



## SCC DIAGNOSTICS TOOL BOX



### R-EF-8: Effects of Sawdust Bedding Dry Matter on Lying Behavior of Dairy Cows: A Dose-dependent Response

L.J. Reich<sup>\*</sup>, D.M. Weary<sup>\*</sup>, D.M. Veira<sup>†</sup>, and M.A.G. von Keyserlingk<sup>\*</sup>

<sup>\*</sup>Animal Welfare Program, Faculty of Land and Food Systems, University of British Columbia, Vancouver, BC, Canada

<sup>†</sup>Agriculture and Agri-Food Canada, Agassiz, BC, Canada

J. Dairy Sci., Vol. 93, Issue 4, Pages 1561-1565, April 2010

#### **Abstract**

The objective was to determine the effect of sawdust bedding dry matter on the lying behavior of Holstein cows. Dry matter (DM) was varied systematically over 5 treatment levels to test how cows respond to damp bedding. This experiment was repeated during summer and winter to test if the effects of damp bedding varied with season. The 5 bedding treatments averaged ( $\pm$ SD) 89.8  $\pm$  3.7, 74.2  $\pm$  6.4, 62.2  $\pm$  6.3, 43.9  $\pm$  4.0, and 34.7  $\pm$  3.8% DM. Over the course of the trial, minimum and maximum temperatures in the barn were 2.6  $\pm$  2.0 and 6.8  $\pm$  2.2°C in the winter and 13.3  $\pm$  2.5 and 22.6  $\pm$  4.1°C in the summer. In both seasons, 5 groups of 3 nonlactating cows were housed in free stalls bedded with sawdust. Following a 5-d acclimation period on dry bedding, groups were exposed to the 5 bedding treatments in a 5  $\times$  5 Latin square. Each treatment lasted 4 d, followed by 1 d when the cows were provided with dry bedding. Stall usage was assessed by 24-h video scanned at 5-min intervals. Responses were analyzed within group ( $n = 5$ ) as the observational unit. Bedding DM affected lying time, averaging 10.4  $\pm$  0.4 h/d on the wettest treatment and increasing to 11.5  $\pm$  0.4 h/d on the driest bedding. Lying time varied with season, averaging 12.1  $\pm$  0.4 h/d across treatments during the winter and 9.9  $\pm$  0.6 h/d during the summer, but season and bedding DM did not interact. These results indicate that access to dry bedding is important for dairy cows.

**Key words:** bedding quality, cow comfort, season, lying behavior

