



### Drought Stressed Corn:

One of the first key decisions to make is: "Is the plant stressed enough it will not put any kernels on the ear?" If the plant is damaged enough to say there will not be any kernel development, harvest at proper moisture. The chance of putting on some kernels is good as it uses some of the nitrates in the plant to make starch/protein and it will increase dry matter and tonnage.

### Ideal Harvest Moisture:

65-70% trench silo, bags, bunkers & piles

60-65% upright stave silos

55-60% upright oxygen limiting silos

Estimating the moisture of drought stressed corn can be very tricky. As the leaves turn brown and seem extremely dry, the stem of the plant can still be well over 70% moisture. You must get a good estimate to ensure the feed put up is in the best condition possible to reduce losses.

Sending a sample to a *forage testing lab* for analysis is the most consistent method of determining moisture. Using a *microwave oven* to cook moisture out is another way. The quick "*Grab Test*" is the quickest way to estimate: take a handful of finely chopped material and squeeze in hand for up to 90 seconds. Let go of the grip and evaluate the resulting ball of material in hand.

- If juice runs through or shows between the fingers, crop over 75-85%
- If ball holds shape and hand is wet, crop is 70-75%
- If ball expands slowly and hand is not damp, material is 60-70%
- If ball springs out in the open hand, crop is less than 60%

### Nitrate Cautions:

As a corn plant tassels and starts pollination and grain fill, nitrate accumulation in the plant increases to make protein in the grain. The highest accumulation of nitrates in a corn plant are normally found in the stalks:

- Leaves 64 ppm
- Ears 17 ppm
- Upper 1/3 stalk 153 ppm
- Middle 1/3 stalk 803 ppm
- Lower 1/3 stalk 5524 ppm

Cutting drought stressed corn for silage is the preferred method of harvest, as 30-50% of the nitrates can be used up during fermentation. Fermentation takes 2-3 weeks, therefore drought stressed silage should not be fed for 3 weeks after harvest.

As you see, the highest concentration is in the lower 1/3 of the stalk. Although, if ensiling properly you can drastically reduce the nitrates in the silage and should not have to worry about cut height higher than 6"—green chop, grazing or baling dry are different cases! (12")

### Test Silage Sample Before Feeding!!!

Nitrate Nitrogen sample results in ppm:

- |               |                           |
|---------------|---------------------------|
| 0-3000 ppm    | gradually introduce feed  |
| 3000-5000 ppm | limit ½ ration dry matter |
| Over 5000 ppm | limit to ¼ ration or less |

**Silage Feed Quality:** Many studies indicate that corn silage made with plants having no or partially filled ears are 90-100% of normal corn silage on a dry matter basis.

