

Dairy Pipeline

By
Glenn A. Shirk

Extension
Dairy
Agent

BY GLENN A. SHIRK
Extension Agent - Dairy
Forage Quality

The goal and challenge for many farmers is to harvest high quality forages for their dairy herds.

Quality is affected by many things. One of the most important is stage of maturity at time of harvest. A good compromise between quality, yield and stand persistence is to cut alfalfa in the bud to early bloom stage of maturity and grasses in the boot to early head stage.

Respiration Losses

Plant cells remain active and continue to respire until the moisture level of the crop drops to about 40%. The longer it takes the crop to dry down to 40% the greater the respiration losses. To reduce this dry down time watch the long range weather forecasts and cut hay at the beginning of a good drying period. Cut early in the morning so the crop has ample time to dry down before nightfall. This should help reduce respiration losses from continuing throughout the night and into the next day. Also condition the hay and let it lie in a wide swath for more rapid drying.

Another option is to apply chemical drying agents at time of cutting. They can reduce drying time by about one day. However, be aware that these drying agents

are not effective on grasses or during poor drying conditions. Also, the chemically dried hay is more subject to leaching and it will reabsorb more moisture on rainy days than untreated hay.

Leaf Loss And Leaching

Most of the hay's nutrients are contained in its leaves. To reduce leaf shattering, hay should be raked into fluffy windrows when the moisture is about 25-40%.

The ideal time for baling hay is very small. When the crop is below 20% moisture, leaf shattering increases considerably. Above 22% there is risk of mold growth, heat damage to nutrients, and perhaps spontaneous combustion.

The use of hay preservatives enables you to start baling sooner while the moisture is still around 25%. This may give you the time you need to get the baling done before the hay becomes too dry or before the weather changes. If the hay does become too dry it might be beneficial to delay baling until the hay picks up some moisture during the evening hours.

Sometimes it is difficult to get a sufficient break in weather for making hay. Therefore, be ready to take full advantage of these precious few days when they arrive. The use of hay preservatives can help you get that much needed jump on the weather.

Ensiling And Fermentation Losses

Ensiling the crop as haylage can

help you beat the weather, reduce field losses and harvest the crop at optimum maturity for best feed value. In doing so, you add a new category of losses related to fermentation.

During the heat of fermentation feed energy is being burned up. When feeds become moldy, valuable feed nutrients are also being consumed by mold organisms.

Therefore, when ensiling a crop, the goal is to prevent excessive heating, getting the silage, through the heating phase as

quickly as possible and dropping the pH to a level of about 4.0 for good preservation.

For this to happen we need anaerobic conditions (good packing and the exclusion of oxygen), the presence of enough lactic acid producing bacteria and a readily available supply of soluble carbohydrates for the bacteria to ferment and convert to lactic acid.

The right bacteria and sufficient amounts of soluble carbohydrates may not always be present on the ensiled crop for a number of rea-

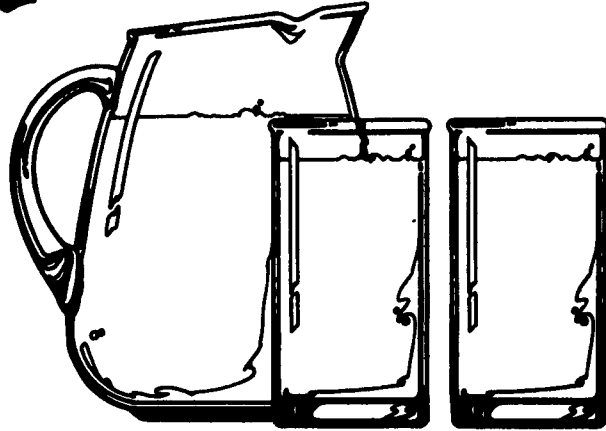
sons. Many bacteria may be killed when hay lies in the swath and is exposed to hot sunshine and dry conditions.

The more we turn hay the more risk there is of picking up large populations of foreign soil organisms. These organisms could overwhelm the "good bugs" and adversely affect fermentation. The same thing could happen when the crop is affected by excessive slime and disease conditions.

A silage preservative contain-

(Turn to Page A39)

MILK AMERICA'S HEALTH KICK™



To be enjoyed each and every day... Thanks to the dairy farmers of America who provide us with delicious, high quality products all year long.



Say "Thanks" During June Dairy Month

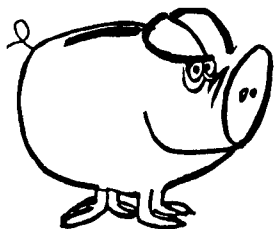
American Dairy Association and Dairy Council, Inc.

1853 East Third Street

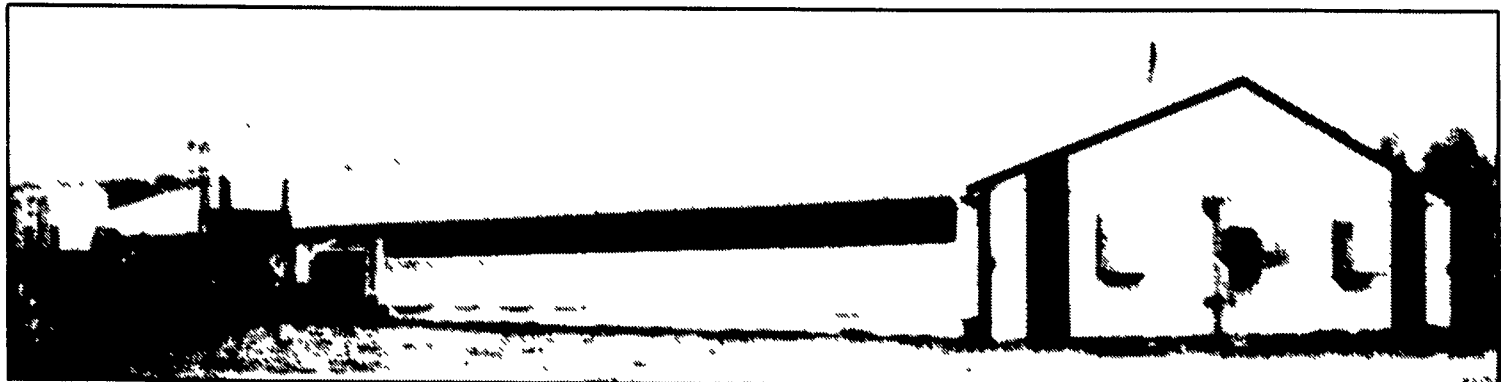
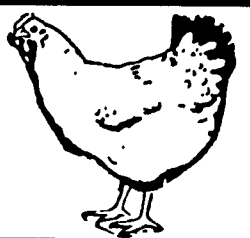
Williamsport, Pennsylvania 17701

* Increasing milk sales on behalf of Pennsylvania dairy farmers *

J-81



LOOKING FOR A GUARANTEED INCOME?
Talk To Us About A Family Size Swine Or Poultry Operation! (Contracts Available)



Farrow Thru Feeder Pig Swine Facility

Let FARMER BOY AG's Experienced Staff Design To Build, Remodel Or Repair Your Facility To Your Specifications.

Swine & Poultry Systems Specialists
FARMER BOY AG.
INC.
410 E LINCOLN AVE MYERSTOWN, PA 17067 PH 717-866-7565

We Ship UPS

**HOURS: Monday Thru Friday 7:00-5:00
Saturday 7:30-11:30**

24 Hour Service