

Late Season Corn Diseases Identification

- Utilizing the correct management tactics for corn diseases depends on proper identification of the disease, the severity of the infection, and the anticipated spread of the disease.
- The information below can help identify late-season foliar, stalk, and ear diseases of corn and their management tactics.
- While some of these foliar diseases can occur during the early season and mid-season window, they occur most often in the late season, from tasseling to black layer.

Late Season Fungal Foliar Diseases

Common Rust

Diagnostic Characteristics:

Common rust is a fungal disease, and its early symptom is chlorotic flecks appearing on the leaf surface. These flecks soon develop into powdery, brick-red pustules. Pustules are oval or elongated, about 1/8 inch (3 mm) long, and scattered sparsely or clustered together. The leaf tissue around the pustules may become yellow or die, leaving lesions of dead tissue. As the pustules age, the red spores turn black, making the pustules appear black.



Figure 1. Common rust of corn.

Scouting Window: Typically, two weeks prior to pollination and throughout grain fill. Pustule formation can occur when common rust development is favored by high humidity with night temperatures of 65 to 70 °F (18 to 21 °C) and moderate daytime temperatures. The disease is usually more severe on seed corn.

Management:

In-season: Common rust rarely reaches levels that cause yield loss in commercial corn products. However, there are fungicides available to treat common rust. Applications of these fungicides are most beneficial on susceptible corn products, especially if applied early when few pustules have appeared on the leaves.

Off season: A selection of corn products with excellent tolerance to common rust is available.

Late Season Corn Diseases Identification

Eyespot

Diagnostic Characteristics: Small (less than ¼ inch), circular, translucent lesions surrounded by a yellow to purple margin. Lesions may coalesce and form a larger lesion. In severe infections, the entire leaf may die. Lesions are surrounded by a yellow halo visible when a leaf is held up to light. Lower leaves are usually infected first. Eyespot development is favored by cool and humid weather.

Scouting Window: Typically, two weeks prior to pollination and throughout grain fill. Pustule formation can occur earlier under ideal disease conditions, especially in late-planted corn. Infection before flowering causes the most risk of yield loss.

Management:

In-season: Usually, fungicides are not needed for this disease in late season.

Off season: Select corn products with excellent tolerance and utilize crop rotation.

Gray Leaf Spot (GLS)

Diagnostic Characteristics: Gray leaf spot is a fungal disease that causes small, necrotic spots with halos, which become rectangular blocks running parallel to leaf veins.

Scouting Window: Typically, two weeks prior to and two weeks after pollination. GLS has a 2-week incubation period after infection.

Management:

In-season: Fungicide application at VT to R1, or earlier, if lesions appear earlier in the season.

Off season: Selecting corn products with good (or improved) GLS ratings is important in fields with a history of GLS pressure. Crop rotation may also be effective.



Figure 2. Eyespot of corn.



Figure 3. Early infection by gray leaf spot, note straight edges of lesions. Image courtesy of Emmanuel Byamukama, South Dakota State University.

Late Season Corn Diseases Identification

Northern Corn Leaf Blight (NCLB)

Diagnostic Characteristics:

Northern corn leaf blight is a fungal disease that causes lesions that are long (1 to 6 inches, 2.5 to 15 cm) and elliptical, which appear gray green at first but then turn pale gray or tan. Under moist conditions, dark gray spores are produced, usually on the lower leaf surface, which give lesions a “dirty” gray appearance.



Figure 4. Northern corn leaf blight.

Scouting Window: Typically, two weeks prior to and two weeks after pollination.

Management:

In-season: Fungicide application at VT to R1, or earlier, if lesions appear earlier in season.

Off season: Select corn products with good NCLB ratings for fields with a history of NCLB pressure. Crop rotation may also be effective.

