

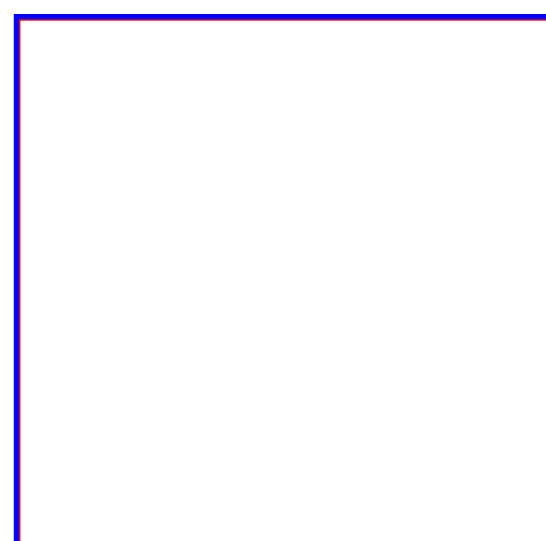


Small Grains XII

Stem Rust (wheat)

John E. Watkins

Cause: (*Puccinia graminis tritici*) Reddish-brown oblong pustules with frayed margins on leaves and stems.



Management Approaches

Cultural

Plant varieties with at least a moderate level of resistance. Use variety complementation by selecting varieties that differ in parentage, maturity and disease reaction. Consult the Nebraska Seed Book, Fall Planted Crops published by the Nebraska Crop Improvement Association for current information on wheat varieties recommended for Nebraska.

Fungicide Program

Apply a fungicide based on the following criteria:

- Severity of rust in Oklahoma and Kansas in May (source of rust inoculum for Nebraska).
- Earliness or lateness of the winter wheat crop (late crops more at risk).
- Susceptibility of varieties grown.
- Current and 30-day weather forecasts for mid-May to mid-June (wet weather favors rust).
- Irrigated or dryland wheat (irrigated more at risk).
- Note when rust is first detected on lower leaves (early rust increases risk).
- Potential yield of crop should be at least 45 bu/a dryland and 75 bu/a irrigated.

Goal of a spray program is to keep the flag and flag-1 leaves free of infection since they contribute significantly to yield.

Product list for Stem Rust:

Product ²	Target diseases	Product rate/acre	Application timing
Headline (BASF)	Leaf rust Stem rust Stripe rust Tan spot Septoria leaf spot Septoria glume blotch Powdery mildew Spot blotch	6-9 fl oz	Up to Feekes 10.5 (late heading emergence) plant stage
Quadris (Syngenta)	Leaf rust Stripe rust Stem rust Septoria leaf blotch Septoria glume blotch Tan spot Powdery mildew	6.2-10.8 fl oz	Feekes 6 (immediately after jointing) to 10.5 (late head emergence)
Quilt (Syngenta)	Leaf rust Stem rust Stripe rust Tan spot Septoria glume blotch Septoria leaf blotch Powdery mildew Spot blotch Helminthosporium leaf blight	7-14 fl oz	Up to Feekes 9 (ligule of flag leaf just visible) plant stage
Stratego (Bayer)	Leaf rust Stripe rust Stem rust Septoria leaf blotch Tan spot Powdery mildew	10 oz	Feekes 8 (emerging flag leaf)
Tilt (Syngenta)	Leaf rust Stripe rust Stem rust Septoria leaf spot Septoria glume blotch Tan spot Powdery mildew	4.0 fl oz	Feekes 8 (emerging flag leaf)
PropiMax EC (Dow AgroSciences)	Leaf rust Stripe rust Stem rust Septoria leaf spot Septoria glume blotch Tan spot Powdery mildew	4.0 fl oz	Feekes 8 (emerging flag leaf)
Manzate 75DF (Griffin L.L.C.)	Leaf rust Septoria glume blotch Septoria leaf spot Tan spot	2.0 lb	Feekes 10 (boot) and again at 10.5 (late head emergence)
Dithane DF F-45 M-45 (Dow AgroSciences)	Leaf rust Septoria glume blotch Septoria leaf spot Tan spot	2.1 lb 1.6 qts 2.0 lb	Feekes 10 (boot) and again at 10.5 (late head emergence)
Penncozeb 80WP 75DF (Elf Atochem)	Leaf rust Septoria glume blotch Septoria leaf spot Tan spot	1.0-2.0 lb	Feekes 10 (boot) and again at 10.5 (late head emergence)

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