

A Keen Eye During Corn Harvest Provides Valuable Agronomic Information

BLUE SPRINGS, MO.

Growers can learn a lot about the in-season health of their corn crop by being observant during harvest, said a University of Missouri Extension regional agronomist.

“Numerous corn growers have reported lower-than-anticipated yields and have contacted me regarding agronomic problems they noticed within their cornfields at harvest time,” said Julie Abendroth.

Problems included abnormal ear development, abnormal or jumbled kernel set, poor pollination, ear mold infections, stalk lodging and significant insect damage to the ear.



Nitrogen fertilizer applied to moderately deficient corn.
Credit: Julie Abendroth, MU Extension

“If the field observations were unnoticed until harvest time, it is difficult to determine with 100 percent accuracy the definitive cause for such damage, but producers can still collect considerable information regarding the in-season health of their corn crop by possessing a keen eye during harvest,” Abendroth said.

Stalk diameter

“Many cornfields throughout west-central Missouri have shown a reduction in stalk diameter and girth, which is likely an indication of low nitrogen availability in-season,” she said. If stalk lodging is severe, growers should review their soil test results and determine whether the soil test potassium levels are adequate.

Not only does potassium directly affect stalk strength, a potassium deficiency will make the plant more vulnerable to infection by stalk rot disease pathogens, she said. “If fields consistently show stalk lodging, a potash application may be required.”

Kernel set

“Examine the kernel set pattern and note any inconsistencies in the placement of kernels,” Abendroth said. “If kernel set is nonlinear, appears scattered or jumbled, or if silks failed to emerge properly and poor pollination resulted, these can often be traced back to specific stressful events during the weeks surrounding the VT and R1 growth stages.”

If you believe nitrogen deficiency contributed to your lower-than-anticipated yields, consider changing some aspect of your nitrogen fertility program for 2011. MU Extension conducted in-season rescue nitrogen trials at several field sites in Ray and Lafayette counties this season. At the field site in Ray County, urea was top-dressed to corn with no, moderate and severe nitrogen-deficiency symptoms at the silking (R1) growth stage.

“There was a significant yield response to the in-season nitrogen application, especially for the corn that demonstrated moderate to severe



Moderate nitrogen deficiency symptoms evident on lower corn leaves.
Credit: Julie Abendroth, MU Extension

deficiency symptoms,” she said. For example, application of 50 pounds N per acre to moderately N-deficient corn increased yield by an average of 29 bushels per acre. For the complete report, see <http://extension.missouri.edu/ray/ag.shtml>.