

# FORAGER



*Agronomics with livestock in mind!*



As we approach the harvest season, there are some important things to remember as producers seek to maximize the nutritional value of their silage.

## KEYS TO CORN SILAGE HARVEST SUCCESS

### **Moisture Levels at Harvest**

Probably the most critical condition for proper silage harvest is the whole plant moisture level. Silage feeding trials show the best performance when silages are harvested at 65% to 70% moisture. Moisture any higher can cause seepage and poor fermentation, which can cause additional feeding challenges. Each storage type has specific moisture guidelines for producing best quality.

Storage Type	Optimum moisture
Bunkers/Piles	65 – 70%
Bags	60 – 70%
Concrete Uprights	62 – 67%
Sealed Uprights	50 – 60%

### **Determining Moisture Level**

Looking at a corn plant is not an accurate method to determine the time of harvest. A starting point to begin monitoring plant moisture levels is when the ear begins to dent. At this stage, sugar in the kernel is being converted into starch and the kernel begins to shrink. When the milk line, which shows the change from milky starches to hard starch in the kernel, is ½ of the way down the kernel, whole plant moistures will be close to optimum moisture levels, on average 63%. Unfortunately, crop moisture levels can vary greatly across hybrids and locations at ½ milk line (ranges - 53 to 73%). **Do not depend on this method for determining accurate moisture levels.**

The best method is to cut representative stalks, shred them and run an accurate moisture determination test. After denting, whole plant moisture levels will decrease approximately 0.6% per day. Silage harvest can be predicted but additional monitoring of moisture will be needed. As plant moistures approach 62%, the dry-down rate rapidly increases. **Don't allow silage to get too dry.**

### **Length of Cut**

Recommendations for length of cut for silage vary depending on crop condition. Drier crops should be cut shorter to produce smaller particles that minimize air pockets. Use of highly digestible hybrids requires a slightly longer cut to maintain effective fiber. General

recommendation is a 3/8 inch theoretical length of cut (TLC) but more mature crops may require a shorter length. For non-processed silage the recommended chop length is 3/8 to 3/4 inch TLC. Some farms rely on their nutritionists to fine tune the chop length based on farm specific conditions.

### **Height of Cut**

In recent seasons, some producers have cut corn silage at a 10 to 20 inch height. This practice reduces silage fiber and lignin percentage and increases starch and energy content. However, silage yields are reduced five to ten percent. Higher chopping can also be used to change whole plant moisture contents. By cutting higher, harvest may advance by 3 to 4 days. Higher chopping may be an option if excess forage dry matter is available. However, this will increase the final cost per ton. To balance this trade-off between quality and yield, the decision should be based on an economic assessment.

### **Processing Silage**

At lower whole plant moistures, crop maturity may affect silage quality. Fiber and starch digestion decreases as corn dries down. Processing at harvest may be needed to maximize digestion on more mature crops. The goal of processing is to ensure breakage of the kernel and cob to assist digestion. Processing also can affect fiber length so choppers equipped with a processor typically lengthen their cut to ¾ inch total length of cut (TLC).

2006 will go down as a season of early plantings. We used to say "knee high corn by the 4<sup>th</sup> of July". This year many fields of corn were 9 feet tall by the 4<sup>th</sup> and tasseling by July 7<sup>th</sup>. **Silage harvest is just around the corner. Will you be ready??**

*(from an article by Paul H. Craig, CCA ~ Forages-Dauphin County, PA)*

## TIME TO CONSIDER FALL PLANTING WINTER TRITICALE ~ ALFALFA GET THE FACTS!

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