

UBC RESEARCHERS FIND EXPENSIVE BARNs ARE NOT WHAT MAKE DAIRY COWS CONTENT AND HEALTHY

Determining best environment for cow comfort

By Sarah Van Engelen

Refurbishing barns can represent a large financial commitment for dairy farmers. But researchers at the University of British Columbia (UBC) are learning that what farmers provide for their cows is often not what cows really want and need to be healthy and content.

Prof Dan Weary, Faculty of Agricultural Sciences, UBC is working to determine which environments best address a cow's health and comfort.

"When I started working as a dairy researcher, farmers kept asking me to look at cow comfort," says Weary. "What I found were many recommendations, but no almost no research to back them up – farmers were being asked to make million-dollar decisions based on little more than a well-educated guess."

Weary has spent much of the past decade doing research to provide science-based recommendations to dairy farmers about barn design. The research has been very successful: dairy farmers now have access to well founded, practical recommendations for better stalls, flooring and feeding systems that improve cow comfort and cow health.

"We've come along way on the topic of cow comfort," says Weary. "But we can't sit back and congratulate ourselves when much work remains to be done."

In particular, lameness is a large problem for the dairy industry, and the UBC group is working to create housing systems that reduce the risk of cows becoming lame. In one recent study, Weary and colleagues kept lame cows either in a well-designed freestall barn or outside on pasture. Within two weeks, the pastured cows had improved, but their freestall barn counterparts were still lame.

"We had to ask what was wrong with our expensive barn," says Weary. "We built it to be comfortable, but pasture was doing something better that allowed lame cows to recuperate."

Weary first guessed the tendency of pastured cows to lie down more frequently was the key to their speedy recovery – but he found they actually spent less time lying down in the pasture, than those kept in the barn. He now believes



Drs. Weary, Fraser & von Keyserlingk with UBC animal welfare grad students

the recovery time is related to where cows stand. Cows kept indoors must stand on concrete that is often covered in manure, and this standing surface can lead to infections and injuries that cause lameness.

In a second study, the UBC researchers modified freestall design to give cows a dry, comfortable place to stand within the stall. "We found that these stalls designed to provide a comfortable standing place really worked – they reduced the time that cows were exposed to wet concrete and allowed lame cows to recover."

Research on cow comfort at the UBC continues. "We want to develop a real working model for cow comfort," says Weary. "We want to take research and make barns that are better for the cows and that are practical for the farmers."



Weary first became interested in animal welfare after meeting Canadian animal welfare pioneer David Fraser. Weary and Fraser worked together on pig welfare and behaviour at the Central Experimental Farm in Ottawa for several years before they were recruited by the UBC for its animal welfare program. Weary now works

closely with Fraser and colleagues Marina von Keyserlingk, Jeff Rushen, Anne Marie de Passil  and Doug Veira.

This research is funded by the Dairy Farmers of Canada and the Natural Sciences and Engineering Research Council. i