Northern Leaf Spot (Helminthosporium Leaf Spot)

Diagnostic Characteristics:

Northern leaf spot, also known as Helminthosporium leaf spot or Carbonum leaf spot, is occasionally found in the lower canopy during periods of high humidity and moderate temperatures. There are five known races, with races 2 and 3 being the most common in the



Figure 5. Northern leaf spot.

Midwest. Race 2 is associated with oblong, somewhat rectangular, brown spots (¼ to ½ by 1 inch, 6 to 13 by 25 mm) on leaves and black mold on kernels. While race 3 causes long, narrow, light tan lesions (up to 1 inch, 25 mm) that are surrounded by a darker border on leaves, sheaths, and husks.

Resistant hybrids and inbreds are available. Crop rotation and tillage reduce inoculum survival. Foliar fungicides labeled for northern corn leaf spot are available.

Scouting Window: Silking to full maturity.

Management:

In-season: Corn products resistant to all races of northern leaf spot are available, and this is usually not an important disease in hybrid corn.

Off season: Use crop rotation and residue management to reduce inoculum.

Late Season Corn Diseases Identification

Southern Rust

Diagnostic Characteristics: Southern rust is a fungal disease that produces circular to oval spots with light green to yellow halos. Orange to red pustules develop on leaf surfaces. Southern rust infection can result from storms that move up from the south followed by wet and humid weather.

Scouting Window: Typically, two weeks prior to pollination and throughout grain fill. Pustule formation can occur earlier under ideal conditions, especially in late-planted corn. Infection before flowering causes the most risk of yield loss.

Management:

In-season: Foliar fungicides may be effective when applied soon after the first few pustules are observed. Multiple applications may be needed in severely infected fields, though fungicide application applied within two weeks of black layer is unlikely to provide any economic return. The fungicide should contain dual modes of action, including a strobilurin (Trifloxystrobin) and triazole (Prothioconazole).

Off season: Selecting corn products with excellent tolerance to southern rust is important in areas at high risk for severe disease outbreaks. In some geographies, early planting dates minimize the window in July during which storms can carry the fungus from the south, temperatures are high, and conditions are humid.

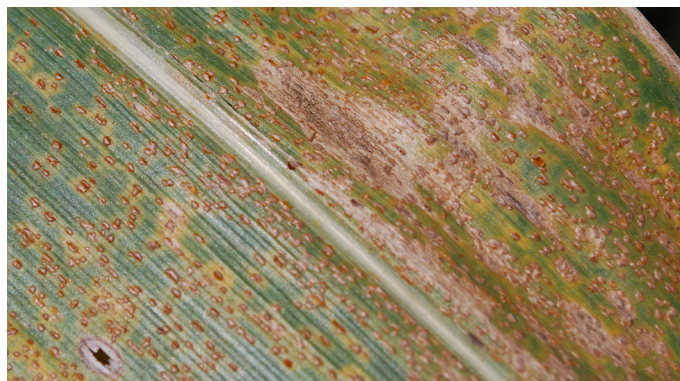


Figure 6. Southern rust.

Tar Spot

Diagnostic Characteristics: Tar spot is a fungal disease that infects corn leaves, husks, and stalks, and creates black spots called stroma. Tar spot lesions are hard, black, raised spots that are typically 1/16 to 3/4 inch (0.15 to 2 cm) in diameter that cannot be rubbed off. Dew, lingering fogs, and rainy days extend leaf wetness duration which drives disease severity.

Scouting Window: Typically, tar spot has been observed most often during mid- to late grain fill (growth stages R3 to R6). However, the disease has been observed shortly before pollination.

Management:

In-season: Apply foliar fungicide at VT/R1 and continue to scout throughout grainfill. If disease severity continues to increase, consider an additional fungicide application. While there is an application that can be predict tar spot, Tarspotter (<https://ipcm.wisc.edu/apps/tarspotter/>), note there are still some issues with the application. The application does not consider previous history of the disease in the field, and if the disease was present in the previous year, the field would be at a higher risk. The application uses weather data, but the stations may not be close enough to provide the necessary precision.

