

BIOSECURITY SA – Plant Health

Exotic Plant Pest Hotline: **1800 084 881** (available 24 hours)

Email: PIRSA.planthealth@sa.gov.au

July 2017

BIOSECURITY SA
PIRSA

Bacterial wilt of potato

Ralstonia solanacearum

BACTERIAL WILT

Also known as sore eye, jammy eye and brown rot is one of the most serious diseases of potatoes. Outbreaks can affect all sectors of the industry and can prevent the export of fresh potatoes, especially seed.

THE ORGANISM AND THE DISEASE

Bacterial wilt is caused by the bacterium *Ralstonia solanacearum* formerly called *Pseudomonas solanacearum*.

Bacterial wilt is a serious threat to Australia's potato industry.

Infection of plants and tubers can occur via

- Soil, where bacteria enter weak points in the root system such as root emergence sites or wound sites caused by soil abrasion or by nematodes.
- Infected mother tubers (seed tubers).

The bacterium spreads from infected roots or mother tubers via the vascular system to the rest of the plant.

Severely affected plants can **wilt** during hot weather. Diseased tubers have “**jammy eyes**” and a **brown rot** in the vascular ring which is seen when the tuber is sliced in half. At a later stage, thick creamy mucus fills the inside of these tubers.

Wilting may not occur during cool weather or in potato varieties that have some resistance to the disease.



Bacterial wilt symptoms in potato. (Photo courtesy of CIP)

Disease development is favoured by warm temperatures (25° – 30°C) and is limited by temperatures below 10°C. Soil moisture is important as the bacterium cannot tolerate dry soil conditions.

MANAGING BACTERIAL WILT

There are no effective chemical treatments for bacterial wilt. The disease must be controlled through the use of good crop rotation and hygiene practices.

It is important that all personnel involved in your farm operations are familiar with your farm hygiene procedures.



Brown discolouration of the vascular tissue of a cut tuber
(Photo by daff.qld.gov.au)

SPREAD AND SURVIVAL

Bacterial wilt can be spread by:

- Infected tubers (seed or commercial)
- Infested soil
- Contaminated water
- Plant debris
- Contaminated machinery
- Insect pests and nematodes
- Contact between roots
- Rain splash or in dust particles carried by wind

The bacterium can survive on:

- Volunteer potatoes and on
- Related species such as tomato, nightshade, thornapple and Narrawa burr.

CLEAN SEED IS ESSENTIAL

Seed produced in infested soil can carry the bacterium into the subsequent crop.

- Only use seed from a reputable source (Certified Seed)

IRRIGATION WATER

Be careful of your source of irrigation water. The bacterium can be spread in irrigation water. Irrigation dams & channels can become contaminated by run-off from infected paddocks and wash down areas

**If in Doubt,
Call the Exotic Plant Pest Hotline**

