DEPARTMENT OF
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VegCheque
extension for the vegetable industries

POTATO

Silver Scurf

Helminthosporium solani

Key points

- **Considered a seed & soil borne fungal disease, with spores surviving the soil for up to 1 year.**
- **Always use certified seed and good field and shed hygiene practices.**
- **Harvest soon after vines die off, especially with late season crops to reduce disease severity.**
- **Tubers should be allowed to dry as soon as possible after harvest.**
- **Silver scurf can spread and become more severe during cool storage.**

Silver scurf on cv. Toolangi delight

What is Silver Scurf ?

Silver scurf is a blemish disease of potato tubers, other parts of the plant are not affected. The disease is caused by the fungus *Helminthosporium solani*.

Silver scurf does not generally affect crop growth, productivity or eating quality however the disease significantly reduces the attractiveness and marketability of washed potatoes.

Ineffective control measures, lack of resistant cultivars, and higher quality standards have increased the importance of this disease throughout the world.

Comprehensive methods have been developed for the control of silver scurf in Europe and North America.

Symptoms

Tubers become infected during the growing season, with round brownish patches which can eventually join together to cover the entire tuber.

The fungus only affects the outermost skin layer. The characteristic silvery sheen occurs when the skin cells die and air pockets are formed.

Crisping potatoes severely affected by silver scurf are more difficult to process as any remaining peel causes unacceptable dark edges on the crisps.

Victoria
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Key Management Strategies

The management of silver scurf involves the integration of several cultural & chemical control strategies:

- **Use of certified seed**, Using clean seed, rotating crops, and controlling volunteers will reduce the initial amount of infection and help to control the disease.
- **Early harvest of tubers** Silver scurf continues to develop on tubers left in the ground after tops have died off. Harvesting as soon as practicable after plant senescence minimises the development of the disease on tubers. The soil environment is often favourable for disease development in late summer and early Autumn. Late-season infection of mature tubers, even after the vines are dead, can greatly increase the level of silver scurf in the crop.
- **Controlled storage conditions**, Silver scurf spreads in cool storage 1 to 10°C and humid conditions with the disease rate and severity increasing during storage. Tubers should be allowed to dry as soon as possible after harvest.

  The fungus produces spores on the surface of infected tubers when the relative humidity is above 90 percent and temperature is 10°C or higher. At seed storage temperatures of 1-4°C silver scurf will survive in the skin of the potatoes until warmer conditions favour spore formation.

  The use of an effective seed treatment is important for the management of silver scurf on stored potatoes. As storage temperatures rise, the disease becomes more severe. If tubers are kept at a relative humidity below 90 percent, then spore production and germination will stop, preventing tuber-to-tuber spread in storage.

The following websites have been used in the preparation of this fact sheet

http://www.kimberly.uidaho.edu/potatoes/ssmanage.htm

http://vegetablemdonline.ppath.cornell.edu/factsheets/Potato_SilverScurf.htm

http://www.ndsu.nodak.edu/instruct/gudmesta/lateblight/image3_3.html

http://northampton.extension.psu.edu/Horticulture/potatoScrf.html

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http://www.dpi.vic.gov.au/agvic/ihd/projects/vchq.htm

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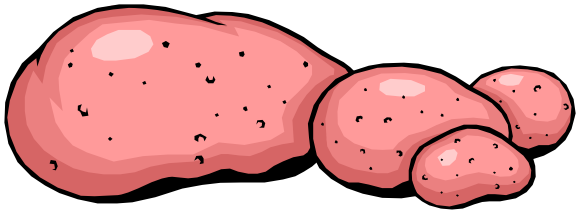
- **Hygiene** Preventing the contamination of seed during handling and storage will help minimise the build-up of the disease from generation to generation.
  - **Remove** any soil or debris which could harbour the disease from potatoes before storage. This infectious dirt will accumulate as shed dust and should be removed by regular vaccuming.
  - **Clean and disinfect** harvesting equipment frequently to reduce contamination between loads.
  - **Avoid storing wet potatoes** or potatoes with excessive wet soil.
  - **Separate the storage** of early generation seed from ware potatoes wherever possible.



- **Fungicides** Fungicide treatments are used to control silver scurf in Australia, Europe and North America.
  - **Pre-plant** fungicides have been shown to be effective when applied as potato seed piece treatments before sowing.
  - **Post-harvest** Fungicides can be applied to tubers after harvest to prevent the fungus from producing spores during storage. Unfortunately, fungicide resistant strains of the fungus now occur throughout the world including Victoria.
- **Crop rotation**. Crop rotation does not reduce problems with silver scurf. Little is known about the effect of specific rotation crops and the alternate hosts for the fungus have not yet been identified.
- **Control of volunteers**, Silver scurf can survive on tubers left in the soil from previous crops providing a source of infection for this and many other diseases.

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