Off season: While reducing residue is a common practice in crop disease management and it may help reduce inoculum, the results of using tillage to management tar spot have been inconsistent. Rotate to other crops and avoid highly susceptible corn products.



Figure 7. Tar spot.

Late Season Corn Diseases Identification

Late Season Bacterial Foliar Diseases

Bacterial Leaf Streak (BLS)

Diagnostic Characteristics: Symptoms of bacterial leaf streak are tan, brown, or orange lesions that occur between the veins of corn leaves. Lesions are long, narrow, and less than 1 in (2.5 cm) to several inches (centimeters) long. Lesions also can occur close to the leaf midrib or across the leaf blade. Bacterial leaf streak lesions resemble those of gray leaf spot (GLS), except BLS lesions have wavy margins while GLS lesions appear more rectangular with straighter edges. If backlit, bacterial leaf streak has long, yellow halos that extend from each lesion, while GLS lesions do not have halos.

Scouting Window: BLS is a relatively new disease, and information on scouting and management is limited. Like Goss's wilt, there are no in-season control measures. The disease is more common in fields under continuous corn production, but it has been observed on corn following soybeans, wheat, and fallow. Bacterial leaf streak occurrence appears to increase after overhead irrigation or rainfall during hot weather, with disease severity reaching over 30%.

Management:

In-season: Because the disease is caused by bacteria, fungicides are not effective.

Off season: There is limited information on management at this time.

Goss's Wilt

Diagnostic Characteristics: Goss's wilt is a bacterial disease that produces water-soaked, 'oozy,' or shiny stripes along leaf veins with wavy or irregular margins. Dark-green to black freckles are formed inside the striped lesions and are diagnostic for this disease.

Scouting Window: Symptoms often become most visible and increase in severity after silking.

Disease development is favored by warm (80 °F, 27 °C) weather. Very hot (greater than 95 °F, 35 °C) or cool (less than 70 °F, 21 °C) temperatures may impede disease development. Goss's wilt primarily infects leaves that have been wounded, such as by hail, sand blasting, rain, wind, or strong storms.

Management:

In-season: Because the disease is caused by bacteria, fungicides are not effective.

Off season: Resistant corn products are available. Crop rotation and timely tillage reduce survival of the pathogen.



Figure 8. Bacterial leaf streak.



Figure 9. Goss's wilt.

Late Season Corn Diseases Identification

Late Season Fungal Stalk Diseases

It is not uncommon to find several stalk rot diseases in the same field. Scout for stalk rots when plants are a few weeks from physiological maturity. Sample by walking in an M or W pattern throughout the field and randomly check 10 to 20 stalks per 20 acres for lack of integrity. Use the pinch or push test. The pinch test consists of pinching the stalk between the lowest two internodes to see if it can withstand the pressure. If the stalk collapses, it fails the test. To complete a push test, push stalks 30 degrees from vertical (around 8 inches) and see how many stalks spring back to upright and how many lodge. If more than 10% of plants are lodging or the stalk is collapsing, consider harvesting at a higher moisture content and drying the grain after harvest to avoid yield loss due to lodging.

Anthracnose Stalk Rot

Diagnostic Characteristics: Anthracnose is a very common stalk rot, particularly in the Eastern Corn Belt. Plants that are infected have shredded, brown- to black-colored pith and die prematurely. Anthracnose also causes a distinctive black stain on the stalk rind. Initially, these black areas appear as narrow, water-soaked lesions. As the lesions age, they become dark and shiny, and can join to form long streaks. Anthracnose also can cause top dieback, where the stalk above the ear dies four to six weeks after pollination.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.

Off season: Resistance to anthracnose is available in many hybrids. If a hybrid is resistant to stalk rot, it is not necessarily resistant to the leaf blight phase of this disease. Crop rotation and tillage will reduce inoculum.



