries were evaluated on a sample of 40 cows. Stall width was determined by averaging the width of 6 centre stalls in each row. Bed length was measured as the distance from the brisket board to the rear curb, on the end stalls of each row. Hock and knee injuries were scored on a 4-point scale, with a higher score indicating a more severe injury. Injury to the neck was scored similarly, but on a 3-point scale.

The average bed length was 178 cm (range: 151- 226 cm). The average stall width was 115 cm (range: 104- 131 cm).The average herd prevalence of hock injuries (score >1) was 34% (range: 0- 82%). The prevalence of knee injuries was 16% (range: 0- 81%), and the prevalence of neck injuries was 8% (range: 0- 50%). Utilizing information on injury prevalence and risk factors at the farm level is a first step toward understanding how cows are affected by their environment. Further analyses of these data will help improve understanding of the relationship between stall dimensions and dairy cow injuries in Canada.

**Implications:** Knowing the stall dimensions that currently exist on Canadian dairy farms is a starting point to determine optimal stall size for cow health and welfare. The variation in injury prevalence between farms is both concerning and promising, and demonstrates that a great reduction in the level of these injuries is possible.