Above average rainfall provides the ideal environment for development and spread of leaf diseases in corn. If diseases are identified in time there are options to control them to ensure they don’t affect yield potential. And now is the time to begin scouting for these diseases. A fungicide application should be considered for fields showing fungal disease symptoms.

Fields that are more prone to disease development include low lying fields, poorly drained fields, or fields with a high amount of corn residue on the surface. For more information on applying fungicides to Wyffels products, refer to the recent Between the Rows entitled Fungicide Use on Wyffels Hybrids.

Disease Identification and Management

This Between the Rows focuses on the common leaf diseases that will likely appear in corn fields this year. Information is provided to help identify each disease, as well as management options available if the disease is present. Tolerance to these diseases does vary hybrid. For information on specific hybrid ratings contact your Wyffels sales representative, or refer to the hybrid ratings on www.wyffels.com.

**Gray Leaf Spot**

**Symptoms** – Gray to tan lesions that grow between leaf veins giving them a narrow, rectangular appearance. Lesions eventually spread and coalesce to cover most the leaf. Hybrids that are more tolerant to gray leaf spot (GLS) will get small lesions initially, but the lesions won’t spread. Symptoms first appear near tassel emergence in the middle to lower canopy and move upward.

**Favorable environment** – Gray leaf spot overwinters on corn residue and is spread by splashing water and wind. It thrives in warm environments with high humidity and overcast skies.

**Management** – A timely foliar fungicide application will control GLS. Gray leaf spot does not typically reach levels causing economic damage north of Highway 20 in Illinois and Iowa.

**Northern Leaf Blight**

**Symptoms** – Long elliptical lesions with a gray to tan color. Symptoms appear from V8 through kernel dough stage. Lesions can appear anywhere in the canopy and will quickly spread throughout the canopy in favorable conditions. In humid conditions, small black spores often develop on lesions. Lesions eventually combine and will destroy entire leaves. Premature death can occur in worse case scenarios.

**Favorable environment** – Northern leaf blight overwinters on corn residue and spreads by splashing water and wind. It’s more abundant in years with moderate temperatures (64° to 81°F), high humidity, and frequent rainfall.

**Management** – Northern leaf blight can be controlled with a timely foliar fungicide application. If established pre-tassel, multiple applications may be necessary.

**Common Rust**

**Symptoms** – Common rust infects both upper and lower leaf surfaces. Rust pustules are oval to rectangular in shape and are brick red in color. Leaf tissue surrounding the pustules will turn yellow and eventually die. Dark red powdery spores will erupt out of the pustules. Over time these spores darken and will create a dark cloud during harvest often turning machine surfaces black.

**Favorable environment** – High humidity, night temperatures of 65° to 70°F and daytime temperatures less than 80°F favor development and spread. Common rust does not overwinter in the Midwest, but arrives from spores that are carried on storms originating in the southern United States.

**Management** – Foliar fungicides do provide control of common rust.
Southern Rust

Symptoms – Southern rust primarily infects the upper leaf surface. Rust pustules are smaller than common rust, more circular, and are more orange in appearance. Pustules don’t develop as fast as common rust and spores don’t rupture from pustules as early. Similar to common rust, southern rust spores darken over time and will create a dark cloud during harvest often turning machine surfaces black.

Favorable environment – High humidity and temperatures around 80° F favor disease development. Southern rust does not overwinter in the Midwest, but spores are carried up in storms originating in the southern United States.

Management – Can be controlled with a timely foliar fungicide application.

Eyespot

Symptoms – Initial symptoms are small, water-soaked, chlorotic, circular spots. The tissue in the center of the lesions eventually dies and turns brown. Leaf tissue surrounding eyespot lesions will turn yellow, giving a halo appearance when held up to a light source. Lesions eventually combine and cause large necrotic areas on infected leaves. Eyespot can occur throughout the plant canopy, but it’s most prevalent in the upper canopy, later in the season.

Favorable environment – Eyespot overwinters on corn residue and is spread by splashing water and wind. Moderate temperatures and high humidity, or prolonged wet conditions favor the development and spread of eyespot.

Management – Can be controlled with a timely foliar fungicide application.

Goss’ Wilt

Symptoms – Goss’ wilt is different than most corn diseases in that it’s a bacterial disease. It has long irregular shaped lesions with wavy margins. Goss’ wilt can appear anywhere in the canopy as water soaked dark green lesions that eventually expand and turn brown. Lesions often contain small black structures than can’t be removed when rubbed. Infected leaves will have a glossy appearance due to oozing of exudate from bacteria. Goss’ wilt can systemically infect plants causing discolored vascular tissue, wilted leaves, and eventual plant death. The leaf phase of Goss’ wilt can also cause premature plant death if it spreads throughout the plant canopy.

Goss’ wilt is easily misdiagnosed as northern leaf blight. The distinguishing symptoms of Goss’ wilt are the glossy appearance of infected leaves and black speckles that can’t be removed when rubbed.

Favorable environment – Goss’ wilt overwinters on corn residue and is most common in areas that have experienced strong storms. Goss’ wilt enters the plant through wounds caused by hail, wind, or blowing soil. Moderate temperatures and rainfall favor the spread of Goss’ wilt throughout the plant canopy.

Management – Fungicide applications will not prevent or control Goss’ wilt. There are no proven treatments for Goss’ wilt once it becomes established, but identification will help you manage that field going forward. Rotation or selecting a hybrid with a high tolerance to Goss’ wilt will limit damage in future years.

Conclusion

Fungicide applications are a great tool corn growers can use to maximize their productivity. One way to ensure a return on that investment is to scout fields for disease pressure. The weather we’ve experienced this growing season is conducive to disease development. If disease pressure is found, a fungicide application should be considered to protect your yield potential.

From the desk of

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