

Wheat — Stripe Rust (Yellow Rust)

Cause A fungus, *Puccinia striiformis*, which may overwinter on volunteer or early fall-seeded wheat and certain wild grasses.

Cool summers, mild winters, and long, cool, wet springs favor the fungus. New races of stripe rust, which may be more adapted to warmer temperatures, are aggressively attacking hard red wheats in the Midwestern U.S.

Symptoms Citron-yellow uredia (spore masses) appear in long stripes on leaves and, rarely, on stems and heads. As the crop matures, black spores (telia) are produced in stripes, which are covered by the leaf epidermis.

Cultural control

1. Most commercial winter wheat cultivars had good to excellent resistance, until 2004 when a new race appeared. Current ratings are available in extension and crop improvement association variety selection literature.

Chemical control

1. Seed treatments reduce seedling infections.
 - a. Baytan 30 at 1.25 fl oz/100 lb seed plus a dye. See label for reentry restrictions.
 - b. Dividend XL RTA at 10 fl oz/100 lb of winter wheat seed. Do not graze green forage until 55 days after planting. See label for reentry restrictions.
2. Foliar applications if disease is present and conditions are expected to remain favorable. Field scouting aids in detecting stripe rust early in the epidemic, while the disease still can be managed through fungicide applications. Once the crop is in the grain-filling stage, fungicide benefits are unlikely.
 - a. Bumper 41.8 EC at 4 fl oz/A. May be applied until Feekes growth stage 10.5. Do not feed treated forage or cut green crop for hay or silage. 24-hr reentry.
 - b. Headline at 6 to 9 fl oz/A no later than the end of flowering (Feekes 10.5). Do not harvest wheat hay within 14 days of last application. 12-hr reentry.
 - c. Quadris Flowable at 4 to 12 fl oz/A up to late head emergence (Feekes 10.5). Do not apply more than two (2) foliar applications of Quadris or other Group 11 fungicide before alternating to a labeled fungicide with a different mode of action. Do not apply within 14 days of harvest for forage and hay; 45 days of harvest for grain and straw. 4-hr reentry.
 - d. Quilt or Quilt Xcel at 10.5 to 14 fl oz/A when the flag leaf is 50 to 70% emerged. Applications may be made no closer than a 14-day interval and may be applied up to Feekes growth stage 10.5. Preharvest interval is 30 days for forage and hay. 12-hr reentry.
 - e. Stratego at 10 fl oz/A on 7- to 10-day intervals if favorable conditions for disease persist. Do not apply within 35 days of harvest. 12-hr reentry.
 - f. Tilt at 4 oz/A at flag-leaf emergence (Feekes stage 8) but no later than Feekes 10.5. Do not apply within 30 days of harvest for forage or hay. 12-hr reentry.

Biological control

1. Ballad Plus at 1 to 4 quarts/A on 7- to 14-day intervals. Efficacy unknown in the Pacific Northwest. Can be applied up to and on the day of harvest. 4-hr reentry. ☐