Anthracnose top dieback is back

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Abstract
Anthracnose top dieback became very noticeable in Iowa several years ago, but last year this disease was not seen in many fields. This year is shaping up differently, and there are many fields with tops dying back and showing symptoms of anthracnose. This problem cannot be diagnosed, however, from a distance. There may be other causes for tops of plants to dieback, particularly European corn borer.

Keywords
Plant Pathology

Disciplines
Agricultural Science | Agriculture | Plant Pathology

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Anthracnose top dieback became very noticeable in Iowa several years ago, but last year this disease was not seen in many fields. This year is shaping up differently, and there are many fields with tops dying back and showing symptoms of anthracnose. This problem cannot be diagnosed, however, from a distance. There may be other causes for tops of plants to dieback, particularly European corn borer.

Anthracnose symptoms may appear at the stalk base or on the upper stalk.

The top dieback phase of the anthracnose disease is less common than the typical rot at the stalk base, which is also common this year. With top dieback, the plant dies from the top down, with the upper leaves turning yellow or reddish purple, wilting, and drying out. When these leaves are removed or fall off, typical black anthracnose lesions can often be seen on the outside of the upper stalk. If the stalk is split, the pith appears rotted or discolored in the upper internodes. The fungus (*Colletotrichum graminicola*) infects through the whorl earlier in the season and remains dormant in the stalks until late in the season, or it infects though leaf sheaths. Late-season stress triggers the development of the symptoms. In most cases, this year, dry conditions have created the plant stress that increases anthracnose susceptibility.

The same kind of moisture stress also increases susceptibility to stalk rots at the base of the plant. It is still not clear what conditions favor top dieback versus basal stalk rot, but the result is similar: premature plant death. Yield loss to top dieback occurs primarily as a result of the loss of photosynthesis in the upper leaves. The magnitude of the loss depends primarily on how close to normal maturity the plants are at the time of the premature death. Losses to basal stalk rot are potentially more drastic, because of the death of the entire plant (not just the top) and the risk of lodging.

Obviously, there is nothing that can be done now to prevent premature death. However, plants with stalk rot are very vulnerable to lodging, and it is clear that the combine should be ready to go a little early this year to prevent additional losses. Stalk rot prevention depends on hybrid selection, crop rotation, insect control, and avoiding stresses due to fertility and moisture as much as possible. For more details, see Iowa State University Extension publication IPM 50, *Corn Stalk Rot in Iowa*.

This article originally appeared on page 176 of the IC-488(21) -- September 23, 2002 issue.
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