

Sugarbeet XX

Aphanomyces Root Rot

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Identification and Life Cycle

Aphanomyces root rot is caused by the fungus-like pathogen *Aphanomyces cochlioides*. Seedling infection occurs optimally when soil temperatures are less than 60°C. The pathogen survives between sugarbeet crops as dormant resting structures (oospores) in soil and pathogenically on weeds.

Plant Response and Damage

Aphanomyces root rot rarely causes pre-emergence damping off, but soon after emergence the pathogen invades the cortex of the hypocotyl, causing a brown discoloration, which can advance up to the base of the cotyledon. Seedlings may become flaccid, fall over, and die, but often recover. Plants are dwarfed and seldom produce normal mature plants. Yield losses can be significant.

Management Approaches

Biological Control

No biological control strategies have been developed for Aphanomyces root rot.

Cultural Control

Plant high quality seed into warm, well prepared seedbeds that encourage rapid germination. Avoid excess irrigation and poor drainage. Rotation with dryland crops before sugarbeets may reduce damage. Some varieties are less susceptible or resistant to Aphanomyces root rot, but most are susceptible to the disease.

Chemical Control

Treat seed with a broad-spectrum fungicide such as hymexazol (tachigaren). In furrow phosphorous fertilization combined with seed treatment may improve disease control.

Categories: Sugarbeet, Diseases, Aphanomyces Root Rot

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