PPA-51

Curvularia Leaf Spot of Corn

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Introduction

Curvularia leaf spot is a corn disease that was reported for the first time in the United States in Louisiana in 2017 and was confirmed in Kentucky in 2018. Curvularia leaf spot causes yield loss in tropical areas and is considered to be one of the most important diseases of corn in China. Yield losses in the United States due to this disease were first reported in 2023, although reported losses to date remain low. This publication describes the symptoms and cause of disease, conditions that favor disease development, and foliar diseases that have similar symptoms.

Symptoms

Curvularia leaf spot starts as very small (1/16 to 1/8 inch) round tan lesions on leaves. Lesions often have a brown border and can be surrounded by a yellow halo (Figure 1). Symptoms range from a few lesions scattered across leaves to lesions densely covering large sections of leaves. Symptoms can be observed at any growth stage.

Cause and Disease Development

Curvularia leaf spot is caused by the fungus *Curvularia lunata*. This fungus overwinters in corn residue and is splash- or wind-dispersed to new corn plants. Disease severity will likely be higher in fields of continuous corn and in those using conservation tillage practices. Warm, humid conditions favor disease development. The fungus that causes Curvularia leaf spot has a broad host range, and other grass species can play a role in disease development in other countries. However, the role of these hosts in Curvularia leaf spot development in the United States is still unknown.

Diseases with Similar Symptoms

Curvularia leaf spot can be confused with other foliar corn diseases, making diagnosis difficult. These look-alike diseases are described in this publication, along with some features that distinguish them from Curvularia leaf spot. If you are unsure which disease is present, submit samples through your county Extension agent to the University of Kentucky Plant Disease Diagnostic Laboratory (http://plantpathology.ca.uky.edu/extension/diagnostic-laboratories) for diagnosis.

The foliar disease **eyespot** results in tiny lesions with yellow halos nearly identical to those of Curvularia leaf spot (Figure 2). However, eyespot is very rarely observed in Kentucky, as it is caused by a fungus (*Aureobasidium zeae*) that prefers cool temperatures (70°F). Eyespot is more common in Michigan, Minnesota, Wisconsin, and other northern states where cool, wet conditions persist into the growing season.

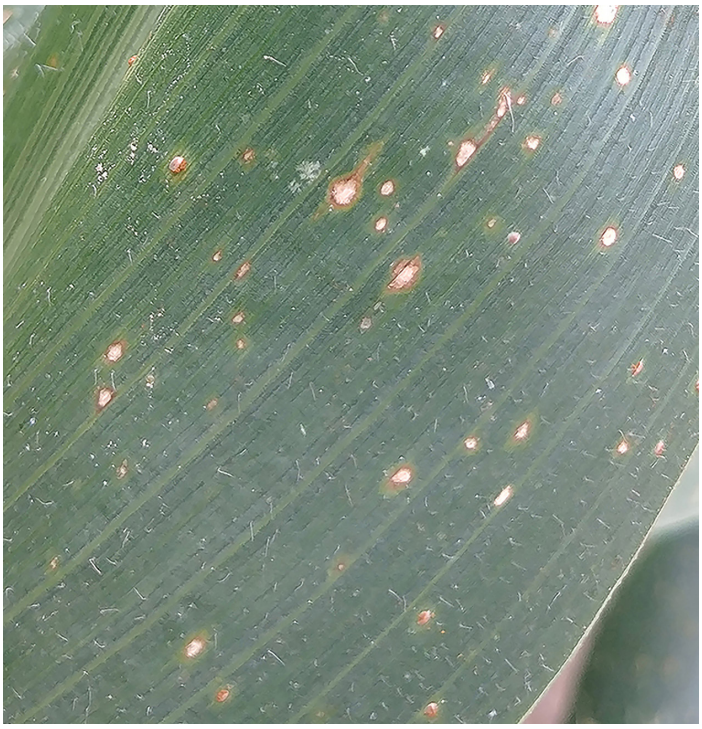

Figure 1. Curvularia leaf spot lesions of corn surrounded by a brown border and yellow halo. *(Photo by Kiersten Wise, UK)*

