

## Feed bunk management: Ensuring enough feed for all cows

By Betsy Hicks and Joe Lawrence

Even when producers put up the right quality of feed for a class of cows, ensuring that all cows have enough feed is a goal that has a few components to consider. Too much competition from other cows, not enough feed delivered, and a lack of communication between the farm team can all be threats to each cow consuming her daily allotment. When the farm team works together to ensure cows have adequate feed and their management allows for normal

daily cow needs of rest, rumination, drinking, socialization, and eating, productivity is bound to increase.

### FEEDBUNK COMPETITION

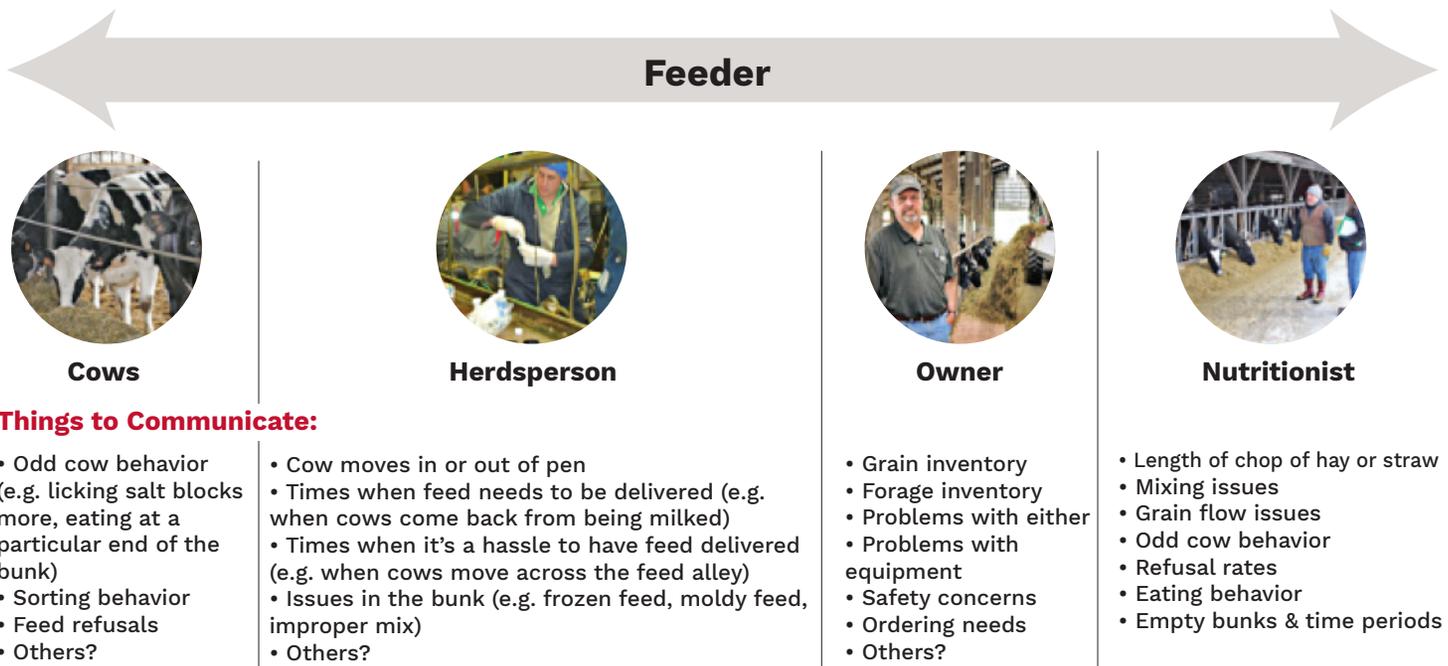
From a cow's perspective, competition from other cows can seriously alter her feeding strategy. Dominant cows spend more total time eating than cows of lower social rank (Olofsson, 1999). As competition increases, cows will on average eat for less time, eat more

quickly, and show greater aggression when feeding. When feed is limited, cows that are dominant get to eat, and will eat 14 to 23 percent more than submissive cows. In turn, dry matter intake of submissive cows then suffers. Overcrowding can exacerbate differences in groups and also alter feed intake strategy. In overcrowded situations, Batchelder (2000) showed that after exiting a

*Continued on pg. 2*

### FIGURE 1

The feeder's role



parlor, cows prefer to lay down versus competing at the feedbunk. They will spend more time standing in an alley waiting to lay down than they will eat. Cows in this situation also ruminate 5 to 25 percent less than cows that aren't overcrowded.

