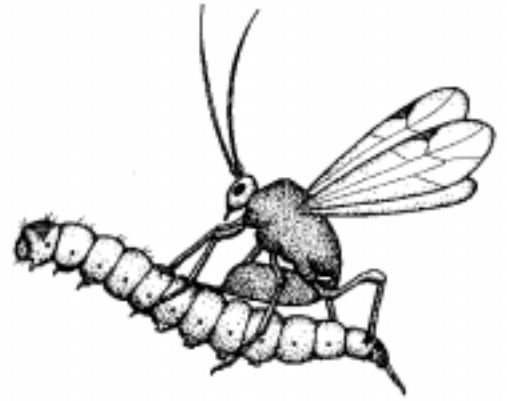


Potato Tuber moth

Phthorimaea operculella



Description and development

Potato moth larvae are usually dull white with a brown head but mature larvae may have a pink or greenish tinge.

Adult females lay eggs on foliage, soil, plant debris or exposed tubers. Moths and larvae can crawl through soil cracks or burrow a short distance through loose soil to reach tubers.

Newly hatched larvae on foliage begin feeding between the surfaces of the leaf, creating small hollowed out blotches. Later, larvae sometimes fold sections of leaf into shelters fastened together with silk. Leaves may curl and shrivel. Larvae may also bore into stems.

Larvae move from their feeding site on the foliage to tubers by crawling or dropping down to the soil. When larvae have finished feeding, they spin silk cocoons on the soil surface or in debris under the plant and develop into a smooth brown pupa. Pupation normally does not occur in tubers.

Adults mate and females begin laying eggs soon after they emerge from the pupa. Adults are active at night and at dusk. During the day, they hide in sheltered parts of the plant or on the ground.

The tuber moth completes a generation in just 3 weeks in hot summer conditions and up to 3 months in cold conditions - larvae and adults can survive long periods at temperatures near freezing. Feeding and breeding resumes when temperatures increase above 11°C.

Orgilus wasp releases

As soon as foliage emerges the crop becomes an attractive site for potato tuber moth to lay their eggs. *Orgilus* wasps lay their own eggs into small potato tuber moth larvae. The wasp eggs then hatch inside the larva and develop into fully formed wasps in about 21 days.

Releases of *Orgilus* wasps aim to parasitise a portion of the early moth larvae. *Orgilus* wasps will not prevent the larvae causing some foliage damage but will prevent these larvae completing their life cycle. In this way, moth pressure is reduced and most 3rd generation larvae are parasitised with very few larvae dropping to the ground to cause damage to tubers.

Other management practices to minimise damage.

- Moths generally cannot reach tubers covered with 50 mm of soil unless soil has deep cracks.
- Potato varieties that set tubers on relatively deep stolons are less vulnerable to infestation.
- Sprinkler irrigation is valuable in keeping soil surface sealed and moist enough so that it will not crack.
- Prompt and thorough harvesting as soon as tubers have matured. Avoid leaving tubers on the surface overnight.
- After harvest, ensure any unharvested or discarded tubers are deeply buried or destroyed.
- Minimise volunteer potato plants from fields, waste areas and from stands of other crops following potato.

BioResources Pty Ltd ABN 12 078 989 081

P.O. Box 578 Samford Qld 4520

Ph. 07 3289 4919 Fax 07 3289 4918 Mobile 0427 969 408

email: richard@bioresources.com.au web: www.bioresources.com.au