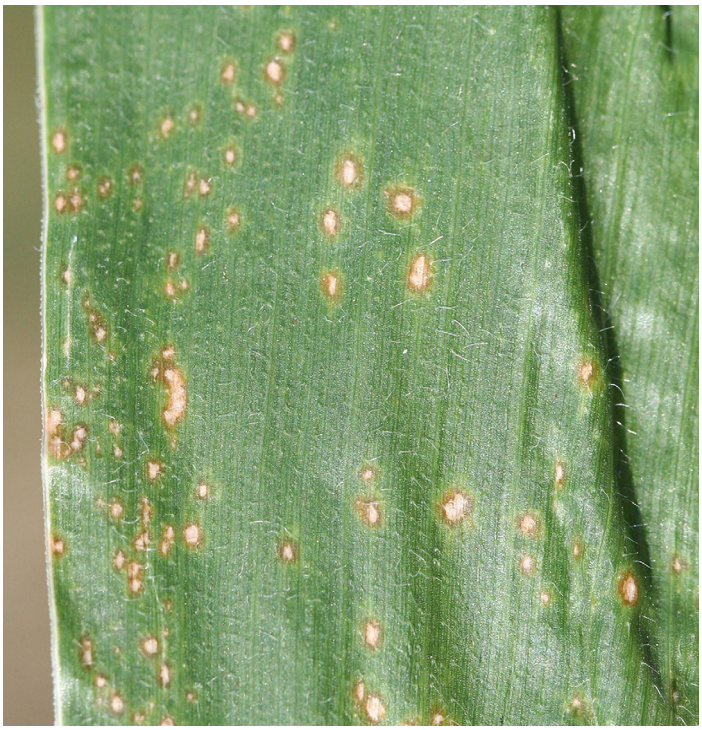

Figure 2. Symptoms of eyespot are very similar to Curvularia leaf spot symptoms. *(Photo by Daren Mueller, Iowa State University)*

Figure 3. Physoderma brown spot lesions on corn.
(Photo by Kiersten Wise, UK)

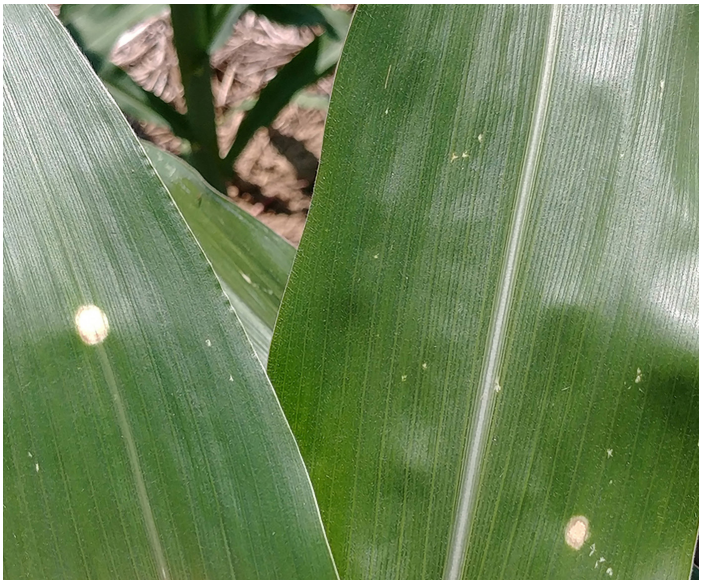

Figure 4. Holcus leaf spot symptoms on corn.
(Photo by Kiersten Wise, UK)

Physoderma brown spot can result in tiny, yellow-to-brown spots that cover leaves or appear in bands across leaf blades (Figure 3). Yellow or brown spots also may be observed on leaf sheaths, husks, or stalks. However, the characteristic symptom of Physoderma brown spot is the appearance of round, purple-to-chocolate-brown spots appearing in or near the mid-rib of the affected leaves (Figure 3), which can help distinguish the disease from Curvularia leaf spot.

Holcus leaf spot appears as round, discrete lesions that are initially pale yellow to white, later enlarging and turning gray to brown or tan. Lesions have a water-soaked halo, and on certain hybrids, the margin of the lesion may appear brown or purple (Figure 4). Holcus leaf spot is not known to spread from infected leaves to healthy leaves, and lesions are typically larger than lesions caused by Curvularia leaf spot.

Disease Management

To date, Curvularia leaf spot has not been severe enough to warrant management in Kentucky, but the disease continues to be monitored. Promoting residue decomposition through tillage or other methods and rotating away from corn will reduce the amount of the fungus available to infect future corn plantings. Anecdotal evidence suggests that some hybrids are more susceptible than others; however, hybrid resistance ratings are not currently available. There are foliar fungicides that list Curvularia leaf spot as a target disease on their labels, but efficacy data are limited.

Acknowledgment

The authors are grateful to Paul Vincelli, Extension professor, for his review of this publication.

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Lexington, KY 40506 Issued 12-2025