

Maximizing Hay's Nutrient Value Saves Money

BY LISA RISSER

LITITZ (Lancaster) — With soybean prices up 70 percent and corn up 50 percent, now's the time to maximize the nutrient value of hay. Top-quality alfalfa hay or haylage will provide about 23 percent protein and 64 percent total digestible nutrients, and will allow farmers to buy less soybean and corn for their livestock.

The quality of the alfalfa can be decreased in several ways. It can be lost in the field or during storage or feeding. To minimize field loss, it should be cut at the proper time. Delaying the harvest due to bad weather may or may not be a good

late-bud stage, you will have less yield than if you waited for the bloom stage, but the quality is higher. For most dairymen, the compromise is worth it.

"For high-quality feed," he continued, "if you have a healthy stand that's under optimum fertility, normally the first cutting is mid- to late-bud. If you wait until first bloom to cut your alfalfa, by the time you get to the last fields, those might be in late to full bloom."

If one or more fields have been weakened by winter injury, Bosworth advises cutting them last so that the plants' root systems have time to draw more reserves.

balance between stand life and nutrient quality, farmers should cut when they see the first flower."

According to Kichura hay cut too early will have too much soluble protein, or not enough bypass protein, and insufficient fiber.

For second or third cuttings Bosworth feels farmers should hold off until the stand is one-tenth bloom before cutting so that the plants have a chance to build up reserves in their roots.

In a dry year, such as this one, if the field matures and the plant is very short, about four to five inches, a farmer should decide on harvesting dependent on his on-hand forage reserves, according to Bosworth. "If the crop is not harvested, it still should be clipped, though, in order to remove old growth, which will help the new growth when rain occurs."

Alfalfa tends to go into dormancy during a dry period. It can survive fairly dry weather if its roots don't dry out.

After the first cutting, farmers should check their alfalfa stands for insects. Alfalfa weevils cause damage to the crowns of regrowth. A common rule of thumb for weevil infestations is that if there are

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is the potato leaf hopper, which shows up around mid-June and stays until early September.

"Potato leaf hoppers put a lot of stress on a plant and in a dry year, when the plant is already stressed, its effects can be devastating," commented Bosworth. "The threshold varies for potato leaf hoppers depending on the value of the crop, cost of the pesticide, and how soon the crop will be harvested. If the alfalfa is in dormancy because of drought, you probably don't need to worry about potato leaf hoppers because there is no leaf material for them to attack."

For more information on potato leaf hoppers, Bosworth recommended obtaining a pamphlet, "Pest Management Program For Alfalfa in Pennsylvania" at county extension offices.

Another field loss occurs during drying time. "When you cut forage, until it dries down to 30 to 40 percent moisture content, the plants continue to respire, which causes a loss of dry matter," said Bosworth. "We have to live with this loss to a certain degree. You can reduce it, though, by drying down the hay as quickly as possible." A faster drying time also

reduces the risk of rainfall, which can cause loss of soluble nutrients such as protein and carbohydrates.

Quick drying can be achieved through mechanical conditioning, which crimps the stems to release moisture and reduces drying time by a half to a whole day; spreading the windrow out to expose as much as possible to the sun; raking; and chemical conditioning. Chemical conditioners include potassium carbonate and potassium sodium carbonate.

"Potassium carbonate is a desiccant that draws moisture out of the stem," said Kichura. "As the alfalfa is bent over and cut, it is sprayed at the base of the stem." By drying the stem, total drying time is reduced as the stem takes longer to dry than the leaves. Therefore more leaves will be retained, and the leaves contain most of the plant's protein.

Drying quickly isn't much of a problem this year, but rather the hay becoming too dry. If the windrow gets too dry, raking can cause leaf shatter as can baling. "Moisture influences leaf shatter," Kichura observed. "When the hay is extremely dry, farmers should bale at night or in the early morn-

(Turn to Page A21)

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idea. For every day that cutting is delayed after prebud stage, 1 percent protein is lost. Successful cutting management takes into account the weather, the plants' maturity, how many cuttings have been harvested that year, and the stand's health.

There is some discussion among nutritionists and forage experts as to the optimum time to cut. "When deciding when to cut alfalfa, you must compromise between quality and yield," explained Sid Bosworth, Penn State extension specialist on forages. "If you cut in the

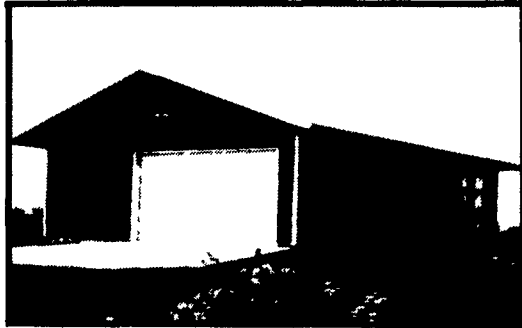
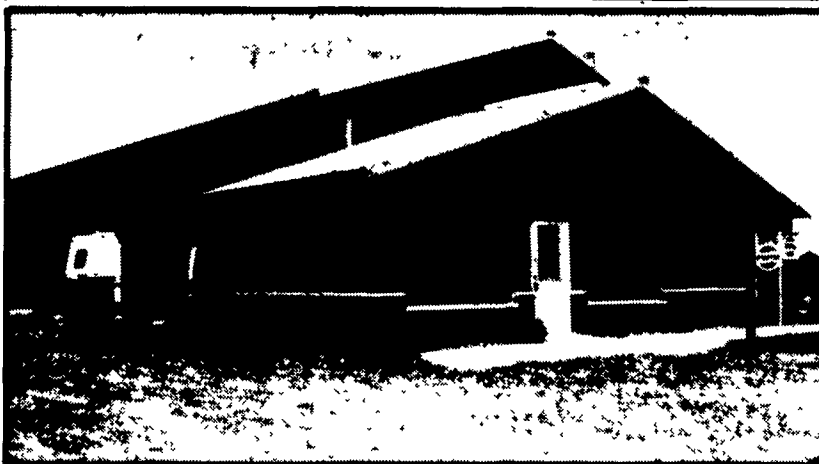
Tom Kichura, director of nutrition for F.M. Brown's Sons in Birdsboro, is one expert who does not recommend cutting alfalfa early. "In general, there has been the tendency of getting farmers to cut early, which is harmful to the stand," he said. "Cutting early

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causes the stand to last two to three years instead of four to five years. In order to achieve the optimum

two or more weevils in each crown, the farmer should take action. Another insect to watch for

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