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## Anthracnose leaf blight starting to show up in corn

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# Anthracnose leaf blight starting to show up in corn

## **Abstract**

The warm, wet conditions that have existed across much of Iowa over the past couple of weeks have been favorable for sporulation and dispersal of the anthracnose fungus *Colletotrichum graminicola*, and sure enough, symptoms of anthracnose leaf blight are starting to be seen on the lowest leaves of corn seedlings in the fields, particularly in corn-following-corn fields. In addition, the fungus often infects leaves showing potassium deficiency.

## **Keywords**

Entomology

## **Disciplines**

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## Anthracnose leaf blight starting to show up in corn

by Alison Robertson, Department of Plant Pathology

The warm, wet conditions that have existed across much of Iowa over the past couple of weeks have been favorable for sporulation and dispersal of the anthracnose fungus *Colletotrichum graminicola*, and sure enough, symptoms of anthracnose leaf blight are starting to be seen on the lowest leaves of corn seedlings in the fields, particularly in corn-following-corn fields. In addition, the fungus often infects leaves showing potassium deficiency.

### Symptoms

Anthracnose leaf blight is characterized by oval-shaped spots (up to ½ inch in length) with a dark brown or purplish border that are often surrounded by a yellowed zone (see photo). Sometimes the spots are limited to the leaf margins. There may be black speckles within the dead tissue, which resemble porcupinelike structures when viewed with a 20X hand lens. These are the fruiting structures of the fungus within which masses of spores are produced in a gelatinous matrix.



Remember to scout for corn stalk rots

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*Typical symptoms of anthracnose leaf blight on a young corn seedling. (Alison Robertson)*

## Disease cycle

There are three distinct phases of anthracnose disease: leaf blight, top die back, and stalk rot.

Overwintered corn surface residue is an important source of inoculum for anthracnose leaf blight (thus, it is not surprising that this disease is more common in corn-following-corn fields). Infection of seedling leaves occurs from spores that are produced in fungal fruiting structures (acervuli) and dispersed by splashing and blowing raindrops. Although anthracnose leaf blight can cause significant damage to very young plants and contribute to postemergence stand loss, oftentimes the corn seedlings are growing so quickly, they appear to outgrow the disease. Disease development is less likely on rapidly expanding leaves. The lesions that develop on the lower leaves of the plant provide a source of inoculum (spores) for subsequent infections of leaves higher up on the plant and also the stalk. Stalk wounds allow *C. graminicola* to infect and colonize the vascular system of the corn plant. Under favorable conditions, vascular infections can result in anthracnose top die back (high temperatures and frequent rains) or stalk rot (high temperatures and plant stress following pollination).

## Favorable environmental conditions for disease development

Anthraco­nose disease is favored by warm temperatures (70-85 °F), high relative humidity, and periodic rainfall. Extended periods of high humidity are required for sporulation by the fungus. The spores are dispersed to host tissues in splashing raindrops.

## Disease management

Anthraco­nose leaf blight is always more severe in corn-following-corn fields. Fields with a high incidence of the leaf blight phase should be scouted for anthracnose stalk rot later in the season. Most hybrids today are at least moderately resistant to anthracnose; however, if exposed to abundant inoculum under favorable environmental conditions, they develop anthracnose, although disease development is slower and yield losses slight. Resistant hybrids are commercially available; however, resistance to the leaf blight phase is not highly correlated to resistance to the stalk rot phase. Tillage reduces the risk of disease by incorporating infected crop debris into the soil where the fungus is less able to survive since it is a poor competitor. To date, there are no fungicides currently labeled for management of the anthracnose pathogen.

*Alison Robertson is an assistant professor of plant pathology with research and extension responsibilities in field crop diseases.*

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