



Small Grains XII

Spot Blotch

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Identification and Life Cycle

Spot blotch is a foliar disease of wheat caused by the fungus *Bipolaris sorokiniana* (syn. *Helminthosporium sativum*). The pathogen is a common soil organism found in soils worldwide. The fungus also can cause root and foot rots, seedling blight, and infect seeds. Foliar symptoms generally appear in wet weather as plants near maturity. Temperatures of 68 to 77°F and 100% relative humidity favor spot blotch. Spot blotch is generally most severe when plant roots are also infected by *B. sorokiniana*. The pathogen can survive on other grass hosts and weeds, in soil as conidia, in crop debris, and in seed.

Plant Response and Damage

Disease symptoms appears as distinct, elongate, brown to black lesions that rarely exceed 0.5 inches in diameter. Symptoms are most obvious after heading and are most frequent on older leaves. The dark lesions contrast sharply with green or straw-colored leaf tissues.

Management Approaches

Biological Control

No biological control strategies have been developed for spot blotch.

Cultural Control

Reducing root and foot infections by the spot blotch pathogen can reduce foliar spot blotch. Shallow seeding reduces seedling infection, but may not be practical for dryland production. Delay planting until soil temperatures are cool in mid- to late- autumn to reduce seedling exposure to warm soil temperatures that favor the pathogen. Provide adequate but not excessive nitrogen fertility. Rotate to non-hosts for at least two years to reduce inoculum. Wheat varieties vary widely in their resistance or tolerance to spot blotch and host resistance can provide a practical disease control strategy.

Chemical Control

Product List for Spot Blotch:

<i>Pesticide</i>	<i>Rate per Acre</i>	<i>Application Frequency</i>	<i>Remarks</i>
Copper fungicides: not all formulations listed			
Champ DP	1.0-1.33 lb	10 days, beginning early heading	
Cuprofix Disperss	2.0-2.5 lb	10 days, beginning early heading	
Kocide 101	1.5-2.0 lb	10 days, beginning early heading	
Nordox	1.5-2.0 lb	10 days, beginning early heading	
Nu Cop 50 WP	1.5-2.0 lb	10 days, beginning early heading	
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
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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