Diplodia Leaf Streak of Corn

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Introduction

Diplodia leaf streak of corn is a disease that has become more prevalent in Kentucky in recent years. It is commonly observed in fields in western Kentucky and is easily confused with other corn foliar diseases. This publication describes the symptoms and cause of disease, conditions that favor disease development, and information for disease management.

Symptoms & Signs

Small, round, dark brown-to-tan lesions are first observed on leaves. Dark concentric rings may be observed in the center of early lesions at the infection site on the leaf (Figure 1). These lesions expand lengthwise in long streaks from the infection point (Figure 2A) and form elongated elliptical lesions. In severe cases, lesions can coalesce to blight large areas of affected leaves.

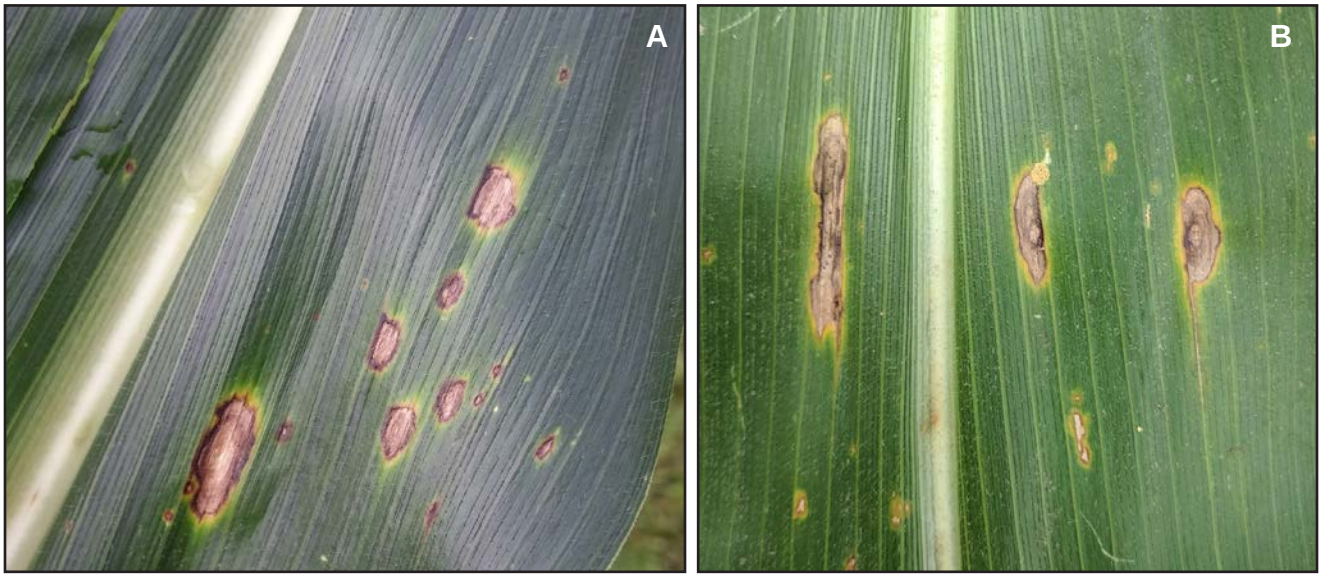


Figure 1. Early lesions of Diplodia leaf streak are small, may have concentric rings in the lesion, and they can vary in color (**A**). Lesions may be observed in bands on the leaf (**B**).

Symptoms can be observed on any leaf, but are often first observed in the mid- to lower canopy. Small, round dark fungal structures (fruiting bodies called pycnidia) often can be observed throughout lesions (Figures 3A & 3B).

The long lesions or "streaks" of Diplodia leaf streak can resemble lesions of gray leaf spot (Figure 2B). However, unlike gray leaf spot lesions, Diplodia leaf streak lesions can also expand to an elliptical shape. The elliptical shape of Diplodia leaf streak lesions (Figure 4A) may cause the disease to be confused with northern corn leaf blight (Figure 4B). The presence of pycnidia in the center of the lesion can help distinguish Diplodia leaf streak from northern corn leaf blight.

Cause & Disease Development

Diplodia leaf streak is caused by the fungus *Stenocarpella macrospora*. The fungus overwinters primarily on plant residue but also can infect seed. This pathogen infects corn plants during wet and humid weather, and infection can occur at any point in the growing season.

