

## Drought-Stressed Corn Resources

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**Stressed corn: Formula for estimating corn yield potential** - With the ongoing heat and drought conditions in much of Kansas, many corn growers are trying to decide if their corn crop is worth keeping for grain harvest or if it should be harvested for silage or left in place for residue benefits.

Where tassel, silking, and pollination are complete, or nearly complete, producers can begin to get some idea of what the potential yield might be. To get a reasonable yield estimate, corn should be in the milk, dough, or dent stage. Before the milk stage, it is difficult to tell which kernels will develop and which ones have been aborted.

Producers can get some estimate of the success of pollination by examining ear silks. With successful pollination, the exposed silks should be turning brown and should easily separate from the ear when the husks are removed. Silks that have not been successfully pollinated will stay green, possibly growing to several inches in length (Figure 1). Unpollinated silks also will be connected securely to the ovaries (the undeveloped kernels) when the husks are removed.

This complete article is available at: <https://ksu.ag/2uEiE6L>

**Management options for stressed corn** - Where dryland corn has been under severe drought stress, you'll have to decide whether to let it go and hope for some kind of grain yield, salvage the crop for silage or hay, or leave the crop in the field for its residue value. It likely will pay to wait until after pollination is complete before making this decision to get some idea of kernel set. If kernel set is good, the ears at least have the potential to produce grain. If kernel set is severely reduced, the first step is to estimate potential grain yield based on kernel numbers per acre and average to slightly below average kernel size. This can help you make the grain vs. forage decision.

This complete article is available at: <https://ksu.ag/2tA7uj5>

**Nitrate toxicity in drought-stressed corn** - During times of drought, plants such as corn and grain sorghum tend to accumulate high levels of nitrate in the lower leaves and stalk. The accumulation is because the plant assimilation of these nitrates into amino acids is slowed because of the lack of water, a crucial component to numerous plant processes. Nitrate toxicity in livestock is because of its absorption into the bloodstream and binding to hemoglobin, rendering it unable to carry oxygen throughout the body. The result is eventual asphyxiation and death.

It is wise for producers to test their drought-stricken forage prior to harvest. Nitrate testing can be done through several labs including the K-State Soil Testing Laboratory. Harvesting the forage 8 to 12 inches above the ground to avoid the highest concentrations of nitrate in the plant is a good practice. Producers should collect a good representative forage sample above this cutting height to get an accurate determination of what the nitrate level could be.

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