**Potato Brown rot - *Ralstonia solanacearum***

**What is it?**
Brown rot is a disease caused by the bacterium *Ralstonia solanacearum*. The disease has the potential to cause significant yield losses, through the rotting of tubers in affected host plants. This disease poses no risk to human or animal health.

**What are its hosts?**
Worldwide, *Ralstonia solanacearum* has an extremely wide host range. However, the bacterium which affects potatoes (*Solanum tuberosum*), has a limited host range, but also affects tomatoes (*Lycopersicon* spp.) and the weeds *Solanum dulcamara* (Bittersweet) and *Solanum nigrum* (Black nightshade).

**What are its symptoms?**
The first visible symptom of the disease in potato crops is wilting of the leaves at the ends of the branches during hot days with recovery at night. A streaky brown discolouration of the stem an inch or more above the soil line may be observed as the disease develops and the leaves have a bronze tint. Disease development occurs at different rates in different varieties, but is favoured by warm temperatures (above 15°C with optimum of 27°C) and high soil moisture levels. External symptoms may or may not be visible on tubers, depending on the state of development of the disease. Bacterial ooze often emerges from the eyes and stem end attachment of infected tubers. When the ooze dries, soil adheres to the tubers at the eyes.

**How does the disease spread?**
Brown rot is primarily spread by the planting of infected seed potatoes, but can also spread in soil and in irrigation water. *Solanum dulcamara* is an important alternate host because it can be found growing on river banks and the slow rate of development of the bacterium in the weed allows it to withstand infection and carry the disease over between crops.

**Action following discovery of Brown rot**
*Ralstonia solanacearum* is a quarantine disease, listed in the EC Plant Health Directive, and is notifiable in Ireland. All infected plants/tubers must be destroyed under the supervision of the Department of Agriculture, Fisheries and Food. The source of the infected material is then traced so that other infected plants/tubers may also be destroyed.

**What can you do?**
The following preventative measures should be implemented to prevent the introduction/spread of brown rot and other potato diseases:
- Only plant basic certified seed. All basic certified seed produced in the EU is derived from material that is tested for all quarantine diseases, including Brown rot.
- Groundkeepers are an important factor in the survival of various potato diseases. Their control eliminates a key source of disease inoculum.
- Implement good hygiene practices. Regular cleaning and disinfection of all machinery, equipment, containers and storage facilities is recommended.
- Don’t dump waste on agricultural land. Discarded potatoes and potato processing waste can harbour disease.
- Practice good crop rotation. A one in four (or more) rotation should be practiced.
Action in the event of suspect cases:
Seed and ware growers, potato merchants and importers are requested by the Department of Agriculture to examine potato tubers regularly for signs and symptoms of the disease. If it is suspected that plants/tubers are infected please contact your local plant health inspector or contact:

The Department of Agriculture, Fisheries and Food
Crop Production & Safety Division
Admin Building
Backweston Campus
Celbridge
Co. Kildare
Tel 01-5058885
Fax 01-6275994

Symptoms of Brown rot

Wilt symptoms on a potato plant

Transverse sections of potato tubers showing browning and necrosis of the vascular ring and immediately surrounding tissues

Further symptoms and information on the disease can be viewed on the website of the European and Mediterranean Plant Protection Organization (EPPO) by clicking on the following links:
Brown rot - data sheet
Brown rot - symptoms