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Asparagus

Garden Symphilid (*Scutigera immaculata*)

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Description

The **Garden Symphilid**, (also known as Symphylan in the USA), are small, white, soft-bodied "centipede-like" animals, 3-7 mm long with 12 pairs of legs and a pair of antennae. They are found mainly in moist open structured soils often associated with crop debris. Symphilids are sensitive to light and are very active when exposed.

Symphilids in Victoria

The garden symphilid was recently reported causing problems in a Victorian asparagus crop. The pest has since been found on a large numbers on widely dispersed properties. Symphilids feed on sprouting seeds and underground stems of seedlings, weakening or killing plants.

In asparagus, the pest feeds on the crown and the base of spears. Infested areas are usually confined to small patches of a field where the crop appears stunted or has been destroyed.

Asparagus growers have been aware of this pest for at least 15 years, and they only appear to be a problem in dry years when they move from other hosts to the asparagus crowns deeper in the soil.



Suspected symphilid damage on an asparagus spear 2003

Symphilid behaviour

Adult symphylids usually stay in the top 50 cm of soil and can live for several years. Generations are produced continuously under warm, moist conditions taking about 3 months to develop from egg to adult. In the spring they feed on young plant roots near the soil surface.

Symphylids are unable to burrow, instead travelling through pores, cracks or burrows made by earthworms. High populations are more common in well structured clays than in sandy soils.

Symphylids move vertically in the soil profile in response to temperature and flooding, returning to colonise the same area each year so infestations only spread slowly.

High summer temperatures and dryness cause symphylids to burrow down to the moist subsoil where they feed on decaying organic matter. Moderate spring/autumn temperatures or flooding will cause them to return to the surface where they can damage crops.



Control methods

Given the perennial nature of asparagus plantings, no effective symphylid control measures have yet been identified as appropriate for established Victorian asparagus crops.

Control of garden symphylids in other crops involves applying preventative treatments before planting. No rescue treatment can be used effectively while the crop is growing.

In other parts of the world, high populations of symphylids have been managed using a combinations of methods including tillage, flooding, drying, natural enemy conservation, crop rotation, cover crop management, organic matter management, time of planting, biofumigants and pesticides.

Because symphylids can retreat deep into the soil, chemical treatments may simply act as repellents, useful for protecting plants in the short-term such as during their early development.

Numerous naturally occurring organisms prey on symphylids in the field including true centipedes, predatory mites, predacious ground beetles, and various fungi; however, little is known about their ability to control symphylid populations.

For more information contact :

Gisele Irvine – Asparagus scientist
or Gary Darcy – Plant Standards
at DPI-Knoxfield, (03) 9210 9222

Websites used to prepare this fact sheet :

- <http://www.ofrf.org/publications/Grant%20reports/99.53.15.VanHorn.Fall99.IB12.pdf>
- <http://www.ipm.ucdavis.edu/PMG/r734301311.html>
- http://www.ento.psu.edu/extension/factsheets/garden_symphytan.htm
- <http://www.ent3.orst.edu/smartkey/pagelist.cfm> (see Symphytan)
- <http://info.ag.uidaho.edu/keys/plates/plate01.htm>
- <http://oregonstate.edu/Dept/entomology/ranb/symp.html>
- <http://ippc2.orst.edu/potato/symphylans.pdf>
- <http://mint.ippc.orst.edu/symphcycle.htm>
- <http://mint.ippc.orst.edu/symphfact.pdf>
- <http://pbsa.ucdavis.edu/ESApdfs/UmblerX.pdf>
- <http://wlapwww.gov.bc.ca/vir/pp/ipm/insects/symphyla.html>
- <http://zzyx.ucsc.edu/casfs/research/Cultivar191.pdf>

For more information please contact your local VegCheque officer.

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