Figure 10. Anthracnose stalk rot.

Gibberella Stalk Rot

Diagnostic Characteristics: Gibberella stalk rot-infected plants have shredded pith that is discolored a distinct pink or red and will die prematurely. Like with Anthracnose stalk rot, dark streaks appear on the lower internodes, but unlike with Anthracnose stalk rot infection, Gibberella stalk rot streaks will not take on a shiny appearance. In some cases, round blue-black specks (perithecia) may form at the lower nodes and can be scratched off the stalk surface easily using a fingernail.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.

Off season: Reduce inoculum with crop rotation away from corn and tillage. This disease is caused by the same fungus that causes Gibberella ear rot on corn and Fusarium head blight of wheat and barley. Therefore, the disease tends to be more severe in wheat-corn rotations. Moderate fertility levels can help reduce the amount of this disease.



Figure 11. Gibberella stalk rot.

Late Season Corn Diseases Identification

Fusarium Stalk Rot

Diagnostic Characteristics: Fusarium stalk rot is one of the most common stalk rots in the Midwest. Symptoms often are observed near dent (R5). The first outward symptoms are yellowing of the lower portions of the stalk and dull green leaves. Infected plants die prematurely and have shredded pith that is usually a whitish-pink to salmon color. Brown streaks may be observed on the lower internodes. Compared to other stalk rots, this disease is not easily diagnosed based solely on symptoms.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.

Off season: Resistance to Fusarium stalk rot is available in some corn products. Use rotation and tillage to reduce inoculum.

Pythium Stalk Rot

Diagnostic Characteristics: Pythium stalk rot is not a common disease in the Central and Eastern corn belt. Infection is more common when there are extended periods of hot (above 90 °F, 32 °C), wet, humid weather. Poorly drained fields usually have a higher incidence of the disease. Unlike the fungal stalk rot pathogens, Pythium can result in infection any time between V2 and R6. Infection is typically confined to the first internode directly above the soil surface and results in a brown, soft stalk. Like bacterial stalk rot, lodging is a result of twisting, not snapping of the stalk. Infected plants will remain green for some time because vascular bundles are not destroyed.

Management:

Off season: Improve drainage to decrease risk.

Diplodia Stalk Rot

Diagnostic Characteristics: Infected plants may turn a dull green because the pith is being destroyed. The pith tissue of Diplodia-infected corn disintegrates similarly to both Gibberella and Fusarium stalk rots, but the pith will not have any coloration. On the rind small, black, flask-shaped fruiting bodies (pycnidia) are formed, but unlike the perithecia of Gibberella stalk rot, Diplodia stalk rot pycnidia cannot be easily removed. The pycnidia will also result in the rind having a rough feel, like sandpaper.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.

Off season: There are corn products with good tolerance to Diplodia stalk rot. Use rotation and tillage to reduce inoculum.



Figure 12. Fusarium stalk rot.



Figure 13. Pythium stalk rot.
Photo courtesy of Alison Robertson, Professor at IA State University.

Late Season Corn Diseases Identification

Charcoal Rot

Diagnostic Characteristics:

Charcoal rot is more of a concern in hot, dry weather, particularly during the grain-fill period. The fungus causes disintegration of the pith tissue. Within the stalk, many tiny black structures (microsclerotia) result in a specked appearance. Microsclerotia may also be visible on the roots and just below the rind.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.



Figure 14. Charcoal rot.

Off season: Crop rotation is usually not effective, as the microsclerotia can survive for several years and the host range includes soybean, alfalfa, and many weed species.

Red Root Rot

Diagnostic Characteristics: Red root rot is more common in Atlantic states. This disease is favored by moderate temperatures and corn in a high-yield environment. Symptoms usually appear just before corn maturity. The root system will be smaller and have a reddish or pinkish tint and the lower stalk will turn a deep red to purple. While red root rot is like Gibberella stalk rot in color, the red color will be darker and a deeper red. Below-ground rot may result in wilting and as result the foliage will be grayish green. The plant will die prematurely, and lodging is common within a week of plant death.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.

