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Horticulture Australia

LETTUCE

Sclerotinia Lettuce Drop

Control of Sclerotinia Lettuce Drop :

- Good drainage
- Crop rotation
- Cultivar type
- Wider plant spacing
- Irrigate early in the day
- Remove crop trash after harvest
- Biological controls
- Chemical fungicides



What is “Sclerotinia lettuce drop”

Sclerotinia lettuce drop is caused by the fungus *Sclerotinia minor*.

Sclerotinia head rot is caused by the closely related fungus, *Sclerotinia sclerotiorum* which also affects many other plants besides lettuce.

What does “lettuce drop” look like ?

- Lettuce drop starts at the base of the stem.
- The stem rot quickly spreads to the roots and the head.
- The older leaves wilt and die first.
- Plant collapse (drop) often occurs close to harvest.
- A white cottony mould is produced containing many hard black bodies called “sclerotia”. Sclerotia allow the fungus to survive for many years in the soil without a host.

For more information please contact your local Veg Cheque officer.

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“Development of biological controls for Sclerotinia diseases of horticultural crops in Australasia”



HAL Project : VG 00048

Field trials have evaluated a variety of biological and soil amendment treatments for control of lettuce drop (*Sclerotinia minor*). The effectiveness of several alternative chemical controls and grower concerns over continual use of procymidone were also assessed.

Bio-control treatments reduced lettuce drop by 30 to 60%, at low disease pressure (<10% disease incidence). However, at higher disease pressure, all bio control treatments were ineffective. The results indicated that the level of control were influenced by formulation and the ability of the biological control agents to establish in Victorian soils with different soil characteristics such as low temperature and mildly low pH.

The trials also demonstrated that improved **application of Sumiscler[®]**, could effectively control the disease on more than 90% of plants. There was no evidence of pathogen resistance to Sumiscler[®].

Treatments with mature **green organic compost**, defatted mustard meal and high nitrogen soil fertility amendments, could also **reduce lettuce drop** by up to 60%.

Compost treatments **also improved yield**. A green manure crop (BQ-MULCH) trialed in Tasmania as a pre-planting biofumigation crop also reduced the level of inoculum in the soil.

Contact

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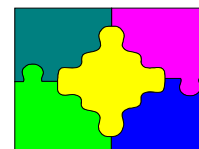
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Controlling Sclerotinia

“Cultural practices will reduce but not completely control sclerotinia.”



- Plant crops into **well-drained soil**, with beds as high as possible.
- **Rotate** with disease tolerant or non-host crops such as spinach, onions, sweet corn, cereals or grasses for at least two years.
- Control broad-leaved **weeds** such as wild mustard and shepherd's purse that can be alternative hosts.
- **Sowing** plants further apart will assist air movement in the crop and slow the spread of the disease.
- **Irrigate** early in the day, allowing plants to dry before dark.
- Remove **crop trash** from the field after harvest.
- Avoid contact between lettuce and wet soil if possible using varieties with a more **upright habit**.
- **Bio-control**: Commercially available beneficial microbes have been successful in other countries but have proved difficult to establish in Victoria. Further development is needed before this technology will be useful to lettuce growers in Australia.
- Well timed application of chemical **fungicides** remain the most effective control option at present.



Useful web links used to prepare this information:

General:

- http://www.umassvegetable.org/soil_crop_pest_mgt/lettuce/sclerotinia_blight.html
- <http://www.agric.nsw.gov.au/reader/10726>
- <http://www.ipm.ucdavis.edu/PMG/r441100711.html>
- <http://vegdis.cas.psu.edu/VegDiseases/identification/letsd.html>
- <http://www.nre.vic.gov.au/agvic/ihd/projects/prints/let-2000-11.pdf>
- <http://cesantabarbara.ucdavis.edu/ipm2.htm>
- <http://edis.ifas.ufl.edu/pdf/FILES/VH/VH01500.pdf>
- http://www.agr.gov.sk.ca/docs/crops/integrated_pest_management/disease/sclerotiniarot.asp
- http://www.extento.hawaii.edu/kbase/crop/Type/s_scler.htm

Images:

- <http://crsc.calpoly.edu/crsc/Brown/VGSC232/Lectures/Lettuce/Index2.html>

Biocontrol:

- <http://ag.arizona.edu/pubs/crops/az1252/az1252-3d.pdf>
- http://www.hortnet.co.nz/publications/nzpps/proceedings/97/97_154.pdf

Chemical Control:

- http://ag.arizona.edu/pubs/crops/az1143/az1143_4.pdf

Other websites of interest to Lettuce Growers:

- <http://ag.arizona.edu/PLP/plpext/diseases/vegetables/lettuce/lettuce.html>
- <http://www.gov.nf.ca/agric/crops/guides/lettuce.htm>
- <http://www.agric.nsw.gov.au/reader/10693>

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