

### Disease Facts

- Caused by *Fusarium verticillioides* fungus (formerly called *Fusarium moniliforme*), found everywhere corn is grown
- Also infects sorghum, sugarcane, wheat, cotton, banana, pineapple and tomato
- Overwinters as mycelia in infected crop debris, spread by wind and rain splash
- Can infect the plant directly through the roots, causing root and lower stalk rot
- Can also infect at the nodes when dispersed to leaves and washed down into the sheath
- Favored by warm, relatively dry weather; plant stress following pollination; and other diseases
- Disease generally progresses during reproductive stages of corn development
- Typically occurs in a complex with other root/stalk rots including Gibberella, Diplodia and anthracnose
- European corn borer adults have been shown to vector the disease from plant to plant. Corn borer larvae create wounds that allow the fungus to enter the plant.

### Impact on Crop

- Interference with translocation of water and nutrients during grain fill
  - Affected plants have poorly filled kernels (low test weight), resulting in yield reduction
  - May lead to premature death in some cases, magnifying test weight and yield reductions
  - Broken and lodged stalks
- Slows harvest
  - May result in ears not harvested
  - May reduce grain quality if ears contact ground
- Fungus may also infect corn ears

### Symptoms

- Rotting at roots, crown and lower internodes
- Plants wilt, take on a grayish-green hue, then turn tan



### Symptoms (continued)

- When split, inner stalk shows a light pink to tan discoloration, but no black specks (fungal fruiting bodies) in or on the stalk
- Pith disintegrates, vascular bundles remain intact
- Stalks feel spongy when squeezed and may be easily crushed or crimped at lower internodes
- Plants may lodge when pushed sideways or impacted by wind



### Fusarium vs. Gibberella

- Fusarium may look similar to Gibberella stalk rot
- Closely related fungi cause these diseases
- Distinguish by inner stalk color
  - Fusarium – white/pink/salmon
  - Gibberella – red/pink



## Fusarium vs. Gibberella (continued)



Fusarium stalk rot

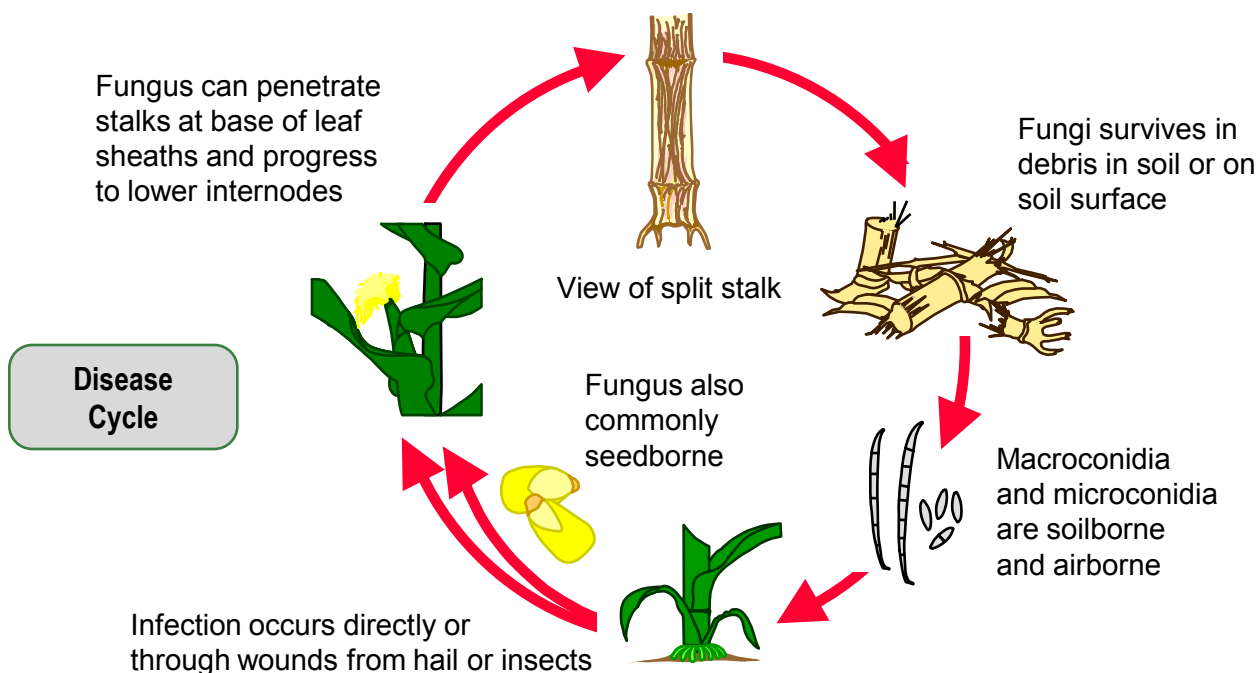


Gibberella stalk rot

## Management

- Select hybrids with good stalk strength and resistance to leaf diseases
- Rotate crops. Do not plant corn after wheat infected with head scab, which is caused by same fungus
- Use a tillage system that chops and incorporates residue to break it down
- Do not use plant populations higher than recommended for the hybrid
- Soil test and follow fertilizer recommendations; maintain proper nitrogen to potassium balance
- Reduce stresses when possible -- stalk rots are favored by plant stress following pollination
- Control leaf diseases with fungicides if necessary
- Control corn rootworm and corn borer. Pioneer brand hybrids with Herculex® *Insect Protection* traits are available to help manage these pests
- Scout pre-harvest to determine stalk condition. Schedule harvest based on stalk quality as well as grain moisture

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