Foraging Around

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Reducing Losses In Silage Making

In my last two columns I discussed losses in hay and silage making, and, in the case of hay, how to reduce those losses. In today's column I'll look at some of the recent findings to reduce losses in silage making, with particular reference to perennial forages and small grains. In a later column I'll do the same for summer annuals such as corn, sorghum and similar crops.

Silage Additives

The basic objectives in silage making are quite simple: 1) to exclude oxygen from the ensiled mass as rapidly as possible, and 2) to reduce the p^H of the ensiled forage as quickly as possible through proper fermentation to a stable 3.5 - 5.0, depending on the crop and moisture. Accomplishing these objectives is not always as simple.

As in the case of hay, silage additives are not a substitute for good silage making practices, and I will summarize these later. But additives can be a helpful management tool, when properly used, in aiding and improving silage fermentation. In this column I can comment only briefly on several types of additives. Before you make a choice, you should discuss it with your dealer or other agricultural advisor.

The four most commonly used types of silage additives today are, 1) bacterial inoculants, 2) enzymes, 3) non-protein nitrogen sources, and 4) acids. Of these bacterial inoculants are reported to be the most widely used and fastest growing class of silage additives today, especially for hay crop silage.

The effectiveness of silage inoculants depend on the existing microbial production on the crop, the buffering capacity of the crop, and the quantity and quality of the microorganisms added to the inoculant. The naturally occurring lactic acid bacteria population is quite variable, especially on small grain crops and perennial crops, and may range from none to several million colony forming units per gram of wet forage. Thus, the addition of reliable inoculants, properly applied, can assure adequate quantities of desirable bacteria for a more efficient fermentation. And, while they are not always effective, their use can result in less nutrient loss, improve digestibility, less protein breakdown, and, thus, a silage with higher feed quality.

Enzymes, alone or in combination with inoculants, are getting more attention as possible silage additives as more is learned about them. Their primary function is to break down fiber components in the crop so that both dry matter intake and fiber utilization by beef and dairy cows will be improved. And while there is still much to be learned, to date the most consistent trend with enzyme- containing products is that they are much more effective on grass silages than on alfalfa. Most researchers feel that the use of enzymes in silage is likely to increase in the 90's as more is learned about them.

Non-protein nitrogen sources such as urea and anhydrous ammonia are commonly used for corn and other low crude protein crops such as forage sorghums and mature winter cereals. The main purpose of adding these NPN products is to raise the crude protein content of the silage and to improve aerobic stability. For various reasons the use of these products for hay crop silage is likely to be extremely limited.

The use of other additives such as organic acids is also very limited. If grass and legume crops are ensiled at moistures above 70% and sugar content is low, the use of acids may be helpful. But for many reasons their use in this country for silage making is likely to remain extremely small.

As stated earlier, silage additives are not a substitute for good silage making practices. Below is a brief run-down of rules for making hay crop silage in conventional silos (upright or horizontal) that have stood the test for time:

1. Start with a crop of high quality.
2. Harvest at the proper stage of maturity - full bud to early bloom for legumes; early heading for perennial grasses; late boot to heading for winter and spring grains (except rye - late boot).
3. Field dry to 65% moisture or less to produce either a wilted or low-moisture silage.
4. Chop at correct length - 3/8" theoretical cut for perennial legumes and grasses, slightly finer for cereal crops. Keep chopper knives sharp.
5. Provide a tight silo to exclude air and water.
6. Use covered wagons to prevent excessive leaf and other losses in the field.
7. Fill silo rapidly and pack thoroughly.
8. Use a suitable seal to exclude air.
9. Leave silo undisturbed until ready to use the feed.

Round bale silage is gaining favor for some producers and offers some advantages in terms of investment and labor. The resulting silage can be of similar quality to silage stored in more conventional structures. However, unless extreme care is taken to package and store round bales properly, storage losses are likely to be higher than with other storage systems.

Dairylea Sponsors Annual Young Farmer Seminar

SYRACUSE, N.Y. — An informational seminar for Dairylea Young Farmers is being sponsored by Dairylea Cooperative Inc. on March 22-23 at the Sheraton Inn, in Liverpool, N.Y.

This two-day seminar focuses on "Building for the Future" and gives young farmers (ages 20-45) the opportunity to broaden their industry knowledge and learn about the current progress of their Cooperative.

A highlight of the program will be Dairylea President Clyde Rutherford's address on future changes and opportunities facing dairy farmers. There will also be informational sessions on family relationships, environmental concerns and effective farm management during a low-price cycle.

Discussion groups will address bovine somatotropin (BST), bulk milk distribution, and Dairylea's wholly-owned insurance subsidiary, Agri-Service Agencies Inc.

Attendees also will have the opportunity to interact with other young farmers and discuss common practices and concerns.

Dairylea, a Syracuse-based dairy cooperative with 2,300 farmer members throughout the Northeast, participates in a milk marketing network stretching from Maine to Maryland to Ohio.