Dairy Pipeline

(Continued from Page D13)

when the crop is flowering but before their kernels reach the milk stage.

Moisture Levels

Moisture level at time of harvest affects field losses, storage losses and forage quality. At about 55 to 65% moisture, the crop can be chopped and ensiled in a trench, stack, bag or conventional tower silo. Drier materials at 45-55% moisture can be preserved in sealed units.

At 23-30% moisture, with artificial drying or the use of preservations, hay can be baled and stored safely; without their use, you risk having moldly hay, hot hay and spontaneous combustion. At 20-23%, hay can be baled without the use of preservatives. Below 20%, you start experiencing loss of those nutrient-rich leaves.

How do you determine moisture levels? The best way is the use of a good moisture tester. Every dairyman who is feeding a lot of ensiled feeds needs one. It's as important to his operation as a tractor? To do a good job of making top quality forages and to feed cows properly, he needs to know the moisture content of feeds going into the silo, and of the feeds as they are being fed out. He also needs to know the moisture content of hay if he is using a preservative.

Moisture levels are hard to estimate accurately. However, in the absence of a moisture tester here is a rough guideline for chopped forages. Grab a handful of chopped forage and squeeze it tightly for 20-30 seconds. Then, release your grip. If the ball holds its shape and your hand is moist, it probably contains 71-75% moisture. If the ball expands slowly and your hand is not moist, moisture content is probably 61-70%. Below 60%, the ball expands more rapidly, and at 50% it will quickly fall apart.

Beating The Weather

Speeding up drying time helps us get an edge on the weather. Crimping the hay will help. If the ground is dry, hay will probably dry faster in the swath. If the soil is moist and if there is a good breeze, it may dry faster in a light, fluffy windrow.

Research is also being conducted on the use of drying agents such as potassium carbonate. These materials, when applied to the standing forage just ahead of the cutter bar as it is being cut, reduced drying time by about one-half.

Another alternative, if we have the equipment or can hire a custom operator, is to ensile the crop.

Ensiling

In addition to moisture content, length of cut is also important. How long a cut you need depends largely on your feeding program. If you are feeding a lot of high moisture feeds, corn silage and high moisture corn, you should be thinking about a 3/8 inch theoretical cut. At this setting, expect about 14% of the fibers to be over 1.5 inches in length. That should be enough to help stimulate rumination and maintain a more normal fat test.

A finer cut will pack better, and may be necessary under some conditions. So, you may have to compromise cud chewing (fat tests) for "keeping quality."

For a more uniform cut, keep the knives sharp and properly adjusted, and keep the windows full and uniform.

Fill Fast, Distribute and Seal

Use a good distributor for uniform packing. Fill rapidly to prevent deteriation of quality. Seal the top of the silo, or apply preservatives to the top layer, between lapses in the filling operation. Discard any poor quality material from the surface before resuming the filling operation. Cows can be very sensitive to changes in quality and to heated silage; it can set them back temporarily, and that can be very costly!

Preservatives

Will preservatives be beneficial? That's difficult to answer. I discussed the use of hay preservatives earlier.

Silage preservatives probably have the greatest potential for being useful, especially when forages are ensiled outside the recommended moisture ranges. At higher moistures, you'll want products that enhance the proper kind of fermentation necessary for good preservation and longer bunk life. Basically, that's the lactic acid producers. At lower moisture levels, your chief concern is to inhibit mold growth and prevent excess heating in the silo and on the bank.

Uniformity of Quality

Strive to have uniformity of moisture and uniformity of quality in your silo. Avoid chopping forages when they are too wet or too dry. If they become too dry stop. Resume chopping when the crop has picked up more moisture, or let it continue to dry down, and bale it.

You can also help regulate the speed of drying by adjusting the haybine to make windrows of varying widths and densities. Start off with light, wide windrows for fast drying and early chopping. Make tighter, more dense and slower drying windrows for the last material to be chopped.

When kind or quality of the crop changes, consider blowing a "marker" (chopped corn, straw, etc.) into the silo. As you are feeding the haylage, these markers will alert you to when you are coming into a different supply of forage and remind you of the possible need for adjustments in your feeding program.

Put only your best quality forages in the silo, and keep the "junk" out; store it in a stack, bag, etc. That way you can feed the "junk" separately to whatever animals you wish, and it won't hamper your access to good quality forages for your high producing cows.

Inventory Control

To make the best use of your forages consider storing different kinds and qualities separately so you can gain access to them whatever desired. I realize this is not possible on most farms, but it is a goal worth striving for as long as it doesn't cost too much to do it. By doing this, you can select the forage you want to feed to specific groups of animals.

Also estimate the quantity of different supplies of forage available in the silo and in the hay mow, and plan your feeding program for the year accordingly, to make optimum use of forages available to the herd.

If you need to buy forages, hunt for good buys at harvest time. If the bargain is good enough, it may even be profitable to borrow money to finalize the deal. Besides getting a better buy you also have a better opportunity to secure a sizeable quantity of fairly uniform feed. This is very beneficial when

(Turn to Page D17)