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 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 \( \approx 1–6 \) 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