

Forage use options for wind-damaged, immature corn

Provided by:

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Severe wind damage to crops is not uncommon statewide, but a flattened cornfield is usually a once-in-a-lifetime event for an individual. Thus, producers usually don't have the personal experience for making crop use decisions for corn that is very immature. Some very important questions must be asked before committing to one management option over another.

The big question(s)

Can I use the damaged corn crop for forage? Or, do I have a contract "in-hand" from a second-party buyer/user of the forage? If the answer is no to either question, seriously consider the economic options of disaster payments, insurance adjustment payments, etc. If the answer to the questions is yes, then there may be some forage use options, which too need some consideration.

Forage Use Options

Note! The corn plant at tasseling/silking has about 80–85% of the nutrient value of normal corn silage – less fermentable sugars, and more (1-3+%) crude protein on a dry matter basis. The whole plant also has about 78 to 82% moisture content.

Direct Grazing – Cattle, sheep, horses and swine can get significant nutritional value from the direct grazing of immature corn plants - standing or lodged. Limitations include: adequate fencing, water availability, meeting the total daily nutritional needs of the animals in a pasture setting, and the fact that the "downed" plants will be further trampled by grazing animals with associated increasing amounts of deterioration and loss in grazable dry matter and nutrient quality. Undesirably high concentrations of plant tissue nitrate can accumulate under some circumstances (high rates of manure or nitrogen fertilization and moderate to severe drought conditions). Testing of plant material for nitrate concentration is an option.

Green Chopping – Mechanical chopping is a way to salvage wind-damaged corn. The amount that can be effectively used will be limited by the number of animals being fed, the availability of equipment, the distance that the forage must be transported, and the rate at which the crop deteriorates in the field. This option is machinery and labor intensive. In addition, nitrate concentrations must be considered, as well as meeting the total daily nutritional needs of the animals.

Harvest and Storage as Silage – For those who have a use or sure market for immature corn silage the likelihood that you will make poor quality silage far outweighs your chances of making good silage. Some cautions:

The high moisture content of pre-pollination corn, 78-82% or higher, is far above the recommended range of 60% to 65%. Plant material ensiled at moisture content above 70% will **seep**. Seepage losses occur at an increasing rate with higher moisture contents. Wetter-than-recommended silage will seep less in bunker or horizontal silos than in upright silos. Wetter-than-recommended silage often undergoes an **undesirable and less efficient fermentation**, with greater dry matter losses, greater chances of clostridial contamination, formation of smelly, butyric acid fermentation end products, and more rapid deterioration at feed out.

Can the high moisture content problem be adjusted? While it is true that dry feed grains or chopped hay can be blended with wetter-than-recommended forage to “soak up the excess water,” it requires a lot of grain or hay, and thorough blending to achieve the desired result. For example, to bring chopped immature corn of a moisture content of about 80% down to about 65% moisture, it would require 400 to 500 lbs. of dry shelled corn or dry wheat grain per ton of chopped wet corn. For best results, this grain should be coarsely ground and thoroughly blended with the chopped corn as the silo is being filled. This is just not a practical solution for most producers, because silos should be filled and packed quickly to minimize extended exposure to air.

Can you wait until the plant moisture decreases to recommended levels ?

This is not an “exact” science. Grain development normally guides the whole plant moisture decisions. Without grain present, this becomes more of a challenge. If all plants survive, but are barren, it is best to wait until leaves begin to dry in the fall. But if only some stalks form grain, or some plants die in mid- summer, determining the average moisture content of the remaining combination of mixed moisture content plant material is very difficult. The best method is to actually chop some of the material and get a moisture test on the mixed material.

In summary: If you do not have a home use for corn forage or don't have a corn forage sales contract in-hand, crop insurance adjustments or other cash settlements should be seriously evaluated. If you have a market or need for immature corn forage, green chopping is probably the least risk harvest alternative; direct grazing has a low animal use risk, but potentially a large field deterioration loss risk, and; ensiling very wet corn has both a high cost outlay with a high risk of producing poor quality silage.

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