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Mid-season corn leaf diseases

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Mid-season corn leaf diseases

Abstract

Leaf diseases are appearing on corn in many areas of the state. This is not too surprising, considering the amount of rain we have had. Fortunately, in most fields so far the symptoms are due to holcus spot or anthracnose, which do not tend to spread rapidly among the plants during mid-season. Anthracnose has become severe in some fields following the heavy rains, but the new leaves should escape infection. No in-season control measures are recommended for anthracnose. Other diseases are appearing and some of these are a bigger concern, especially in seed corn. Paul Klemme of Novartis Crop Protection reports that common rust, northern leaf spot, and gray leaf spot are appearing in many southern Iowa seed fields.

Keywords

Plant Pathology

Disciplines

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INTEGRATED CROP MANAGEMENT

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Anthracnose leaf blight (caused by the fungus *Colletotrichum graminicola*) is often the first leaf disease to appear. Symptoms are brown, oval or elliptical spots (up to about 1/2 inch in length) with a dark brown or purplish border, often surrounded by a yellowed zone. There may be black speckles within the dead tissue. Sometimes it is limited to the leaf margins. Anthracnose can cause significant damage to very young plants. Currently, it is causing the lower leaves to wither in some fields.



[1] **Anthracnose on corn.**

Holcus spot (caused by the bacterium *Pseudomonas syringae*) has appeared in a number of fields. Symptoms are light tan (sometimes almost white), round or oval spots on the lower leaves, usually about 1/4 inch in diameter. The spots may appear water soaked at the margins or have a light brown border. This disease is not known to cause economic damage, but it can look serious when spots are numerous. It often appears suddenly after a heavy rain but then does not spread to new leaves.



[2] **Holcus spot on corn.**

Common rust (caused by the fungus *Puccinia sorghi*) has started to appear in some seed cornfields. High amounts of rainfall and cool weather are favorable for rust. This disease is potentially very damaging to seed corn, and seed producers need to keep a close eye on it.



[3] **Common rust on corn.**

Northern leaf spot (caused by the fungus *Bipolaris zeicola*) was very common in seed cornfields last year, in some cases severe enough to warrant a fungicide application. The symptoms of this disease differ among the races of the fungus, but Race 3 seems most common, with roughly rectangular lesions about 1/8 inch in width by 1/2 inch in length. This race greatly resembles gray leaf spot, and sometimes the two diseases cannot be distinguished in the field.



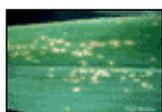
[4] **Northern leaf spot, Race 3.**

Gray leaf spot (*Cercospora zea-maydis*) is probably the most familiar leaf disease for many producers. Initial lesions are irregular tan spots about 1/8 inch in length; over time, the lesions develop into the characteristic rectangular shape about 1/8 inch in width by about 1 inch in length, with very straight sides limited by the leaf veins. Gray leaf spot is now evident on lower leaves in many southern Iowa fields, but it appears to be less prevalent than last year at this time. If field corn producers are considering a Tilt application for gray leaf spot, now is the time to be scouting fields. For application criteria, see the [article](#) [5] in the July 6, 1998, issue of the ICM newsletter (pages 129-130). Seed producers should be well into their gray leaf spot scouting by now.



[6] **Gray leaf spot symptoms.**

Eyespot (*Aureobasidium zeae*) was unusually prevalent last year, and I have seen one field this year in central Iowa with an alarming outbreak of eyespot. This disease is characterized by small, round, tan spots 1/8 inch or less in diameter with a brown border and a yellow "halo."



[7] **Eyespot causes small, round spots with a brown border surrounded by a yellow halo.**

Control of these diseases is mainly accomplished through resistance, crop rotation, and crop residue management. The only option at this point is a fungicide application (probably Tilt); with corn prices at current levels, a fungicide seems unlikely to be profitable except in seed corn or if there is a severe outbreak in field corn.

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