

MEASURE AND MANAGE

Corn Silage Harvest 2005

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The corn crop in 2005 is approximately 3 weeks ahead of last year in terms of development and maturity. The tendency is to look at last year's harvest date and plan to harvest earlier this year. That assumes of course you did the right things last year. The single most important factor in determining the time of cutting is whole plant moisture. You should aim for the harvested mass to be between 60 to 69% moisture when you finish. To assist in that you need to fill quickly and seal it well. In the case of bunker silos you need to allow 5 minutes of packing time per ton of wet silage. With proper moisture and packing you can be assured of minimizing harvest and storage loss. The following table from the University of Minnesota illustrates the impact of harvest moisture on harvest, storage and feeding losses.

Dry Matter Losses (%) and Field Tonnage

Corn silage moisture (%)	Harvest	Storage	Field tonnage to feeding	Total	Tons to grow to obtain 1 ton of feedable silage
70+	4.0	13.7	4.0	21.7	1.26
60-69	5.0	6.3	4.0	15.3	1.17
Under 60	16.2	6.3	4.0	26.5	1.33

Harvesting at 70%+ moisture increases storage losses due to poor fermentation resulting in the need to grow 1.26 tons of silage to compensate for every ton lost in storage.

Harvesting drier at < 60% moisture results in more field losses due to loss of leaf and more lodging of plants requiring 1.33 tons to compensate for each ton lost in the field operation. Whole plant moisture in the 60 -69% range minimizes losses throughout the operation.

The best way to determine the whole plant moisture is to use a micro wave oven, a paper plate and balance. Tare the balance with the plate, weigh out 100 grams of fresh cut silage place in oven on high for 4 minutes, remove and weigh, repeat again for another one minute and re-weigh repeat until the weight stays the same. Subtract the weight from 100 that is the moisture level. Some growers use the milk line of the kernel, $\frac{3}{4}$ milk-line is approximately 63% - 65% moisture. Using the microwave method is the most reliable.