Off season: Crop rotation to soybean may be beneficial.



Figure 15. Red root rot.

Late Season Corn Diseases Identification

Physoderma Stalk Rot

Diagnostic Characteristics: Physoderma stalk rot or node rot is caused by the same fungal pathogen that causes Physoderma brown spot and is usually not a severe economic problem. However, its frequency has increased in recent years. Symptoms are often first noticed when plants snap off cleanly and very easily at the first or second node, and the nodes are colored black. (However, symptoms can be noticed prior to snapping, when nodes become discolored with black or rust-colored spores that can be rubbed off.) Moderate temperatures and standing rainwater in the whorl increase the risk of the leaf-infection phase of the disease, which can progress to stalk infection. Plants infected with the stalk rot phase rarely show any visible signs on the leaves, and usually have excellent yield potential.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease, harvesting should occur as quickly as possible.

Off season: Tolerant corn products do exist and improving drainage may help reduce infection. Crop rotation and tillage practices may reduce inoculum.

Late Season Bacterial Stalk Diseases

Bacterial Stalk Rot and Top Rot

Diagnostic Characteristics: Initially, there is a discoloration of the leaf sheath and stalk at the infected node. As the disease progresses, lesions develop on leaves and sheaths. The disease develops in the stalk and, as the tissue decays and eventually rots completely, a foul odor can be detected. Splitting the stalk reveals internal discoloration and soft, slimy rot, mostly beginning at the nodes. Because the bacteria usually do not spread from plant to plant, diseased plants are often found scattered throughout the field. Bacterial stalk and top rot disease development is favored by high temperatures and high relative humidity. The disease is more common with the use of overhead irrigation, particularly when the water source is a slow-moving stream or pond.

Management:

In-season: If more than 10 to 15 percent of the observed stalks have the disease and are weakened 40 to 60 days after pollination, harvesting should occur as quickly as possible.

Off season: Avoid excessive irrigation. Crop rotation and tillage practices may reduce inoculum.



Figure 16. Physoderma stalk rot.



Figure 17. Bacterial stalk rot.

Late Season Corn Diseases Identification

Fungal Ear Diseases

Ear rots differ from each other in the types of injuries they cause, and some produce mycotoxins that can be very detrimental to livestock and humans. Most ear rots are favored by wet, humid conditions during silk emergence (R1) that continue until harvest. However, there are different temperature requirements for various ear rots, with most being restricted by excessively warm conditions such as temperatures above 90 °F (32 °C). However, it should be noted that even when conditions are not optimum for ear rot development, mycotoxins may develop in infected ears.

Sample fields between dough stage and black layer, before plants start drying down, and look for abnormalities of the ears. The husks of affected ears usually appear partially or completely dead (dry and bleached), often with tinges of the color of the of the particular ear rot. Depending on the severity of the disease, the ear leaf may also be dead and droop as a result. These signs will be obvious compared to healthy plants. For plants with these symptoms, peel back the husk and examine suspect ears for ear rot symptoms, listed for the diseases below. Inspect at least 10 ears in several locations (minimum of 30 ears) in a field prior to harvesting to determine the extent of a possible issue.

Gibberella Ear Rot

Diagnostic Characteristics: Gibberella ear rot causes reddish kernel discoloration, usually beginning at the ear tip. Husks may rot and be cemented to the ear. The pathogen is favored by cool, humid weather, particularly 2 to 3 weeks after silking. Multiple mycotoxins are produced such as deoxynivalenol and zearalenone.

Scouting Window: Scout prior to physiological maturity to identify areas with mold problems.