Grouping strategies can be a way to mitigate some of the risks of social competition and can play a huge role in feeding behavior that in turn impacts cow productivity, animal well-being, herd health, and ultimately farm profitability. When grouped by parity, Grant and Albright in a 2001 Journal of Dairy Science article, showed that first-lactation cows' eating time increased 11.4 percent, meals per day increased 8.5 percent, and dry matter intake increased 11.8 percent. First-lactation cows benefit from being grouped separately for a few reasons: this class of animals is still growing, they produce milk in a different lactation curve than mature cows, and they have different nutritional and social needs.

Excessive time away from the pen can also compromise a cow's needs. A cow's ideal schedule includes 12 to 14 hours resting, 3 to 5 hours eating, 7 to 10 hours ruminating, 30 minutes drinking, 2 to 3 hours of social interaction, and 2.5 to 3.5 hours outside of the pen. When cows are away from the pen for longer than this, time for normal activities is reduced.

## The Feeder's Role



Miner Institute has a Cow Time Budget Evaluator ([whminer.org](http://whminer.org) > pdfs > Time Budget Evaluator Miner Institute v3.0.xls) that identifies the impacts of reduced resting activity, based on time and stocking density inputs from a pen of cows. The evaluator gives results for both average cows and elite cows. In general, elite cows show a higher loss of production and body weight when time budgets are negatively affected. Competition, overcrowding, and time away from pen all affect how much dry matter a cow will consume, and management of these areas can help to ensure cows have access to feed when they need it.

### FEED AVAILABILITY

A second area of consideration is to ensure adequate feed is delivered to the pen. In general, dry

matter changes, targeted refusals, and feeding for extra cows or extra feed can all impact how much feed is available when a cow wants to eat. Dry matter adjustment strategy should be discussed together by management, the nutritionist and feeders. The frequency of adjusting dry matter by forage, how dry matter is adjusted during a weather event, and feeding by volume versus weight in the event of a scale malfunction, should all be planned out and agreed upon. In addition to dry matter adjustments, daily refusals should also be monitored. Historically, farms have aimed for 5 percent refusals, but some farms are successfully managing 2 to 3 percent. Whatever the goal is, farms in general should avoid slick bunks and have feed available for at

*Continued on pg. 3*

**TABLE 1**

<b>Feeder to herds person</b>	Observations of the herd can include odd cow behavior (e.g. licking salt blocks more, eating at a particular end of the bunk), sorting behavior, and amount of feed refusals
<b>Owner and feeder</b>	Communicate such things as grain and forage inventory and problems with equipment and safety concerns, as well as ordering needs



*Feed bunk management: Ensuring enough feed for all cows, cont'd from pg. 2*

least 23 hours per day. Feed should be delivered at the same time every day, and feed wasted should be minimized. To successfully achieve this goal, farms should monitor cow behavior at the bunk, TMR consistency, and feed availability/feed push-ups. Feeding for higher refusals can be a strategy so that dry matter intake is not restricted, and sometimes cows may eat more feed and gain intake. Conversely, if intakes are declining and/or refusal rates are high, a conversation should be had to determine the cause. The manager, nutritionist, and feeder should all be on the same page about what adjustments should be made and when a diet reformulation should take place.

**COMMUNICATION**

Lastly, communication with others is key. The feeder's role is intertwined in so many factors that affect how they do their job, making it one of the most important roles on farm. Along with the feeder, the owner/manager, herds person, nutritionist, and the cows themselves should all communicate regularly. The feeder has a look at the cows at hours when the rest of the farm staff may not, and as such, they often see

many things. Observations of the herd can include odd cow behavior (e.g. licking salt blocks more, eating at a particular end of the bunk), sorting behavior, and amount of feed refusals. These observations can be communicated to the herds person. The herds person can communicate cow moves in or out of a pen, times when feed needs to be delivered (e.g. when cows come back from being milked), and times when it's a hassle to have feed delivered (e.g. when cows have to move across the feed alley). The feeder can communicate to the herds person if there were issues at the bunk or with the mix (e.g. frozen feed or moldy feed, or an improper mix). The owner and the feeder should communicate things such as grain and forage inventory and problems with either, problems with equipment and safety concerns, as well as ordering needs. The feeder and the nutritionist should communicate desired length of chop of hay or straw for a mix, any mixing issues or grain flow issues, as well as odd cow behavior, eating behavior, and refusal rates or empty bunks and time periods. How well all parties work together definitely affects how effectively the farm performs and its efficiency and profitability. ■

**Betsy Hicks** (bjh246@cornell.edu) is a dairy specialist with Cornell Cooperative Extension SCNY Dairy and Field Crops Team.

**Joe Lawrence** (jrl65@cornell.edu) is a dairy forage systems specialist with Cornell PRO-DAIRY.