

# THE FORAGER

*Agronomics with livestock in mind!*

## **Harvest Corn Silage at Proper Dry Matter Content**

Much of the corn planted in April through mid-May is rapidly maturing due to the weather conditions we've experienced in recent weeks. Corn growers planning to ensile corn should be monitoring corn fields closely because their corn may be near or at the optimal stage for silage harvest.

Determining the proper time to harvest corn for silage is critical because whole plant dry matter (DM) content varies with maturity and it influences fermentation. Ensiling corn silage that is too wet produces poor fermentation, seepage losses, and lowered animal intake. Ensiling excessively dry corn increases the risk of heat damage, reduced digestibility and molding. Corn silage preserved between 30-40% DM will generally provide good fermentation and animal performance. However, different storage structures require different DM concentrations for optimal fermentation. This chart shows the recommended target DM content for corn silage in different types of structures:

Upright, Top Unloading	32 - 38% DM
Upright, Bottom Unloading	35 - 40% DM
Horizontal	30 - 35% DM

The recommended DM content for upright, bottom unloading silos is higher to ensure easier unloading. Horizontal silos require a lower DM content (higher moisture content) to ensure adequate packing to eliminate oxygen and prevent heating. Observing the development of the corn kernel milkline has been suggested as an easy way to estimate when corn is at the proper dry matter content for ensiling. In the past, it has often been recommended to harvest corn for silage when the milkline is 1/2 to 2/3 of the way down the kernel. However, our research (Thomison and Sulc; 1998) has indicated that there is a lot of variability in the relationship between the kernel milkline and whole plant DM content. **The milkline is not a very accurate or reliable guide to gauge whole plant DM content.** Hybrid, planting date, and growing season can affect the relationship between kernel milkline position and whole plant DM content. However, the appearance of the milkline in the upper 1/4 of the kernel indicates that the crop is very near the optimal time to harvest. A sample should be taken at this time and DM content determined with a commercial forage moisture tester or microwave oven. Using a commercial forage moisture tester or microwave oven to determine the DM content is the best way to accurately determine the optimal time to harvest corn silage according to the storage structure to be used. Keep in mind that waiting until blacklayer will almost always result in corn being too dry for proper packing and fermentation, especially in horizontal and upright, top unloading silos.

Check out corn growing in your area and encourage producers when it is time to take advantage of chopping at optimal DM for their corn silage. Contact the Renaissance agronomy office for additional details. Help producers make the most of their silage in '08!

*(Edited from an article by Peter Thomison and Marc Sulc, OH State University Extension)*

## **Stored Grain Pest Management**

It has been a hot summer! Corn is maturing rapidly and the harvest will likely be earlier than normal. It's time to begin preparing storage bins for the fall harvest. The first step of the storage preparation process generally includes cleaning out the grain from the past season so that a producer begins the new harvest season with a clean and empty bin. Rule number one for on-farm grain management: never store new grain on top of old grain. It is important to eliminate all possible sources of infestation that may have developed during the past year. This is critically important - starting the new storage season with a clean bin to which an empty bin treatment has been applied to knock out any insect pests that may remain in the bin.

At this time of the year, when old grain must be moved out, infestations are often discovered. Given the above normal temperatures experienced this summer, insect pests in grain may be more abundant. Moisture conditions have varied from one region to another, but any region having high moisture conditions, along with the heat, may also expect above normal pest activity in stored grain - especially the fungus feeding insects.

If an insect pest infestation is discovered at this point in time, the problems will likely have to be eliminated before the grain can be sold. There are various options for eliminating insects from stored corn, which may include fumigation, application of a chemical grain protectant, and physical cleaning. However, the option selected will depend on the identity of the storage pest and on the conditions that a buyer will accept in regard to chemical treatments.

If the pest problem is proven to be grain weevils, which internally infest the grain kernels, then fumigation with one of the phosphine gas fumigants is required. Producers should recognize that most insect infestations in stored corn are some pest other than weevil and can be controlled by application of a chemical protectant (Actellic or malathion) or by a thorough cleaning process. If a fumigation or chemical protectant treatment is under consideration, it is important to determine what a buyer will or will not accept. These limitations are especially applicable to cases of corn food grains. The bottom line is: make sure that any previously used storage facility is properly cleaned and ready to use before the new harvest is brought in. And being prepared now will save time and money later, while providing excellent storage for this year's silage.

*(Edited from an article by Harold Willson, OH State University Extension)*

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