Potato XXII

Pink Rot

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Identification and Life Cycle

Pink rot is caused by the fungus-like pathogen Phytophthora erythroseptica, but other Phytophthora spp. can infect tubers and cause symptoms similar to those caused by P. erythroseptica. The pink rot pathogen is endemic to many soils around the world, but is most damaging to potato tubers when soils are water saturated and warm (near 77ºF). All underground plant parts can be attacked by P. erythroseptica. Tubers are generally invaded by P. erythroseptica through infected stolons, but the pathogen can also invade through wounds and eyes. Disease symptoms are most apparent near maturity, but asymptomatic infections may also occur during harvest. The disease can spread from infected to healthy tubers in storage. The pathogen survives between potato crops in soil and crop debris as dormant spores (oospores), and may infect other hosts such as tomato or spinach.

Plant Response and Damage

Pink rot symptoms often begin at stolons. A distinct dark brown to black line on the tuber periderm often is observed at the boundary of healthy and infected tissue. Tissues beneath this dark decay are black and exude a clear liquid. Infected skin is easily rubbed off. When infected tubers are cut and exposed to air, newly infected tissues turn a salmon pink color within 20 to 30 minutes, but within an hour turn black. A strong vinegary or ammonia odor is often apparent in storage sheds with infected tubers.

Management Approaches

Biological Control

No biological control practices have been developed for pink rot.

Cultural Control

Plant in well-drained fields without a history of pink rot. Avoid excess irrigation, especially late in the season. Avoid wounding tubers during harvest and storage operations. Harvest when pulp temperatures are between 45 to 50ºF. Remove infected tubers before storage to prevent spread to healthy tubers. Quickly lower shed temperature and humidity if pink rot develops in storage. If severe pink rot is noticed in the field, tubers should be stored separately and immediately graded and marketed.

Chemical Control

Fungicides applied in-furrow at planting or to foliage at tuberization can reduce pink rot losses. Fungicide resistant strains of P. erythroseptic are found in some areas of the High Plains.

Common/Trade Name	Product per Acre	Application Frequency (days)	Remarks
Mefenoxam Mixtures			
Ridomil Gold Bravo	2 lb	14 days	Maximum of 3 applications, alternating with a full rate of a protectant fungicide; 14 day PHI
Ridomil Gold MZ	2.5 lb	14 days	Maximum of 3 applications, alternating with a full rate of a protectant fungicide; 14 day PHI
Ridomil Gold Bravo Liquid	1 pack per 10 acres	14 days	Maximum of 3 applications, alternating with a full rate of a protectant fungicide; 14 day PHI

Categories: Potato, Disease, Pink Rot

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