

Goss's Wilt Prompted By Wet Weather, Severe Conditions

Corn Hybrids With Goss's Wilt Resistance Prevent Disease Damage

DES MOINES, IOWA

While Goss's wilt wasn't a significant problem in 2012, more intense storm systems this year could cause it to emerge as a problem for corn growers as the disease continues its movement eastward from the Great Plains.

"This disease can overwinter in the soil and crop debris for a few years, so if growers have had a problem before, it could be an issue again this year," says Scott Heuchelin, DuPont Pioneer research scientist, plant pathology.

Historically, infections have been limited to western Nebraska and eastern Colorado, but in recent years Goss's wilt has been on the move. It is now found as far north as Canada and as far east as Indiana. Depending on weather conditions and hybrid susceptibility, the disease may cause only minor problems or it may result in devastating damage, such as yield losses approaching 50 percent.

Several conditions must be present for Goss's wilt to produce significant damage. If the bacterium is already present in the field and a susceptible hybrid is planted in the field, the next main contributing factor is severe weather. Wind, sandblasting and hail create wounds for the bacteria to enter. Wet weather and high humidity are also needed for escalation of disease development.

Symptoms and scouting

"Because this infection can appear in two phases, early and midseason, it's important to scout for Goss's wilt throughout the season to see if your fields suffer from the disease and to manage against it over the long-term," Heuchelin reports. "This disease can also look like normal environmental stresses such as sun scald and drought stress, which makes scouting for it even more vital."

While the systemic wilt phase is less common than the foliar phase, scout early for Goss's wilt. Early season infections can result in discolored vascular tissue within the stalk. Those cases show a buildup of bacteria in the vascular bundles that inhibits the plant's ability to transfer water. Stunted growth and wilting as if drought stressed is another symptom to watch for.

Midseason signs and symptoms include distinct dark green to black "freckles" within or just outside of leaf lesions. Shiny or glistening patches of dried bacterial ooze on the lesions, similar to a thin layer of varnish, can also be observed. Other signs of infection are water-soaked streaks accompanied by tan-to-gray lesions that

run lengthwise on the leaves.

Management options

In-season management choices for Goss's wilt are very limited, so understanding your options is vital.

"A fungicide application will not work on bacterial diseases such as Goss's wilt. The best strategy is prevention in the off-season with selection of a hybrid containing native resistance to the disease and incorporating crop rotation and tillage to minimize survival of the bacteria," Heuchelin reports.

DuPont Pioneer has been researching this devastating disease for more than 20 years, making the company an industry leader when it comes to Goss's wilt. Most of the research has taken place in La Salle, Colo. and western Neb., the geographic origin of the disease. However, Pioneer researchers have identified the genes for resistance and bred hybrids with resistance to Goss's wilt for locations further eastward, expanding choices for those who want protection against this disease.

Reducing corn residue through crop rotation or tillage is another management practice that helps you combat this disease. One reason for the prevalence of Goss's wilt is due to the recent increase of corn-on-corn acres where the bacteria can overwinter in the remaining residue. Good weed control is also now more important than ever because weeds such as green foxtail, barnyardgrass or shattercane are hosts for this bacterium. Heuchelin also suggests harvesting and tilling infected fields last and then cleaning your equipment to help avoid spreading the pathogen to uninfected fields.

The new Pioneer® Field360™ Notes app will help you track field notes on Goss's wilt and assist with scouting. This tool streamlines and organizes field-by-field agronomic information for communication among DuPont Pioneer agronomists, sales professionals and growers, and is compatible with all tablets and mobile devices.

For more information on scouting and management of Goss's wilt, contact your local Pioneer sales professional or visit pioneer.com.

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