Management:

In-season: These areas should be harvested as soon as possible to prevent further mold development. Harvested grain should be cooled, dried, and cleaned immediately after harvest, and stored apart from grain harvested from healthy fields. Gibberella ear rot can produce two mycotoxins in the infected kernels: deoxynivalenol and zearalenone. These mycotoxins can affect the health of many monogastric animals, but swine are especially sensitive. If this rot is present, assume that the mycotoxins are also present. A test is needed to determine the level of contamination. For testing options, contact your local extension office.

Off season: Tillage following a corn rotation is encouraged. Rotation away from corn or wheat (this disease causes head scab in wheat) will reduce inoculum. Corn products vary in their resistance.



Figure 18. Gibberella ear rot.

Late Season Corn Diseases Identification

Diplodia Ear Rot

Diagnostic Characteristics: The main symptoms of Diplodia ear rot are bleached husks, white mold over kernels, and rotted ears with tightly adhering husks. Black fungal structures called pycnidia may be observed on affected kernels. Early infection leads to complete ear rotting. Infection usually begins at the base of the ear, but it is not uncommon for infection to begin at the tip or in the middle of the ear. Later in the season, small black specks called pycnidia can be observed on the husks, cobs, and kernels of infected ears. Infection is favored by dry weather prior to silking followed by wet conditions at and just after silking. The most susceptible window is during the first 21 days after silking. Diplodia ear rot is often associated with earworm damage to the shank area.



Figure 19. Diplodia ear rot.

Scouting Window: Inspect at least 10 ears at several locations (minimum of 30 ears) in a field prior to harvesting.

Management:

In-season: Pre-screening, especially after drying and prior to selling or storing the grain, is highly recommended to remove the lighter, damaged kernels, cob pieces, fines, and foreign material, as kernels usually break down during harvesting and handling. Fungicides have not been shown to consistently reduce Diplodia ear rot.

Off season: Cultural practices such as crop rotation (preferably more than 1 year away from corn since the fungus can survive on the soil surface for more than one season), tillage, and proper irrigation timing will reduce inoculum. Corn products vary in their resistance/susceptibility to Diplodia.

Fusarium Ear Rot

Diagnostic Characteristics: Fusarium ear rot appears on isolated kernels or in patches on the ear, especially on kernels damaged by insects. Infected kernels may have a tan or brown color. However, when fungal growth is visible on the ear, kernels will be white to pink. In some cases, the kernels will have white streaks, giving a starburst appearance.



Figure 20. Fusarium ear rot.

Scouting Window: Scout fields at kernel maturity (growth stage R6) to determine the presence and severity of Fusarium ear rot. Three species of *Fusarium* cause Fusarium ear rot ear and only laboratory testing can distinguish among them. Two of the species can produce fumonisins, which can be toxic to livestock, particularly equines and swine. Fumoinisin levels are usually more severe in warm regions and in fields with extensive insect damage to the ears. Fumoinisin levels in affected fields often increase when wet, warm weather conditions persist just prior to harvest.

Late Season Corn Diseases Identification

Management:

In-season: If significant ear rot or insect damage is present, the field should be one of the first to be harvested. *Fusarium* species require moisture to continue to grow, so once corn is dried to 15% moisture content fungal growth and fumonisin production should stop. Contact your local extension office for grain testing options.

Off season: Reduce insect damage to ears, particularly from the European corn borer, corn earworm, and Western bean cutworm. Corn products with *Bt* traits to control these pests usually have less *Fusarium* ear rot and lower fumonisin levels.

Aspergillus Ear Rot

Diagnostic Characteristics: *Aspergillus* ear rot causes greenish or yellowish-tan discoloration on and between kernels, especially near the ear tip. Symptoms are more evident if the husk does not cover the ear tip. Aflatoxins may be produced.

