



Small Grains XII

Septoria Leaf Blotch

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Identification and Life Cycle

Septoria leaf and glume blotch is caused by several species of the fungus *Septoria*, including *S. tritici*, *S. nodorum*, and *S. avenae* f. sp. *tricicea*. Septoria leaf blotch is economically important in most wheat-growing regions; *S. tritici* appears to be the most important in the High Plains. Wheat strains of *Septoria* spp. are also weakly virulent on barley, rye, and other grasses, especially bluegrass. The pathogen survives on crop debris, seed, and volunteer wheat, but airborne ascospores can also serve as primary inoculum.

Plant Response and Damage

Septoria leaf blotch symptoms can develop throughout the growing season on all above ground plant parts. Initial symptoms include chlorotic specks, usually on leaves in contact with the soil; later they expand into irregularly shaped necrotic lesions approximately 0.04 to 0.2 inches by 0.16 to 0.6 inches. Lesions tend to be restricted laterally and form parallel to each other. Lesions can also be water-soaked and later turn dry, yellow, and then red-brown. Glumes and awns can sometimes be infected. Yield losses of 10 to 20% are more common under disease favorable conditions, but yield losses in the High Plains average 2 to 6% annually.

Management Approaches

Biological Control

No biological control strategies have been developed for Septoria leaf blotch.

Cultural Control

No resistant varieties are available, but some varieties possess some level of resistance and should be planted if available. Early maturing varieties tend to be most susceptible. Plant only high-quality pathogen free seed. Bury or otherwise destroy wheat stubble and volunteers. Reduced or no-till wheat production increases Septoria leaf blotch, but longer rotations (at least two years) reduce pathogen carry-over. Discourage thick, lush canopies favorable to the disease by increasing row spacing and avoiding excess fertilization and irrigation.

Chemical Control

Seed treatment reduces seedborne inoculum and seedling blight. Foliar fungicides provide effective disease control, but generally are not economical for dryland wheat in most years.

Product List for Septoria Leaf Blotch:

Pesticide	Rate per Acre	Application Frequency	Remarks
Carboxin: various formulations and mixtures available			
Vitavax 200 Flowable	3-4 fl oz	--	Seed treatment
RTU-Vitavax-Extra	5 fl oz	--	Seed treatment
RTU-Vitavax-Thiram	5-6.8 fl oz	--	Seed treatment
Vitavax-PCNB flowable	5-7 fl oz	--	Seed treatment
Vitavax-Thiram-Lindane	5 fl oz	--	Seed treatment
Copper fungicides: not all formulations listed			
Champ DP	1.0-1.33 lb	10 days, beginning early heading	Seed treatment
Cuprofix Disperss	2.0-2.5 lb	10 days, beginning early heading	Seed treatment
Kocide 101	1.5-2.0 lb	10 days, beginning early heading	Seed treatment
Nordox	1.5-2.0 lb	10 days, beginning early heading	Seed treatment
Nu Cop 50 WP	1.5-2.0 lb	10 days, beginning early heading	Seed treatment
Copper/EBDC			
Cuprofix MZ Disperss	2.5-4.75 lb	10 days, beginning early heading	Maximum of 15.7 pounds per season; 26 day PHI; grazing restrictions
ManKocide	2.0-2.5 lb	10 days, beginning early heading	Maximum of 32 pounds per season; 26 day PHI; grazing restrictions
Difenoconazole			
Dividend Extreme	1-4 fl oz	--	Seed treatment; 55 day PHI
Dividend	0.5-1 fl oz	--	Seed treatment; 55 day PHI
EBDC: not all formulations listed			
Dithane DF	2.1 lb	7-10 days; beginning early heading	Maximum of 3 applications; Performance improved by addition of non-ionic surfactant; 26 day PHI; grazing restrictions
Manzate 75DF	2 lb	7-10 days; beginning early heading	Maximum of 3 applications; 26 day PHI; grazing restrictions
Penncozeb 75DF	1.0-2.0 lb	7-10 days; beginning early heading	Maximum of 3 applications; 26 day PHI; grazing restrictions
Propiconazole			
PropiMax EC	4 fl oz	1 spray at Feeks 8	40 day PHI
Tilt 3.6E	2-4 fl oz	1 spray at Feeks 8	40 day PHI
Strobilurin and Strobilurin/Propiconazole			
Headline	6-9 fl oz	10-14 days, begin at Feeks 10.3-10.5	Maximum of 2 applications; 14 day PHI
Quadris	6.2-15.3 fl oz	10-14 days, begin at Feeks 10.3-10.5	Maximum of 2 applications; 45 day PHI
Stratego	10 fl oz	10-14 days, begin at Feeks 8	Maximum of 2 applications; 35 day PHI

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