

Mark Jeschke, Ph.D., Agronomy Manager

## KEY POINTS:

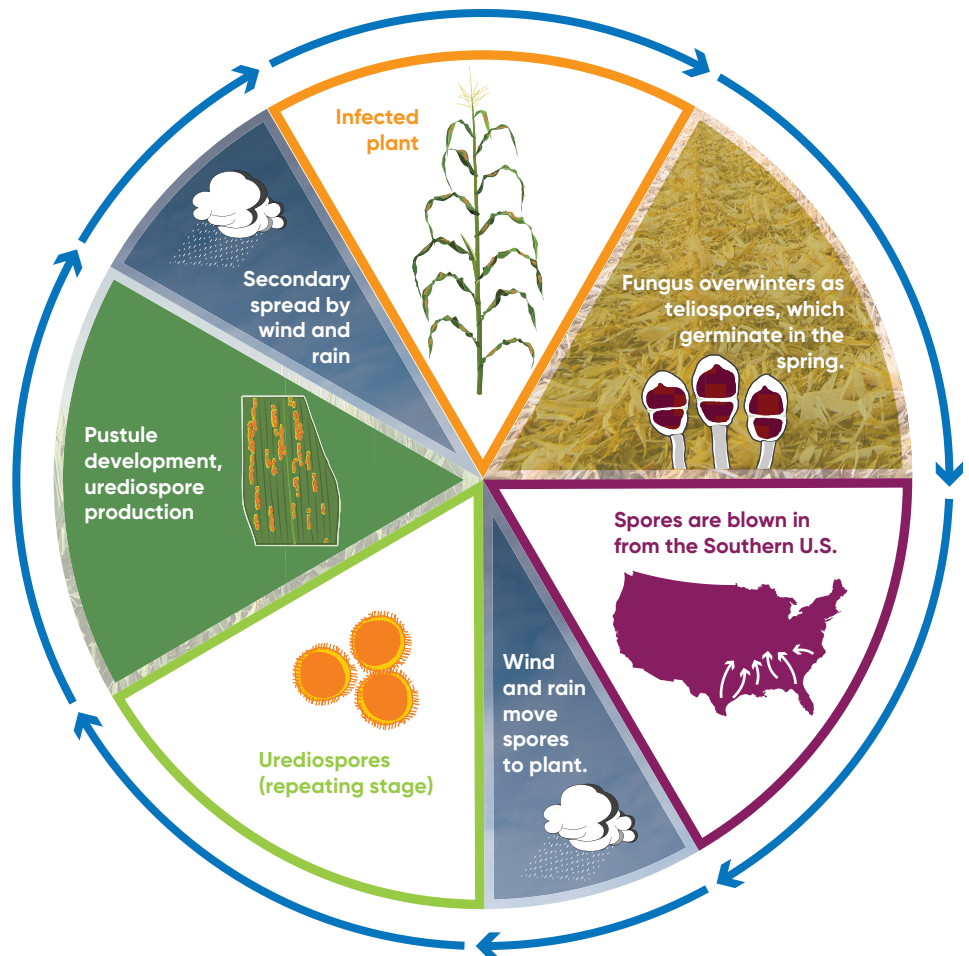
- Common rust is a foliar disease of corn favored by moist and cool conditions.
- The fungal pathogen does not overwinter in the Corn Belt; windblown spores bring it north from the Southern U.S.
- Common rust is less likely to cause significant yield loss than southern rust.

## IMPACT ON CROP

- Disease lesions reduce functional leaf area and photosynthesis.
- Less sugar is 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.

## DISEASE FACTS

- Fungal disease caused by *Puccinia sorghi* pathogen.
- Favored by moist, cool conditions (60-77 °F, 16-25 °C).
  - 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 proper identification is important.
- Hybrids differ in genetic resistance.



Common Rust Disease Cycle  
(*Puccinia Sorghi*)

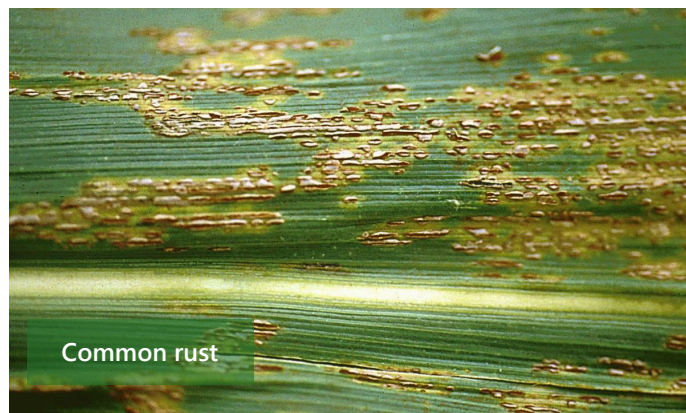
## SYMPTOMS

- 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:	Common Rust	Southern Rust
Ideal Environment	Cool to warm and moist 60-77 °F	Warm to hot and moist 77+ °F
Appearance of Pustules	Large, circular to elongated	Small circular, pinhead appearance
Pustule (spore) Color	Brown to cinnamon-brown	Reddish orange
Location of Pustules	Upper and lower leaf surfaces Infects leaves only	Upper leaf surface May also infect husks

## COMMON VS. SOUTHERN RUST



## MANAGEMENT

- Genetic Resistance
  - Corteva Agriscience 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.
- Disease is wind-borne and does not overwinter in crop residue; therefore, rotation and tillage are not effective for reducing disease severity.

*The foregoing is provided for informational use only. Please contact your sales professional for information and suggestions specific to your operation. Product performance is variable and depends on many factors such as moisture and heat stress, soil type, management practices and environmental stress as well as disease and pest pressures. Individual results may vary. Vol. 13 No. 28 September 2021*