Scouting Window: Inspect at least 10 ears at several locations (minimum of 30 ears) in a field prior to harvesting. Look for plants that are stunted and are in drier areas of the field (such as on hillsides, or in light, sandy soils) as these will be the first to exhibit *Aspergillus* ear rot mold symptoms. Examine the ears for an olive-green mold. The mold will be powdery, dust-like, and olive green. Some mold may fall from the ear if the husk is pulled back. Usually, symptoms occur at the ear tip, but may occur across the entire ear to the base in severe infections.

Management:

In-season: Areas within the field with *Aspergillus* ear rot should be avoided during harvest. Fields with extensive disease should be harvested as early as possible and the grain dried to below 15% moisture to prevent further fungal growth and mycotoxin production.

Off season: Reduce stress on the corn plant, as stressed plants are more susceptible, and maintain appropriate fertility within a field.

Cladosporium Ear Rot

Diagnostic Characteristics: Kernels infected with *Cladosporium* ear rot have dark-gray to greenish-black blotches or streaks. Initial discoloration appears where kernels are attached to the cob. Infected kernels can be scattered over the ear. If all the kernels are infected, the ears are dark and extremely lightweight. This disease is often associated with damage due to insects, hail, or frost. Disease development is favored by wet weather during grain fill and is more common in hot, dry years in the northern Corn Belt.

Scouting Window: Inspect at least 10 ears in several locations (minimum of 30 ears) in a field prior to harvesting.

Management:

In-season: Grain should be dried appropriately before storage. Mycotoxins are not associated with this ear rot.

Off season: Utilize corn products that provide protection against ear-feeding insects.



Figure 21. *Aspergillus* ear rot.



Figure 22. *Cladosporium* ear rot.

Late Season Corn Diseases Identification

Penicillium Ear Rot

Diagnostic Characteristics: Penicillium ear rot causes powdery-green to blue-green mold to develop on and between kernels. Infection begins at ear tips through mechanical injury or insect damage. Infected kernels may become bleached or streaked. “Blue eye” occurs when the embryo becomes discolored due to the presence of blue-green fungal spores and can occur if infected grain is stored at high moisture levels.

Scouting Window: Inspect at least 10 ears in several locations (minimum of 30 ears) in a field prior to harvesting, focusing primarily on insect-injured ears.

Management:

In-season: Penicillium ear rot can be a problem in stored grain if moisture in the bin is high, causing a condition known as “blue-eye.” Grain should be dried appropriately before storage and if blue-eye is found in storage, test grain for mycotoxins.

Off season: Utilize corn products that provide protection against ear-feeding insects.



Figure 23. Penicillium ear rot.
Photo courtesy of Tamara Jackson-Ziems, University of Nebraska.

Trichoderma Ear Rot

Diagnostic Characteristics: Kernels infected with Trichoderma ear rot are dark gray or black, mostly at the base. Symptoms usually appear at the butt end of ears, and ears are lightweight. More common on plants that have been stressed.

Scouting Window: This disease is usually not economically damaging, so specific scouting is usually unnecessary.

Management:

In-season: Grain should be dried appropriately before storage. Mycotoxins are not associated with this ear rot.

Off season: Choose corn products with good stalk and root strength to reduce stress.



Figure 24. Trichoderma ear rot.

Late Season Corn Diseases Identification

Sources

Corn diseases: Symptoms, scouting, and management. Iowa State University Extension and Outreach.
<https://crops.extension.iastate.edu/corn-diseases-symptoms-scouting-and-management>

Woloshuk, C. and Wise, K. Aspergillus ear rot. Purdue University Extension. Diseases of corn. BP-83-W.
<https://www.extension.purdue.edu/extmedia/BP/BP-83-W.pdf>

Bergstrom, G., et al. 2019. An overview of southern rust. Crop Protection Network. CPN-2009.
<https://cropprotectionnetwork.org/publications/an-overview-of-southern-rust>

Legal Statements

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

Bayer and Bayer Cross are registered trademarks of Bayer Group. All other trademarks are the property of their respective owners. ©2023 Bayer Group. All rights reserved. 1211_145184

