

Time for Technology



"Feed" is the First "Freedom" of the CowSignals Diamond

Jack Rodenburg, DairyLogix and Joep Driessen, CowSignals Training Company

In the last issue, I introduced the "CowSignals" concept and the philosophy that low stress management of the dairy herd provides cows with the "six freedoms of the pasture" illustrated in the "CowSignals diamond". These "freedoms" are unrestricted access to feed, water, light, air, rest and



The CowSignals Diamond can help identify weak spots in management

space. Every farmer trouble shooting their own dairy facilities and management and every advisor doing so for a client, brings their own set of biases to the situation. Applying the mantra of "feed, water, light, air, rest and space" to every assessment prevents tunnel vision and ensures every aspect of meeting the needs of the cow is given consideration.

In this column we would like to zero in on a few aspects of "unrestricted access to feed" that we have found valuable on dairy farms around the world. In the 45 countries we have collectively worked in, CowSignals advisors have learned a lot from top dairy farmers, but we have learned even more from cows, and cows always tell the truth!

A good place to start is to assess feed intake of individual cows. Look at the left flank of the cow, behind the last rib, below the short ribs. If you see a hollow triangle you know this cow did not eat enough today, and probably is sick already. Look for these cows with "danger triangles" every day especially among fresh cows and close up cows. High feed intake every day is paramount to keeping these cows healthy. Is she chewing 55 to 70 times on every cud? Less than 55, combined with poor rumen fill as described above, and lose manure, mean she is not getting enough forage. Giving cows like this get the best possible care, perhaps in a straw pack with extra manger space, plenty of access to clean water and a great place to rest, may give them the opportunity to eat like they should. You can also push into the rumen on the lower part of the triangle. Fluffy, and gassy is bad, dense is good. Score the "belly fill" while standing behind the cow. If the rounded hump of the rumen is not visible on the left side the cow has likely not eaten enough in the last week. Body condition score can tell you how she has done in the last month. Pinch the skin between the tail head and the pin bone. If this is a deep

hole and you feel only skin, she is too thin. Some fat under the skin is good but if there is a lot of fat, she is over conditioned and at risk of metabolic problems.

Good advice for getting high feed intake is usually quite simple. Dairy cows are "herd animals" and they are "flight animals" As herd animals they all like to eat at the same time, so provide the space for them to do that. Most Holstein cows need 27 inches when standing straight at the manger. Headlocks should be that width and total manger space should be at least that much per cow. When the depth of the eating area is too short or the top rail is too low or too close, or when "floating neck rails" are used, cows stand sideways while eating. Then they use 5 feet of manger space. Look for these symptoms of poor manger design in your barn and fix them if you can. Hair rubbed off on the neck means cows are reaching for feed and not getting it. While moving the neck rail up and forward might help, it is really a symptom of not pushing up feed often enough. How often is enough? Simply said, cows should always be able to reach the feed. If you come to the barn and they can't reach it you waited too long.

Dairy cows are flight animals that avoid conflict when they can, so provide lots of space and escape routes. Having enough crossovers to the manger allows cows to choose from several routes and avoid the "big momma" that is guarding the nearest water trough. In a group of 60 to 80 cows, offer 3 crossovers that are at least 12 feet wide. In one recent workshop the main milking herd was eating from both sides of a bunk with dead ends on each side. Timid cows had only one route to feed. Adding a cross over on the end of the bunk increased intake immediately and resulted in 2 extra liters of milk.

Cows need to have the "wheels to get to the manger frequently, and the floor needs to carry them there securely. Lamé cows don't eat enough because they eat 4 times per day instead of 12, and you can see their rumens are empty. Prevent lameness with comfortable stalls that permit 12 to 14 hours of resting, keeping alleys clean and dry, regular foot bathing and timely intervention when there is a problem. Every top dairyman we know has a trim chute in a handy spot and the basic skills to deal with a problem cow himself today rather than wait for the trimmer who is coming next month. A floor with good grip helps cows walk confidently to the manger.

A survey of Ontario freestall herds conducted in 2010 showed that half the herds were fed fresh feed once per day, and by far the largest percentage fed during or after morning milking. On average, they pushed up feed 4.2 times per day, and by far the longest interval between push ups was always between 11:00 p.m. and 5:00 a.m. One of the biggest lies farmers tell us and themselves is that there is always feed in front of their cows. We would be willing to bet that at 3 a.m. there is very little in the manger and what is there is too far for cows to reach. This is often the time of day when timid, stressed and disadvantaged cows have the opportunity to stand at the manger undisturbed, but to no avail if they can't reach the feed. We think herds that feed once a

day should consider doing it after the evening milking, followed by one push up before bed time. Feed stays fresher during the cooler night time, and especially heat stressed cows will eat more in the cooler night time. The next day when there is less feed in the manger there is more opportunity to observe the bunk for sorting and manage push up. Don't wait to push up until the feed is out of reach. Cows eat faster and easier with less sorting when they eat out of a pile of feed then when they are down to concrete. Always push up feed for cows returning from the parlor. It improves cow flow, and promotes cows standing after milking while the teat ends close, thereby reducing mastitis. Twice a day fresh feed at milking time, especially in summer is an even better option. We often find stale hot feed in front of close up cows. This is really bad because high feed intake in these cows is critical to a good transition. Although we regularly talk to dairymen who are "limit feeding to intake," in our experience, the only way to be sure there is enough is to over feed. All the top production herds we know feed 5 to 10% more to the milking cows than what is normally consumed. They put the leftovers in the mixer and subtract the weight from the amount fed to monitor intake on the group.

While some sorting is unavoidable if there is enough manger space, all cows get an equal chance to look for the good stuff. But if managing particle size and adding water to a TMR can reduce sorting, it will be a plus to do what you can. Getting enough forage into every cow is critical to their health and production. Cows are not pigs and were never really meant to eat grain. Adequate physical fibre in the diet is a must to keep rumens and cows healthy. While labs and nutritionists are pretty good judges of fibre levels the cow is the best judge of all. When you have diarrhea, you are sick and more susceptible to other problems as well, and the cow is no different. When you "hear" fresh cows with diarrhea, offer them more high quality forage and less grain or add chopped straw to the ration. Adjusting the level of straw by 200 grams per cow per

day for a week, and watching milk production, butterfat test, feed intake and manure scores is a great way to fine tune ration fibre levels.



What cow signals related to feeding do you see ?

Of course the quality of the feed itself and balancing the ration are important as well, and labs and nutritionist have much good information to offer. But when it comes to feeding management, observing the cows and their environment can give you the

CowSignals you need to keep them healthy and producing at their best.

Hair off the neck suggest infrequent feed push up. Standing diagonally and pushing on the top rail suggest poor top rail placement. Lack of rumen fill indicates the second cow has eaten very little today.