

# The impact of farm tours on public knowledge and perception of dairy farming

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Events such as 'Breakfast on the Dairy Farm' (BOTDF) are frequently used to educate the public about dairy farming, with the assumption that education will improve public perception of dairy farming. However, education does not necessarily lead to improved public perception, as people's views are shaped by factors beyond information. Therefore, we investigated the effects of different communication approaches (i.e., one-way education vs conversational style) by farmers on public knowledge and perception of dairy farming in Canada. Dairy farmers (n = 30) were trained to deliver one of the two conversation styles during farm tours at BOTDF events (n = 3) in Alberta. People attending the events were invited to take part in before- and after-tour surveys to assess a potential shift in peoples' knowledge and perception of dairy farming. A total 308 people filled out both surveys; 160 people also filled out a third survey 2 weeks after their tour. Overall, visitors' performance scores on a knowledge 'quiz' about dairy farming increased by 30% after the farm tour, regardless of communication approach. A total 41% of participants had become more positive in their perceptions toward dairy cow quality of life immediately after the tour, whereas 8% became more negative, with no differences between communication methods. However, when comparing peoples' perceptions after the farm tour with 2 weeks after the event, 27% had become more negative in their perceptions about dairy cow quality of life. The most frequent concerns focused on cow-calf separation and the lack of outdoor access.

**Take home message:** As public education does not necessarily lead to improved public perception of dairy farming it may be important for the dairy industry to create non-judgmental spaces for open dialogue to build better relationships between dairy farmers and the public. These conversations may help the dairy industry determine what factors are important for a socially sustainable dairy industry.

# The effect of exogenous GnRH at the time of artificial insemination on luteinizing hormone in lactating Holstein cows

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This study aimed to evaluate the effect of gonadotropin releasing hormone (GnRH) at supposed time of AI on the profile of luteinizing hormone (LH) in spontaneous estrous from lactating Holstein cows. Lactating Holstein cows (n=42) were enrolled. Animals received a synchronization protocol and had their estrous cycle followed through plasma progesterone and ovarian ultrasonography until detection of the subsequent spontaneous estrous event. On the following estrus detected by an automated activity monitor, cows were randomly assigned into two experimental groups: GnRH (n=21), cows received an injection of 100 µg of GnRH (Fertiline, Vetoquinol), and Control (n=21), cows received an injection of 2 mL of saline solution at supposed time of AI (considered hour 0). Blood samples were collected prior to treatment and hourly for the following 6 hours to determine LH concentrations. A total of 42 animals were used in the analysis. Ovulation was observed in 40/42 of the cows following estrous event. The average LH before treatment was 2.0 ng/mL (0.11-7.58 ng/mL). The LH tended to decrease and was below 1 ng/mL 3-h post-treatment in most animals 28/42. Control cows had lower circulating LH 1-h post-treatment (Control=1.15±1.6; GnRH=3.16±2.36;  $P<0.001$ ) compared to GnRH cows. LH concentration did not differ between groups 3-h post-treatment ( $P=0.55$ ). There was no association between intensity of estrous expression and LH concentrations ( $P=0.52$ ). In conclusion, this study demonstrated that intensity of estrous was not associated with LH levels in spontaneous estrous of lactating Holstein cows. The administration of GnRH at AI was shown to increase LH 1-h post-treatment. Cows presumably past their LH surge were lesser affected by GnRH, potentially because of a depletion in the LH reserve in the pituitary gland. Therefore, improvement in LH promoted by GnRH at the time of artificial insemination could elicit benefits on dairy cow's fertility. Future research is needed to elucidate the role of GnRH during AI on spontaneous estrous of lactating Holstein cows.

**Take home message:** Administration of GnRH at the time of artificial insemination potentially increases circulating LH which could lead to benefits in fertility of lactating Holstein cows.