

UBC Dairy Education and Research Centre Open House

Submitted by Karen Lee, Director of Marketing and Communications,
Faculty of Land and Food Systems, UBC

The UBC Dairy Education and Research Centre (DERC) recently hosted a public open house in Agassiz on Saturday, July 18, 2026. Close to 900 visitors and 56 UBC alumni attended the event – joining self-guided tours, talking to students and researchers, and grabbing a snack at the local food trucks onsite.

Visitors had the chance to explore the research dairy farm and learn UBC scientists and their graduate students engage in research focused on identifying ways to improve dairy cattle management. Specific research areas at the DERC include identifying ways to improve dairy cattle health, welfare, productivity,

and overall sustainability. Examples of ongoing studies include investigating genetics and the rumen microbiome in relation to feed efficiency, milk production, and methane emissions; reproductive health and estrus expression; calf responses to heat stress and factors influencing success through weaning; and, the use of emerging technologies, including artificial intelligence and automated monitoring, to detect lameness, cross sucking, brush use and mastitis.

Numerous University of British Columbia students volunteered to make the event a success.

Congratulations to the DERC (and all researchers, students and visiting scholars) on a very successful open house, and special thanks to these organizations for their support: BC Dairy Association, Ritchie-Smith Feeds, WestGen, J&D Farmers, and Pacific Dairy Centre.

Here's an overview of the nine student-led stations where visitors learned about different aspects of the DERC and its research, such as a demonstration of a push-gate, lameness detection videos, ultra-sound imagery, and more, which are seen in the images below.



Station 1: Motivation in Dairy Calves

Visitors were shown how calves demonstrate what they find important. Calves were required to push a weighted gate to gain access to another calf, with the amount of weight increased over time until they no longer pushed; the more weight they pushed, the more important what they are working for is believed to be. Children tried the weighted gate by pushing a push gate to access candy; as you can imagine, the children were highly motivated to push as much as they could!

Station 2: Raising dairy calves

A current PhD candidate (Elizabeth Russell) shared some of the findings of her research that were conducted on commercial farms in the region. She visited each farm almost every week for a year, weighing their calves multiple times before and after weaning. She then provided each farmer with a benchmark report at the halfway mark, and at the end where they saw how their calves were growing compared to the other farms. All participating farms were given a unique number so that confidentiality was maintained.

Station 3: Memory in dairy calves

This station showed visitors how memory can be tested in calves; a test that can be used to see how memory is impacted when calves are dehorned, a common management procedure. Station 3 was a hit with visitors of all ages, who were able to put their own memory to the test with a fun memory game.

Station 4: Sensors used in dairy cow reproduction management

Did you know many farmers use fitness trackers (sensors) on their cows? At Station 4, visitors learned how sensors attached to collars provide information on feed intake and their “moo-vement.” Sensors provide important indicators about cow movement, health, and optimal fertility times. Visitors were also able to view cow embryos via ultrasound.

Station 5: Meet the bugs that power a cow!

Visitors learned about the intricate world of a cow microbiome, and how research is helping improve their gut health. Visitors then tested their knowledge by taking an anatomy quiz.

UBC researchers are working towards improving our understanding of the role of the quadrillions of beneficial “bugs,” or microbes, living in a cow’s largest stomach – the



rumen – to improve agricultural productivity and environmental sustainability. These microscopic organisms break down the feed a cow eats, converting it into the energy needed for growth and milk production. However, this natural process also produces methane, a potent greenhouse gas. By better understanding and encouraging beneficial microbial activity in the rumen, UBC researchers hope to redirect more of the cow’s energy toward growth and milk production rather than methane production, helping reduce the environmental footprint of dairy farming.

Station 6: Lameness in dairy cows

Visitors discovered how cameras and artificial intelligence (AI) are being used to detect lameness in dairy cows. They learned how these new technologies can identify individual cows, assess their levels of lameness, and identify those cows that need more attention.

Station 7: Automatic milking of dairy cows

Station 7 was focused on exploring automated milking systems (AMS), which were installed at the farm in 2023. AMS allow cows more freedom to choose when they want to be milked. By having more control as to when she is milked, she also has more control over when she eats and lies down.

Station 8: Sensors used in dairy cow health management

From ultrasounds to microscopes, visitors learned about many of the tools used by researchers as they

help identify science-based solutions with the goal of helping farmers improve the health and management of their cows.

Station 9: What we feed at UBC

Cows are fed diets designed specifically for each stage of the milk production cycle that starts right after they have a calf. At Station 9, visitors hopefully had a “moo-velous” time learning about dairy cattle nutrition, including why each ingredient matters for their health and growth.

For example, newborn calves need to be fed high-quality colostrum very quickly after birth as they are born without an active immune system and their gut is most receptive to absorbing the immunoglobulins from the milk. However, sometimes the quality of the colostrum from the cow is not ideal and so at DERC, research is being done to determine whether a bovine-derived probiotic, fed alone or together with prebiotics, can help improve the health and resilience of calves. So far, UBC researchers have evidence that the probiotic increases the number of beneficial bacteria in the calf’s gut. They are now studying how these bacteria help calves develop a healthier gut and a stronger immune system. The overall goal is to develop practical, science-based feeding strategies that help dairy producers raise healthier calves and improve the long-term productivity of these animals.

10 Everyone LOVED the free chocolate milk, sponsored by BC Dairy.

11 Enjoying the brush!