

Disease Facts

- Caused by the fungus *Stenocarpella maydis*, previously known as *Diplodia maydis*
- Wet weather during grain fill and upright ears with tight husks promote Diplodia
- Can cause ear rot, stalk rot and seedling blight

Impact on Crop

- Reduced grain quality and reduced yield due to lower kernel size and test weight
- If infection occurs early, some ears may not produce harvestable grain. Less damage results if ear is more developed when infection occurs
- Fungal growth is most common during milk, dough and dent stages
- Mycotoxins are not associated with this disease but some animals may reject infected feed

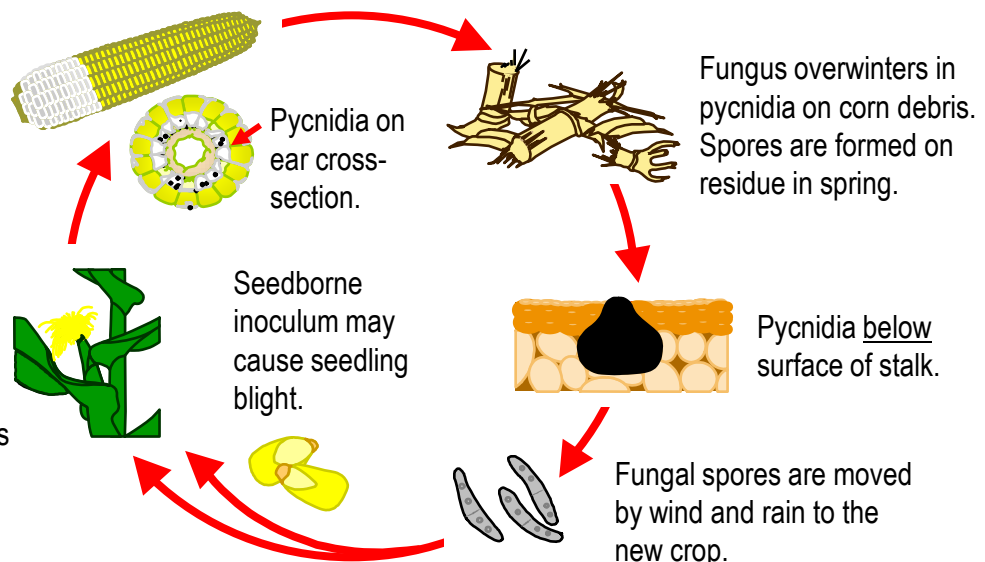


- Corn is only known host
- Wet weather plus moderate temperatures allow infection to occur if spores are present from early silking until two to three weeks after silking
- Diplodia is highly dependent on quantity of infected, unburied corn residue (stalks, cobs and kernels)

Disease cycle

Spores germinate and penetrate the ear shank, growing into the cob and kernels. Infection usually begins at base of ear.

Spores infect the ear leaf, ear shank and silks when plants are silking. Symptoms commonly appear several weeks after silking.



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Disease Symptoms

- Early infected plants have tan spots on husks or bleached husks that are obvious from a distance
 - Husks on severely infected plants dry down well before the rest of the plant
- White mycelial infection progresses from base of ear to tip



- Pycnidia, black fungal fruiting structures, may be present on kernels, cob or husk (below)



- Extensive mycelial growth causes ears to remain erect and husks to bind tightly to ear
- Rotted seed may germinate prematurely (vivipary)
- Later-infected plants are less damaged and may show no obvious symptoms on husks
 - Mycelial growth may be limited to white growth between kernels and on the cob

Management

- Hybrid selection – Hybrids differ in their susceptibility to Diplodia ear rots, but all will show some damage under severe conditions
 - Pioneer's hybrid ratings range from 4 to 6 for most hybrids (9=resistant), indicating that high resistance is not yet available
 - Pioneer corn breeders continue to screen parent lines and hybrids in multiple environments where Diplodia occurs to improve resistance levels in new hybrids
 - For fields with a history of severe Diplodia ear rot infection, growers should select hybrids with a rating of 5 or higher
 - Select hybrids of varying maturity and stagger planting dates if possible (because weather conditions at silking are key to Diplodia infection, this can help spread risk by spreading silk dates)
- Rotate crops (at least one year out of corn)
- Partially or completely burying corn residue can provide substantial disease control
- Level of Diplodia ear rot is proportional to the amount of infected corn residue on soil surface

Harvest and Storage

- Harvest seriously infected fields early and dry grain to below 15% moisture (below 13% for storage through the following summer)
- Cool infected grain below 50° F as quickly after harvest as possible and store at 30° F
- Clean grain after drying and before storing to remove lighter, damaged kernels, cobs and fines
- Diplodia development on ears in field can worsen in the bin if grain is not dried properly



- Screen grain and store the most infected grain separately to help avoid putting the whole bin at risk



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