

Tune-Up Your Cow's Nutrition Program

By: Donna Amaral-Phillips, Ph.D.



Taking time to tune-up your dairy cows' nutrition program can pay dividends by getting your cows to produce milk more economically. Tuning-up the nutrition program begins with testing your forages for their nutrient content. Then, these results should be used by your nutritionist to make sure your ration not only meets the nutrients needs of the cows but also that it is the most economical and profitable way to feed your cows.

Once you have completed this process, the tune-up must include a check-up to evaluate how effectively you are managing the feeding program. Specifically, you need to check (1) how you and your employees are actually managing the cows' feed bunk, (2) availability of plenty of clean water located close to the cows, and (3) that cows are comfortable and chewing their cuds. Checking these management practices on a routine basis can help you get cows to milk well and make the most profit for you - the dairy farmer.

Managing the Feed Bunk

The goal is to encouraging cows, especially early lactation and fresh cows, to eat as much of a properly balanced diet as possible. Optimum feed intake is needed for cows to milk well, to rebred , and to prevent them from having metabolic health disorders shortly after calving. All of these factors result in cows generating more profit for their owners. The question then becomes- How do we manage the feed bunk to allow cows to eat as much as possible every day they are in the milking string?

Research at Michigan State University showed that Holstein cows housed in individual stalls which had access to feed at all times other than when they are being milked, ate feed 11 times a day with the average meal lasting 30 minutes. Additional studies with cows housed in free stalls showed cows ate at least 9 meals daily. Thus, cows eat many meals daily and feed must be available when they approach the feed bunk. Also, encouraging cows to come up and eat feed in between feedings results in cows eating more feed. Pushing feed-up in the feed bunk or turning on the silo unloader or tractor are means to stimulate cows to come back to the feedbunk and eat more feed.

In addition, feed needs to be kept close to the cows. Cows should have feed available 20 hours a day and it should be provided in a feed bunk which has a smooth bottom and is cleaned out routinely to remove uneaten feed. Lack of adequate feed bunk space can limit milk production. Over the years, the number of cows in the milking herd may have increased by 5, 10, or 20 cows but feedbunk space has not changed. Now, the feed bunk is too small for all of the cows to eat at the same time when fresh feed is offered. The cows which are most often pushed out and thus penalized the greatest are the fresh cows and the timid heifers. To put this a different way, those cows which return the greatest profit to you, the dairy farmer

are those pushed away from the feed bunk.

Take-home message: Dairy cows need access to feed formulated with a balanced ration 20 hours or more daily. Feed should be fed in a feed bunk which is smooth, provides 24 to 30 inches of space per cow, one which is cleaned out routinely, and feed is pushed up toward cows several times daily.

Evaluate water availability

Lack of adequate amounts of water can limit dry matter intake, growth (in heifers), and milk production faster than any other nutrient. Holstein cows will drink between 20 and 35 gallons of water daily depending on the time of year and milk production. Also, cows drink a tremendous amount of water in a short period of time. In a Michigan State study, Holsteins drank 1.2 gallons of water per minute, thus a large reserve of water is needed especially when many cows want to drink water in a short period of time. Waterers should be available when cows exit the parlor and also located close to the feedbunk. Generally, it is recommended that at least one watering space (or two feet of tank perimeter) be provided per 15 to 20 cows and at least two water spaces per group of cows. Waterers also need to be cleaned out routinely. For heifers and dry cows, waterers need to provide cool water in the summer (i.e. waterers are shaded or insulated) and during freezing temperatures water is checked multiple times daily to prevent freezing.

Take-home message: Lack of water limits production and growth of heifers. Provide plenty of clean water close to the feed bunk and when cows exit the parlor. Make sure that the waterer has sufficient water pressure and reserve to accommodate cows drinking in large groups of cows. For heifers and dry cows, waterers need to provide cool water in the summer (i.e., waterers are shaded or are insulated) and during freezing temperatures water is checked multiple times daily to prevent freezing.

Comfortable cows

Providing cows with a comfortable environment to rest and chew their cuds is important for producing milk. Cows spend approximately 8 hours a day ruminating or chewing their cud. When cows chew their cuds, they secrete saliva. This saliva contains a natural antacid which helps to buffer the rumen or the first compartment of the stomach. Proper buffering of the rumen allows a cow to digest forages better and to eat more feed which helps her produce more milk. Generally, we expect to see 60 to 70% of cows actually chewing their cuds when they are resting.

Take-home message: If freestalls are provided, they must be comfortable for cows to want to use them to rest and ruminate. Thus, freestalls need to be of adequate size (length and width) and be bedded with a comfortable material.