

Phytophthora Root Rot

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What is *Phytophthora* root rot? *Phytophthora* root rot is the most serious root disease of American ginseng (*Panax quinquefolium*) in Wisconsin. Left untreated, this disease can totally destroy a ginseng crop during a typical 3-4 year production cycle.

What does *Phytophthora* root rot look like? Ginseng plants with *Phytophthora* root rot show signs of wilting, often combined with a reddish discoloration in their foliage. Roots of affected plants are tan and watery, and often disintegrate when handled. Infected roots often also have a pungent, bitter, earthy odor.



Healthy (left) and *Phytophthora cactorum*-infected (right) ginseng roots.

Where does *Phytophthora* root rot come from? *Phytophthora* root rot is caused by *Phytophthora cactorum*, a common soil fungus. This fungus is most active during wet periods, particularly during May and early June in Wisconsin. However *Phytophthora* root rot can occur anytime during the growing season.

How do I save ginseng with *Phytophthora* root rot? Once a ginseng plant has been infected by *Phytophthora cactorum*, little can be done to save the plant. If infected plants occur in patches, attempt to localize the area by carefully removing a 1-2 ft wide swath of healthy plants, about 5 ft from the edges of the affected area.

How do I avoid problems with *Phytophthora* root rot? Site selection

and maintenance are critical for control of this disease. Select a site with topography and a soil type that ensures good drainage, and plan gardens so that older gardens DO NOT drain into younger gardens. In wetter sites, dig trenches to drain standing water. Also, DO NOT move soil or plant material from an infested garden into a non-infested garden. Disinfect tools, boots and spray equipment with a 10% bleach or detergent solution when moving from garden to garden. Fungicide treatments are also important for management of *Phytophthora* root rot. A combination of Ridomil Gold GR and Aliette WDG provides the best control and should help prevent the development of fungicide-insensitive strains of *Phytophthora cactorum*.

For more information on *Phytophthora* root rot: See the UW-Madison Ginseng Home Page (www.plantpath.wisc.edu/ginseng), contact the Ginseng Research Program, Department of Horticulture, University of Wisconsin-Madison, 1575 Linden Drive, Madison, WI 53706, or contact your County Extension Agent: