

## Potato powdery scab (294)

### Summary

- Worldwide distribution. On potato, but also tomato, capsicum, and weeds in the potato family. It is related to the club root of brassicas (**see Fact Sheet no. 283**). An important disease.
- Resting spores in the soil produce swimming spores which infect all underground parts. On tubers, wart-like, powdery, roughly circular 'scabs' 10 mm diam. on the surface, merging and containing resting spores. Dark galls 1-10 mm diam. on roots.
- Disease reduces quality (and price), affects processing, and transfer a serious virus.
- Spread occurs in soil on machinery, shoes, and via manure if cattle fed diseased tubers. Long distance spread on tubers for seed and trade.
- Cultural control: disease free (certified) tubers; improve drainage; avoid fields where disease known to occur (spores last up to 10 years); do not use manure from animals fed diseased tubers; avoid excessive amounts of N; crop rotation for >3 years.
- Chemical control: treat tubers with mancozeb..

### Common Name

Powdery scab

### Scientific Name

*Spongospora subterranea* f.sp. *subterranea*. It is a member of the family Plasmodiophoraceae, the same family as that of *Plasmodiophora brassicae*, the cause of club root of brassicas (**see Fact Sheet no. 283**). Like *Plasmodiophora brassicae*, powdery scab belongs to a group called rhizaria in the Kingdom Protista; they are related to slime moulds.



Photo 1. Potato tuber with raised brown 'scabs' of powdery scab, *Spongospora subterranea*.



Photo 2. Close-up of Photo 1: potato tuber with symptoms of powdery scab, *Spongospora subterranea*.

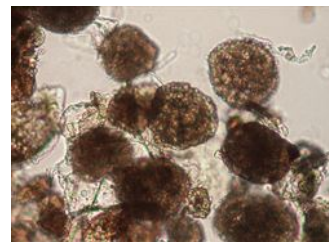


Photo 3. Sporeballs or 'sporocysts' of powdery scab, *Spongospora subterranea*, which germinate to produce swimming zoospores.

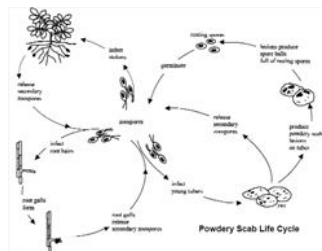


Diagram. Life-cycle of powdery scab, *Spongospora subterranea*.

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Information from *Diseases of vegetable crops in Australia* (2010). Editors, Denis Persley, et al. CSIRO Publishing; and from Powdery scab (2016) Wikipedia. ([https://en.wikipedia.org/wiki/Powdery\\_scab](https://en.wikipedia.org/wiki/Powdery_scab)). Photos 1-3 Sandra Jensen, Cornell University, Bugwood.org. Diagram Steven B Johnson (2002) Bulletin No. 2436, Powdery Scab of Potatoes. The University of Maine. (<https://extension.umaine.edu/publications/2436e/>).

Produced with support from the Australian Centre for International Agricultural Research under project PC/2010/090: *Strengthening integrated crop management research in the Pacific Islands in support of sustainable intensification of high-value crop production*, implemented by the University of Queensland and the Secretariat of the Pacific Community.

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