Gray Leaf Spot Activity In Corn

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Gray leaf spot has occurring at moderate to high levels in corn fields in Kentucky and surrounding states. Weather during late spring and early summer has played a role, with abundant humidity and many nights with mild temperatures. The wet weather during much of the 2009 growing season also may have helped foster this season's gray leaf spot problems. The 2009 growing season was generally too cool for destructive levels of gray leaf spot, but it probably helped to allow inoculum levels to build up in crop residue.

Because of disease pressure, some producers are spraying selected fields with fungicide. Does this make sense? Here is a two-part answer.

1. If disease risk is low, spraying fungicide for "plant health" benefits is generally risky and uneconomical, at least according to years of university research.

2. If disease risk is high, a fungicide sometimes (though not always) will be economical. Crops that can bring a premium price (like white corn) can make the economics of fungicide application more favorable.

Many Kentucky corn fields won't need a fungicide spray this season, but spraying corn fields with a threatening amount of gray leaf spot is understandable. The most important factors that increase gray leaf spot risk are:

• Susceptible hybrid: Hybrids with moderate to high levels of resistance often don't suffer enough damage to benefit from a fungicide. However, susceptible hybrids can benefit, especially if disease is active in the mid- to upper canopy at silking.

• Continuous corn: High levels of corn residue increase the risk because the crop residue can provide a high inoculum load.

• No-tillage: Leaving corn residue on the soil surface helps protect against soil erosion but also leaves a high inoculum load on the soil surface, where it can easily be spread to growing crops.

• Late planting: Gray leaf spot is typically develops to higher levels on later-planted crops.

Weather conditions through the remainder of the growing season will determine how much gray leaf spot develops. Warm, humid conditions – with periodic rainfall – favor the disease. If nights are warm and humid with dew, the disease may develop substantially between now and black layer. Sustained drought tends to slow the disease, because as soils dry out, there can be less humidity within the crop canopy. Δ

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