

Considerations to Identify Anthracnose Leaf Blight & K Deficiency in Corn

Anthracnose, caused by the fungus *Colletotrichum graminicola*, has become a familiar disease in Iowa and is usually the first leaf disease to appear. Lower leaves develop oval spots one-eighth to one-half-inch long that start out yellow but turn brown and have a darker brown or purplish border. Sometimes a yellowed zone can be seen outside the dark border. Spots often appear along the leaf margin and can grow together, causing the entire leaf to wither. The fungus produces its spores on these spots, and the spots also contain tiny black spines that can be seen with a hand lens.

Typical Anthracnose Leaf Blight Symptoms. Dark bordered brown / purple lesions.



Acervuli of Anthracnose Leaf Blight as seen with hand lens on Anthracnose lesion.



Anthracnose Leaf Blight in Buchanan County on June 11, 2007.



Close-up of the dark-bordered Anthracnose lesions.



Anthracnose lesions can also grow together along the leaf margins.



Anthracnose Leaf Blight is sometimes confused with K deficiency, and is sometimes found in combination with K deficiency. The photo below shows both K deficiency and Anthracnose Leaf Blight.



K deficiency usually occurs in areas of the field that are low in K, but can also occur because of stress issues that result in limited K uptake. The most common of these includes: (1) poor initial root development with either a premature rotting of the mesocotyl or very poor initial seedling root development; (2) field conditions either too wet, too dry, or too compacted for good K uptake by the roots.

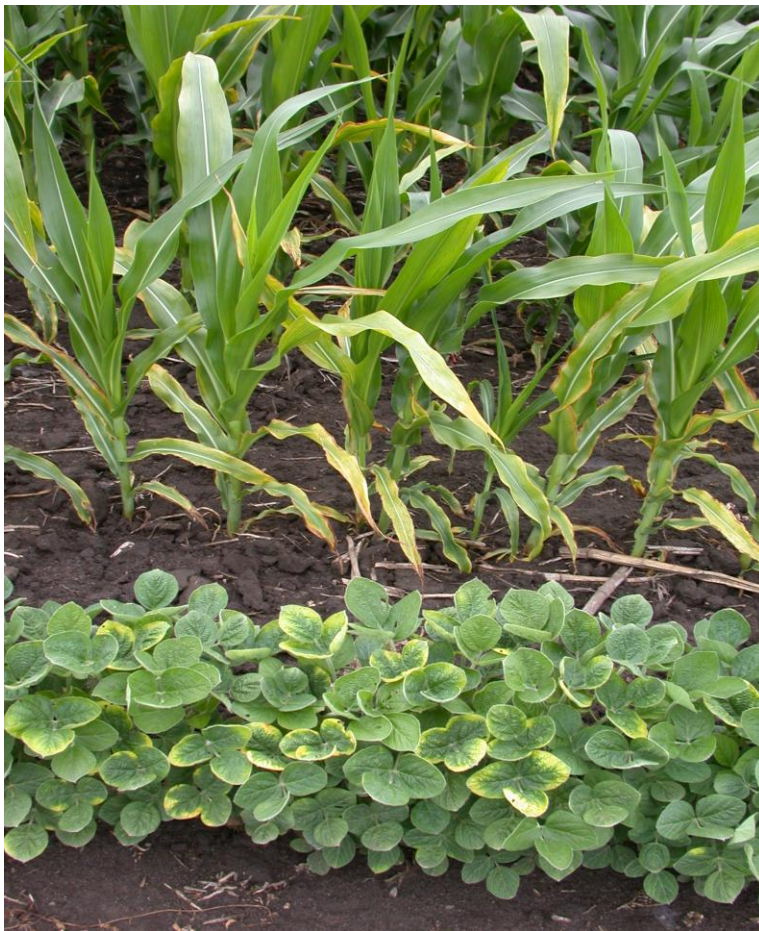
“Text book” K deficiency symptoms on corn with the yellow-orange colored leaf margins on lower leaves.



K deficiency symptom photo by Dr. Sawyer, ISU Extension Soil Fertility Specialist.



K deficiency symptoms from research trials at the NE ISU Research Farm, Nashua.



Two more photos with K deficiency continuing later into the growing season.



The next 8 photos are from a K deficiency situation in Dubuque County 2009.



Close-up.



Close-up of 5 plants. The top 4 show K deficiency symptoms. These 4 also had some difficulty with initial root development. Plant 5 had a healthy root system.



4 plants from above show problems with either mesocotyl or seed root development.



Plant 5 from above still shows a healthy mesocotyl & initial seed root.



Plant 1 from above shows a rotted mesocotyl.



Plant 2 from above shows rotting on the mesocotyl and very poor seed roots.



Plant 3 from above shows a healthy mesocotyl but very poor seed roots.



Use the following photo to help identify the mesocotyl, seed roots (Seminal roots) and permanent roots (Nodal roots) on a corn plant.

