

PROTECT YOUR CORN'S YIELD *Potential*

Stop corn diseases before they start with a foliar fungicide program

At a time when corn is trading at or near a 10-year low, producers nationwide are poring over their 2020 production plans, searching for ways to reduce their costs. While it may be tempting to brighten the balance sheet by forgoing fungicide applications this season, punting the practice could do more harm than good.

“We all know corn prices aren’t the greatest right now, and so farmers are sitting in their offices and asking themselves, ‘Should I spray, or shouldn’t I spray?’” says Ken Sechler, a Southern States Cooperative regional agronomist based in eastern West Virginia. “The reason we spray fungicide is to protect plants and give a crop the opportunity to attain its maximum yield. Applying fungicide can help protect that potential in the face of disease pressure.”



Dr. Parthasarathy Seethapathy, Tamil Nadu Agricultural University, Bugwood.org

A number of leaf diseases, stalk rots and ear rots can negatively affect a corn crop. The overall impact depends on many factors, including hybrid selection, crop rotation, tillage and weather during various stages of the growing season. Sechler says in his region many producers grow continuous no-till corn for five years or even more, which can increase disease pressure.

“The inoculum builds up in the crop residue,” he says. “If you were hoping for 200-bushel corn in a field but planted a susceptible hybrid, you might only get 100 bushels. I’ve seen it that bad.”

When to spray: Scout and watch the weather

Fungicide decisions should be based on the susceptibility of the corn hybrid and the presence of disease in the field. Sechler recommends scouting when corn is about knee-high, around the V4 growth stage.

“If you’ve planted a hybrid with only moderate resistance to gray leaf spot, I’d consider spraying early, from V4 to V7,” he says. “Often, this can be done at the same time a post-emergent herbicide is applied, so there’s no extra cost for application.”

During early vegetative growth, weather can play a significant role in disease development. Prolonged periods of warm, humid conditions can pressure young plants.

“If I’m looking at a weather pattern of foggy mornings, cloudy days and intermittent rainfalls where plants don’t dry out, I’m going to put on that fungicide,” Sechler says. “It will protect the young crop and keep it healthy to fight off disease that might come later.”

Regardless of whether an earlier application was made, Sechler says it’s become a widely accepted practice to spray fungicide at VT (tasseling) to R2 (blister). He recommends products with mixed modes of action to help ensure disease control. Fungicide works best as a preventative, not a curative, he adds. “By the time you see a lot of lesions, you’ve missed the window,” Sechler says.

Stalk and ear rots: Healthy plants are more resistant



G. Munkvold, A. Robertson

Farmers are often unaware of the effects of these groups of diseases until harvest. Low levels of stalk rot occur in nearly every corn field, but severity varies. Losses greater than 50 percent are possible in the worst cases.

Stalk and ear rots caused by *Gibberella* and *Fusarium* fungi are the most common across Southern States territory, Sechler says. While foliar fungicides do not directly control these diseases, a healthy crop is less vulnerable to infection. Hybrid selection, water, fertility and field management are all factors that can minimize the risk of stalk and ear rots.

Leaf diseases: Gray leaf spot is the No. 1 nemesis



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While a number of leaf diseases can be detrimental to corn health, the top three across the Southern States territory are gray leaf spot, northern corn leaf blight and southern corn leaf blight. “Far and away, gray leaf spot is our No. 1 disease of concern,” Sechler says. “I’ve seen it reduce corn yield by 30 to 40 percent or more.”

In fact, it is one of the most significant yield-limiting diseases of corn worldwide, with losses up to 70 bushels per acre. The pathogen produces rectangular foliar lesions that are gray to tan in color, running parallel with leaf veins. The lesions are 0.75 to 2.5 inches long and 0.125 to 0.25 inches wide. Severe blighting can cause stalk deterioration and extreme lodging. Northern corn leaf blight lesions are elliptical or boat-shaped. They are 2 to 6 inches long and 1 to 1.5 inches wide and typically tan to gray-green in color. They may show faint rings of spores on the lesion surface. By contrast, southern corn leaf blight lesions are elongated between veins, tan-colored and up to 1 inch long.



Support from the Ground Up

Plan for next season

If the 2020 growing season brings heavy disease pressure, Sechler says farmers can take steps to help avoid a repeat in 2021. These mitigation methods include rotation to another crop, such as soybeans or wheat, and selecting only hybrids with the highest levels of resistance. While many producers have moved away from conventional tillage, burying crop residues also can provide some control.

To learn more about reducing disease pressure and incorporating foliar-applied fungicides into corn production management, contact your nearest Southern States agronomy team member at www.southernstates.com/agronomy/meet-our-team/.