

Visual Quick **GUIDE**

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This reference guide provides information regarding symptoms, risk factors, and management options in order to help improve diagnoses of the most common foliar fungal diseases.

Common corn diseases in Wisconsin



Common Rust

(*Puccinia sorghi*)

Symptoms: quite distinctive; reproductive structures (pustules=uredinia) erupt through surface of leaf and have a rusty brown appearance; in comparison with southern rust, common rust can sporulate on both sides of the leaf

Risk factors: wind-blown from southern U.S. with arrival typically from mid-June to mid-July; favored by moderate temperatures (60–75°F) and high humidity (> 95%); moisture is required for infection and younger leaves are often more susceptible

Management: resistant hybrids; fungicides for high-value corn



Eyespot

(*Kabatiella zeae*)

Symptoms: quite distinctive although may be confused for physiological or genetic; small circular lesions or spots that are surrounded by a red and yellow halo; if severe epidemic, lesions may grow together and can lead to death of large areas of tissue

Risk factors: overwinters in corn debris (no-till); spores dispersed via rainsplash; further spread from infected plants also via splashing; severe epidemics may correspond with cool, humid weather

Management: clean plowing; crop rotation; resistant hybrids; foliar fungicides



Northern Corn Leaf Spot

(*Bipolaris zeicola*)

Symptoms: five races occur (race 3 most important); generally, narrow linear lesions that range from $\frac{1}{8}$ to $\frac{1}{4}$ inch with maximum length of $\frac{1}{2}$ to $\frac{3}{4}$ inch; multiple lesions may form along vein; lesions are grayish tan with a pigmented border; leaf, leaf sheath, husks, and ears may all become infected

Risk factors: overwinters in corn leaves, husks, and stalks; disease favored by moderate temperatures (65–80°F) and high relative humidity; dry weather reduces spread of disease; windblown spores possible

Management: crop rotation; clean plowing; resistant hybrids; fungicides may only be economical with high-value corn



Northern Corn Leaf Blight

(*Exserohilum turcicum*)

Symptoms: cigar-shaped, gray green to tan-colored lesion that is ~1–6 inches long; lesions may spread to all leafy structures (also husks); severe epidemics may blight entire leaf resembling frost damage

Risk factors: overwinters as mycelia and conidia in corn residue; conidia (spores) may be carried long distances by wind; favored by moderate temperatures (65–80°F) and prolonged periods of dew; if disease occurs prior to tasseling and silking, yield losses may occur

Management: resistant hybrid; crop rotation; fungicides recommended mostly for sweet corn and hybrid seed corn production



Gray Leaf Spot

(*Cercospora zeae-maydis*)

Symptoms: early lesions yellow to tan in color—similar to other diseases except they have faint watery halo; become tan to brown lesions that are rectangular in shape; at maximum, individual lesions may be 3–4 inches long and 1/16–1/8 inch wide

Risk factors: more severe with corn-on-corn; survives in residue; conidia develop in response to warm temperatures and high humidity and can then be wind-blown or splash-dispersed; early infection increases risk for yield loss; high and uninterrupted humidity (> 90%) required for infection

Management: crop rotation; tillage; resistant hybrids; fungicides may be effective



Anthracnose

(*Colletotrichum graminicola*)

Symptoms: variable, depending on genotype, leaf age, and environment; common to see irregularly shaped, rusty brown lesions that have a yellowish halo; dark, hairlike structures (setae) can often be seen on the leaf using a hand lens; stalk rot has shiny black, linear streaks and blotches

Risk factors: overwinters on corn residue; conidia are rain-splashed on leaves of young plants; favored by high temperatures and extended periods of cloudy, wet weather; correlation with stalk rot not well known

Management: resistant hybrids; tillage; rotation; soil fertility

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For additional information, visit the University of Wisconsin Nutrient and Pest Management Program (ipcm.wisc.edu/Default.aspx?tabid=62).

Image Sources: IPM Scout Training School (www.plantpath.wisc.edu/PDDCEducation/ScoutSchool/General/TofC.htm) and C. Grau (UW-Madison).

Reference: White, D.G., ed. Compendium of Corn Diseases, 3rd ed. St. Paul, MN: APS Press, 1999.

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