



Feed bunk design and management

The Challenge:

To design and manage practical and comfortable feeding systems for dairy cattle. High producing dairy cows require well designed and well managed feeding systems that allow free access to feed and minimize competition among cows.

What We've Done?

During the past few years, we have performed numerous studies at the UBC Dairy Centre that have been focused on how best to design and manage the feeding area for group-housed dairy cattle. These experiments have involved detailed measures of cow preferences, feeding, resting and standing times, and competition for resources. We have also taken advantage of specialized facilities at the Dairy Centre that allow for manipulations to the feeding area and automated monitoring of cow behaviour.

Our Findings:

Providing more feed bunk space per cow decreases the amount of competition and increases access to feed, particularly for subordinate cows.

*DeVries et al. 2004. J. Dairy Sci. 87:1432-1438.
Huzzey et al. 2006. J. Dairy Sci. 89:126-133.*

Cows prefer softer flooring surfaces in front of the feed bunk. This can increase feeding times and help prevent hoof pathologies.

*Fregonesi et al. 2004. J. Dairy Sci. 87:1203-1207.
Tucker et al. 2006. J. Dairy Sci. 89:2065-2071.*

Cows are stimulated to feed by the delivery of fresh feed. Feed push-up and return from the milking parlour have weaker effects on stimulating feeding.

*DeVries et al. 2003. J. Dairy Sci. 86:4079-4082.
DeVries and von Keyserlingk. 2005. J. Dairy Sci. 88:625-631.*

A feed barrier which provides a separation between adjacent animals reduces competition at the feed bunk.

*Endres et al. 2005. J. Dairy Sci. 88:2377-2380.
Huzzey et al. 2006. J. Dairy Sci. 89:126-133.
DeVries and von Keyserlingk. 2006. J. Dairy Sci. 89:3522-3531.*

Providing fresh feed more often improves access to feed and reduces feed sorting. This in turn likely reduces the variation among cows in the composition of feed consumed.

DeVries et al. 2005. J. Dairy Sci. 88:3553-3562.



Conclusions:

These results provide a scientific basis for recommendations to producers on how best to manage and design the feeding environment for dairy cows.