**Disease Facts**

- Fungal disease caused by *Puccinia sorghi* pathogen
- Favored by moist, cool conditions (temps in the 60s and 70s)
  - Hot, dry conditions typically slow or stop development
- Spreads by windblown spores from southern corn growing areas
- Typically progresses as corn matures in late summer if conditions are persistently wet and cool
- More often a problem in seed production and sweet corn fields than in hybrid fields
- Less likely than southern rust to cause significant yield loss to hybrid corn, so important to distinguish common and southern rust
- Hybrids differ in resistance

**Impact on Crop**

- Disease lesions reduce functional leaf area and photosynthesis
- Less sugars are produced, so plant uses stalk carbohydrates to help fill kernels
- Stalks are weakened and stalk rot potential increases
- Yield losses may result from poorly filled kernels and lodging-induced harvest losses
  - Significant damage to upper leaves early in the life of the hybrid results in higher yield losses
  - If damage is confined to lower leaves or occurs after corn is well-dented, yield losses are lower
- Latest-planted corn in an area is at higher risk for yield loss

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**Common Rust Disease Cycle**

*(Puccinia Sorghi)*

- **Secondary spread by wind and rain**
- **Fungus overwinters as teliospores, which germinate in the spring.**
- **Infected plant**
- **Urediospores (repeating stage)**
- **Spores are blown in from the southern U.S. Wind and rain move spores to plant.**
Symptoms

- Lesions begin as flecks on leaves that develop into small tan spots
- Spots turn into elongated brick-red to cinnamon brown pustules with jagged appearance
- Found on both upper AND lower leaf surfaces (unlike southern rust)
- Pustules turn dark brown to black late in the season
- Occurs on leaf only, NOT on sheaths, stalks, ear shanks and husk leaves

Common vs. Southern Rust

- **Ideal Environment**
  - Common: Cool to warm and moist (60-77 °F)
  - Southern: Warm to hot and moist (77+ °F)

- **Appearance of Pustules**
  - Common: Large, circular to elongated
  - Southern: Small circular, pinhead appearance

- **Pustule (spore) Color**
  - Common: Brown to cinnamon-brown
  - Southern: Reddish orange

- **Location of Pustules**
  - Common: Upper and lower leaf surfaces; Infects leaves only
  - Southern: Upper leaf surface; May also infect husks

Management

- **Genetic Resistance**
  - Pioneer researchers screen hybrids and parent lines for resistance and provide ratings for customers
  - Most hybrids are rated from “3” to “6” on a scale of 1 to 9 (9=resistant), indicating there are clear differences between hybrids, but complete resistance is not available
  - Growers should choose hybrids with a “5” or “6” rating in areas that frequently experience common rust

- **Scout corn to detect common rust early**
- **Monitor disease development, crop growth stage, and weather forecast**

- **Apply a foliar fungicide if:**
  - Rust is spreading rapidly or likely to spread and yield may be affected
  - Disease exceeds threshold established by your state extension plant pathologist
  - Commonly used fungicides include Aproach®, Headline®, Headline SC, Headline AMP®, PropiMax® EC, Quadris®, Quilt®, Quilt Xcel®, Stratego®, Stratego® YLD and Tilt®

- **Disease is wind-borne and does not overwinter in US; therefore, rotation and tillage are not effective.**

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