

Sugarbeet XX

Rhizoctonia Root and Crown Rot

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Identification and Life Cycle

Rhizoctonia root and crown rot is caused by the soilborne fungal pathogen *Rhizoctonia solani* AG2-2. This organism is widely distributed in soils worldwide, and caused disease of many different crops. The fungus overwinters in soil and plant debris as hyphal fragments or sclerotia. The pathogen becomes active when soil temperatures approach 75-80F. Disease can be induced on both seedlings early in the season or any other time during the season on older plants whenever conditions are conducive.

Plant Response and Damage

The first symptoms observed are a sudden and permanent wilting of leaves. Wilted leaves seldom recover and form a dry dark rosette after dying. Infections on roots begin as discrete, dark lesions that may coalesce to rot larger areas of taproot. Rot advances across the root surface and seldom penetrated deep into the interior of the taproot until very advanced stages.

Management Approaches

Biological Control

Several experimental organisms have been and continue to be tested, but none have been labeled for commercial use as of yet.

Cultural Control

Planting resistant cultivars adapted for local areas is often effective. Minimizing cultural practices that tend to deposit soil in crowns also reduces chances of infection by *R. solani*. Crop rotation with small grains or corn will help reduce number of pathogen overwintering structures in soil. Weed control can also be important because several common weeds have also been shown to be susceptible to *R. solani*, including pigweed, lambsquarters, and *Kochia*.

Chemical control

Several fungicidal seed treatments are available that help to protect seedlings from both post- and pre-emergent damping-off (see damping-off and seedling blights). Several strobilurin fungicides are also

effective for protecting crowns from infection, including Quadris (2.08 lbs. a.i./gal, - use at 0.40-0.80 fl oz./1000ft row) and Amistar (0.80 lb. a.i./lb. - use at 0.125-0.25 oz./1000 ft row).

Categories: Sugarbeet, Diseases, Rhizoctonia Crown, Root Rot

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