# **Corn: High Energy**

## (Continued from Page C6)

properly and is prone to excessive heating. A higher dry matter content, however, concentrates the fermentable carbohydrates and reduces the amount of seepage high moisture silages often produce. Low moisture silage (40-60 percent) can successfully be preserved in oxygen-limiting silos or silos which are sealed airtight.

A moisture level of 60-67 percent is best for storing corn silage. The forage packs better which reduces the amount of oxygen and prevents unfavorable fermentation. The corn is at its highest nutrient level and contains an adequate amount of fermentable carbohydrates to produce the lactic acid necessary to preserve the silage.

#### **Chopping Length Of Forage**

The shorter the forage is chopped, the greater the compaction of the silage. A highly compacted silage reduces the amount of oxygen and favorable fermentation will be the result. The fermen-

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tation quality is also increased due to the release of plant sugars from fine chopping.

Corn plants should be chopped 3/8 to 1/2 inches in length. Low moisture corn should be chopped more finely to permit a thorough packing and decrease the amount of oxygen in the silage.

### Packing and Filling The Silo

The corn should be harvested, chopped, and packed in the silo in the shortest possible time. This reduces the amount of oxygen available in the silage and encourages favorable fermentation. The less time it takes to fill and pack the silo, the smaller the amount of nutrients, that will be lost. An airtight seal should be placed over the top of the silage after the silo is filled.

## **Storage Structure**

The type of silo affects both silage quality and amount of crop nutrients preserved. A solid, wellconstructed, properly managed silo is essential if storage losses are to be kept to a minimum.

There are two main types of silos - upright and horizontal. Each type has its advantages and disadvantages depending on its quality and environment.

Upright silos are popular in the eastern and midwestern parts of the United States. These cylindrical silos are from 16-30 feet in diameter and 30-80 feet high. While upright silos may be the most expensive structure to store silage, the losses are much less than that of a horizontal silo.

Horizontal silos, such as the stack, trench, or bunker are not as expensive to build as the upright silos but spoilage losses are much greater. Due to the large surface area exposed in horizontal silos, sealing the silage so that it is airtight is important. The silage should be tightly packed and covered with plastic so that spoilage losses are kept to a minimum. If sealed properly, loss of silage in horizontal silos is greatly reduced. Use LSA And Liqui-Teem

To Increase The Silage Quality

By harvesting the corn at the optimum maturity, moisture content, chopping to the appropriate length and packing the silo so that

no oxygen exists, a high energy silage should be produced.

To improve the efficiency of the fermentation and preserve even higher levels of nutrients, use Liqui-Teem<sup>™</sup> Fermentation Aid. Liqui-Teem provides high levels of lactic acid producing bacteria necessary for rapid fermentation.

To improve the protein level of corn silage, add LSA® Liquid Silage Additive. With higher protein levels and high energy levels, LSA-treated corn silage is an excellent feed for your cattle that will save you money

To achieve the maximum preservation of crops as silage requires all of the following: • The proper moisture.

· An adequate amount of fer-

mentable carbohydrates (sugar). High levels of lactic acid pro-

ducing bacteria.

· Low buffer capacity of the crop.

· Rapid fermentation.

• The ability to achieve and maintain anaerobic conditions in the silo.

The primary goal of storing alfalfa as silage is to preserve the

material with a minimum loss of nutrients so that the producer obtains good quality silage and maximum return from the crop. Alfalfa is difficult to ensile because it is:

• Low in fermentable carbohydrates.

· Has a low lactic acid bacteria population.

• Has a high buffer capacity, and

• Ferments slowly.

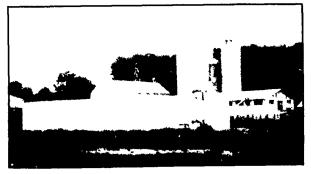
The minimum amount of sugars necessary to obtain a properly preserved alfalfa silage is 6-7 percent of dry matter. Not only is alfalfa naturally low in fermentable carbohydrates, the amount varies greatly depending on the maturity, environment and time of day it is cut.

Plants will grow and mature more rapidly with increasing temperature, but sugar concentrations will be lower at the same stage of maturity. Environmental temperature has a strong effect on the late fall cuttings. Sugars increase from September to the end of October with the percent dropping thereafter. Wilting also results in a loss of sugar.



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