

Sugarbeet XX

Powdery Mildew

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Identification and Life Cycle

Powdery mildew is caused by the fungus *Erysiphe polygoni*, and can only infect sugarbeet. The disease occurs in most areas of the world where sugarbeets are grown. Conidia of the fungus, carried by wind, land on sugarbeet leaves and directly penetrate and infect the plant. Spore germination occurs optimally at 60°C and high relative humidity, but can occur over a wide range of temperatures (60-86°C) and relative humidity of 1 to 100%. A whitish mat of fungal hyphae forms and produces conidia that serve as a secondary inoculum source. The pathogen survives between sugarbeet crops on escaped, wild, and volunteer *Beta* spp. and perhaps as fungal overwintering structures (cleistothecia) in and on infected leaves. Sugarbeets produced in the southwest U.S. also may serve as an overwintering source of the pathogen.

Plant Response and Damage

Mildew symptoms first appear as small, dispersed, whitish mats of fungal hyphae and conidia on older, lower leaves.

Management Approaches

Biological Control

AQ10 biofungicide is registered for suppression of powdery mildew, but is not compatible with conventional fungicides.

Cultural Control

Plant sugarbeet varieties less susceptible to powdery mildew.

Chemical Control

Fungicides are often the only control strategy available for sugarbeet powdery mildew and should be applied at the first sign of disease and continued until the pre-harvest interval specified on the label. Fungicides applied for *Cercospora* leaf spot control may provide some control of powdery mildew.

Product List for Powdery Mildew:

Pesticide	Product per Acre	Application Frequency (days)	Remarks
Sulfur			
Microthiol Special	5-10 lb	7-10 days	0 day PHI
Thiolux 80	10-20 lb	7-10 days	0 day PHI
Strobilurin			
Amistar	3-5 oz	5-14 days	Maximum of four applications per season; rotate with a fungicide with a different mode of action; 0 day PHI
Gem	6-7 fl oz	10-14 days	Maximum of three applications per season; rotate with a fungicide with a different mode of action; 21 day PHI
Headline	9-12 fl oz	5-14 days	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	5-14 days	Maximum of four applications per season; rotate with a fungicide with a different mode of action; 0 day PHI

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Categories: Sugarbeet, Diseases, Powdery Mildew

Date: 03/27/05