

## Sugarbeet XX

# Cercospora Leaf Spot

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### Identification and Life Cycle

Cercospora leaf spot is caused by the fungus *Cercospora beticola*, and attacks sugarbeets throughout the High Plains region. Infection occurs when conidia land on leaves when high temperatures (77 to 95°C) coincide with high humidity (90-95% relative humidity) or free moisture on leaves. Little or no infection occurs when temperatures are below 60°C. The pathogen is spread by splashing rain and irrigation water and to a lesser degree by wind. The fungus survives between sugarbeet crops in and on infected crop residue as spores (conidia) and fungal mycelial masses (stromata), seed, weeds, and alternate hosts (table beet, sugarbeet, Swiss chard, spinach, and wild *Beta* spp.).

### Plant Response and Damage

Disease symptoms appear as nearly circular tan to light leaf spots (0.1 to 0.2 inches in diameter) with dark brown to reddish purple borders. Individual spots can coalesce and cause large areas to become brown and necrotic. Fungal mycelial masses called stromata are often visible as minute black dots in necrotic centers of leaf spots. Necrotic spots become gray and velvety during high humidity or heavy dews because of sporulation from the stromata. Blighted leaves collapse and fall to the ground, but remain attached to the crown. Long, elliptical lesions also may form on petioles. Sunken, circular lesions can also occur on sugarbeet crowns.

### Management Approaches

#### Biological Control

No biological control strategies have been developed for *Cercospora* leaf spot.

#### Cultural Control

Plant varieties less susceptible or resistant to *Cercospora* leaf spot. Rotate to non-hosts for at least 2 to 3 years. Deeply bury crop debris to hasten break down and reduce pathogen overwintering. Avoid overhead irrigation. Avoid planting new crops within 100 yards of previous season's sugarbeet crop.

#### Chemical Control

Fungicides are often necessary to effectively manage *Cercospora* leaf spot. Benzimidazole fungicides should be rotated and/or tank-mixed with other chemistries to delay resistance development. Where benzimidazole resistant strains are present, use fungicides with a different mode of action.

*Product List for Cercospora Leaf Spot:*

<b>Pesticide</b>	<b>Product per Acre</b>	<b>Application Frequency (days)</b>	<b>Remarks</b>
<b>Copper Fungicides—not all formulations listed</b>			
Champ Formula2	1.33-3.3 pt	<b>3-7 days</b>	
C-O-C-S WDG	3-4 lb	<b>3-7 days</b>	
Copper-Count-N	0.33-0.75 gal	<b>3-7 days</b>	
Kocide DF	2-5 lb	<b>3-7 days</b>	
<b>EBDC—not all formulations listed</b>			
Dithane DF	1.5-2 lb	<b>7-10 days</b>	Maximum of 15 pounds per season; include non-ionic surfactant to improve performance; 14 day PHI
Maneb 75DF	1.5-2 lb	<b>7-10 days</b>	Maximum of 11.2 pounds per season; 14 day PHI
Manzate 75DF	1.5-2 lb	<b>7-10 days</b>	Maximum of 24 pounds per season; 5 day PHI
ManKocide	2.5-6.5 lb	<b>3-10 days</b>	Maximum of 15 pounds per season; 14 day PHI
<b>Strobilurin</b>			
Amistar	3-5 oz	<b>5-14 days</b>	Maximum of four applications per season; rotate with a fungicide with a different mode of action; 0 day PHI
Gem	6-7 fl oz	<b>10-14 days</b>	Maximum of three applications per season; rotate with a fungicide with a different mode of action; 21 day PHI
Headline	9-12 fl oz	<b>5-14 days</b>	Maximum of four applications per season; no more than two sequential applications before rotating to a fungicide with a different mode of action; 7 day PHI
Quadris	9.2-15.4 fl oz	<b>5-14 days</b>	Maximum of four applications per season; rotate with a fungicide with a different mode of action; 0 day PHI

### **Thiophanate Methyl**

Topsin M WSR	6-8 oz	<b>14 days</b>	Must be tank-mixed with another fungicide; 21 day PHI
Topsin M 70W	6-8 oz	<b>14 days</b>	Must be tank-mixed with another fungicide; 21 day PHI

### **Triphenyltin Hydroxide**

AgriTin	2.5-5.0 oz	<b>10-14 days</b>	Restricted use; Maximum of 10 ounces per season; 21 day PHI
SuperTin 80WP	2.5-5.0 oz	<b>10-14 days</b>	Restricted use; Maximum of 15 ounces per season; 21 day PHI

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Categories: Sugarbeet, Diseases, Cercospora Leaf Spot

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