

Bacterial Ring Rot of Potato

March, 2018

Bacterial ring rot is caused by a bacterium, *Clavibacter michiganensis* subsp. *sepedonicus*. It causes disease only on potato. Bacterial ring rot is not known to occur in British Columbia. Occasional outbreaks in home gardens and table stock fields over the years have been detected and eradicated. It is a regulated disease under the provincial *Plant Protection Act* (see below). The disease can be prevented by planting only "B.C. Certified" seed potatoes and not using table potatoes for seed or bringing in seed potatoes from outside the province. All potato growers in B.C. are asked to be aware of the symptoms of the disease and report any suspicious tubers to the Ministry of Agriculture.

Symptoms

The disease is called "bacterial ring rot" because the rot appears in the vascular ring of the potato tuber. In severely affected tubers, the vascular ring is brown to black in colour, often with a cheesy or creamy ooze and many hollow spaces where the flesh has disintegrated. Dry cracks can usually be found on the surface of the tubers. In milder cases, the vascular ring may show only broken, black lines or a yellowish discolouration. Leaves of infected plants may show interveinal yellowing, wilting, or no symptoms.

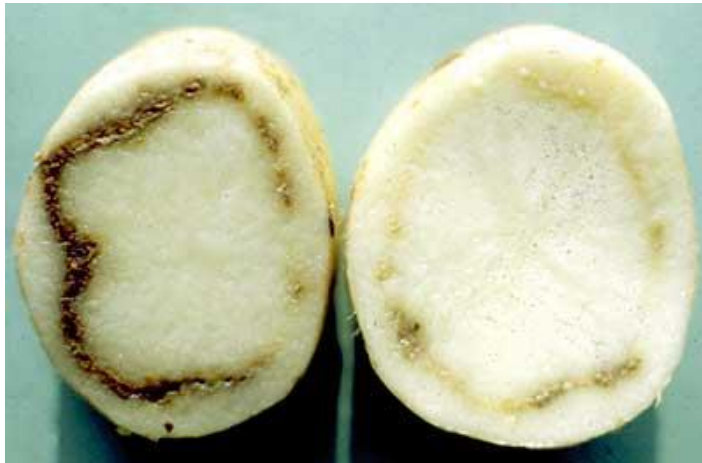


Figure 1. Cross section of bacterial ring rot infected tubers



Figure 2. External tuber symptoms of bacterial ring rot.
Photo credit: Dr. Solke De Boer, Canadian Food
Inspection Agency



Figure 3. Leaf symptoms of bacterial ring rot.
Photo credit: Dr. Solke De Boer, Canadian Food Inspection Agency

Survival and Spread

Once a crop or farm is infested with the bacterium, the disease will carry over from year to year and spread quickly. The bacterium can survive for 2 to 5 years in dried slime on the surface of machinery, crates, bins or burlap sacking, even if frozen. Volunteer potato plants and plant debris, including infected cull tubers will also carry the bacterium overwinter. The bacterium can be spread in rain and irrigation water and by insects, but wounds are needed for infection. The most common means of infection is cutting seed potatoes with contaminated knives.

Management

Prevention: Plant only B.C. Certified seed potatoes. Avoid using table stock for seed or importing seed from other areas for planting in B.C. Disinfect knives frequently while cutting seed pieces, to avoid spreading any disease that might be present but unnoticed. Bury cull piles and control volunteer potatoes. Clean and disinfect storage bins between crops and pressure-wash equipment to avoid spreading ring rot or other diseases.

Control: If symptoms are seen or the disease is suspected, please notify the B.C. Ministry of Agriculture as soon as possible. Samples will be tested in the laboratory to confirm the disease and trace the source of the outbreak to prevent further spread. Ministry staff will advise on clean-up and disposal and will do follow-up testing to ensure that the disease has been eradicated. Please help protect our B.C. potatoes.

Regulations: Bacterial ring rot is a regulated disease in B.C. All potatoes grown in B.C. are governed by Domestic Bacterial Ring Rot Regulation 93/59. Under this regulation, if symptoms of bacterial ring rot are found in any potato crop grown in B.C., the occurrence must be reported to the provincial Ministry of Agriculture, and the crop must be detained until inspected. Bacterial Ring Rot Regulation 92/59 provides for inspection of all potatoes imported into B.C.

For Further Information

- [B.C. Plant Protection Act, Domestic Bacterial Ring Rot Regulation](#)
- [B.C. Plant Protection Act, Bacterial Ring-Rot Regulation](#)
- [Understanding Bacterial Ring Rot in Potatoes \(Alberta Agriculture and Forestry\)](#)