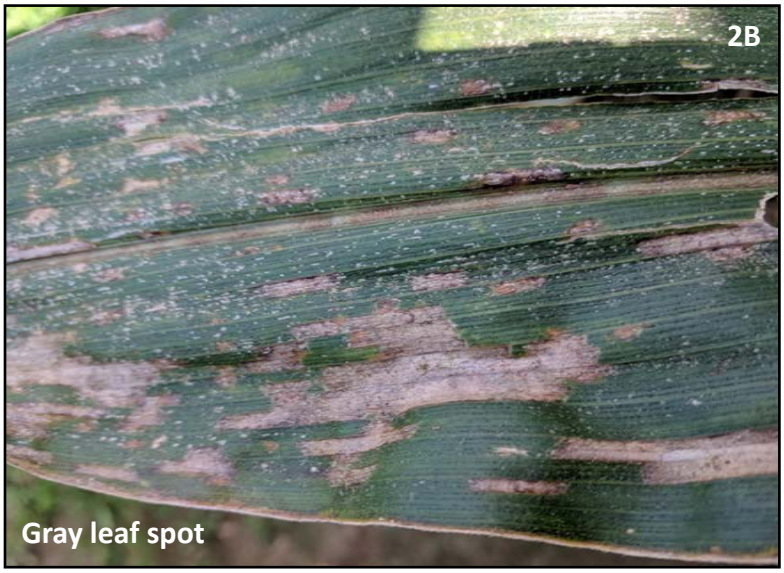
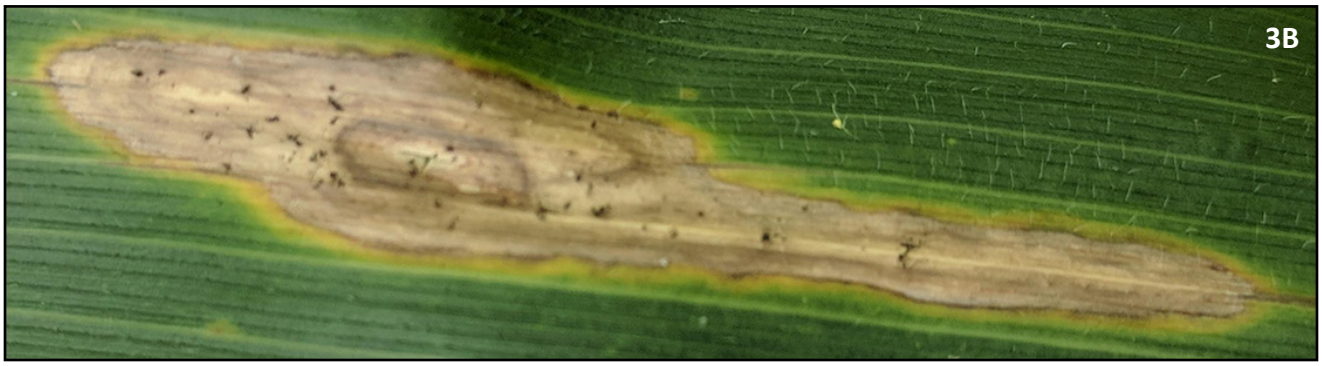


Figure 2. Lesions expand into long streaks on the leaves (**A**) and can be confused with lesions of gray leaf spot (**B**).

Figure 3. Small black fungal structures (pycnidia) may be observed within lesions (**A** & **B**).



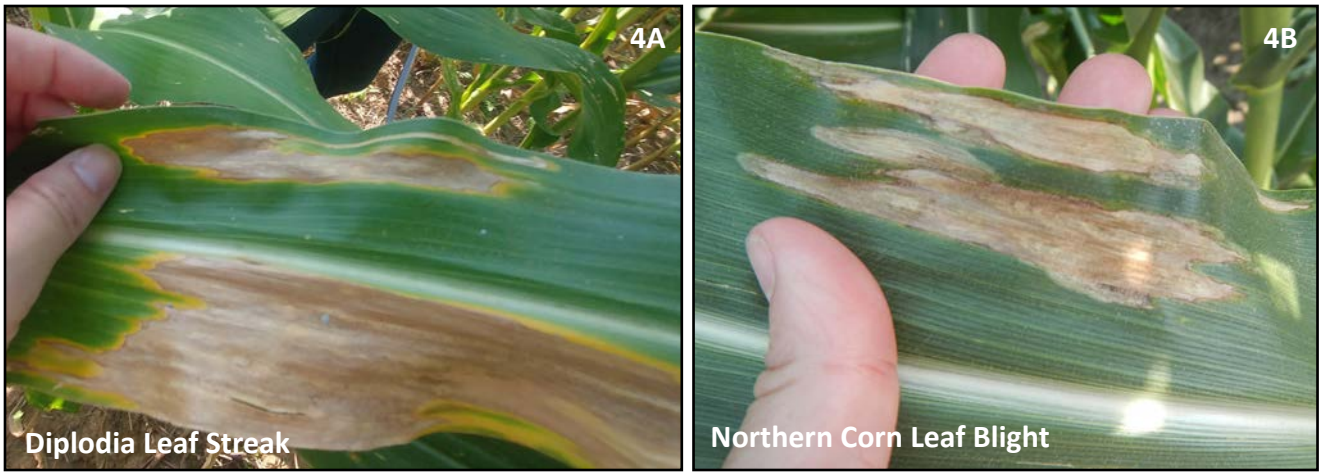


Figure 4. Diplodia leaf streak lesions (**A**) can resemble the elliptical lesions of northern corn leaf blight (**B**).

Relationship to Diplodia Ear & Stalk Rot

Diplodia ear and stalk rot is primarily caused by a different fungus (*Stenocarpella maydis*), but *Stenocarpella macrospora* can also infect ears and stalks. Symptoms and signs of diseases caused by these two fungi are indistinguishable and require laboratory testing to determine the causal fungus. It is currently unknown how Diplodia leaf streak incidence and severity affects the incidence of Diplodia ear rot in Kentucky. Future planned research will help determine the prevalence of stalk and ear rot caused by *S. macrospora*.

Disease Management

Currently, Diplodia leaf streak is not reported to cause yield loss, and management is often not necessary. Residue management through crop rotation or tillage can reduce the amount of fungus that overwinters. There are no foliar fungicides currently labeled for Diplodia leaf streak and there is limited fungicide efficacy data available. It is unknown if hybrids vary in susceptibility to the disease. Research is ongoing to determine the impact of this disease in Kentucky.

Additional Resources

- Diplodia Ear Rot (PPFS-AG-C-05) http://plantpathology.ca.uky.edu/files/ppfs-ag-c-05.pdf

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