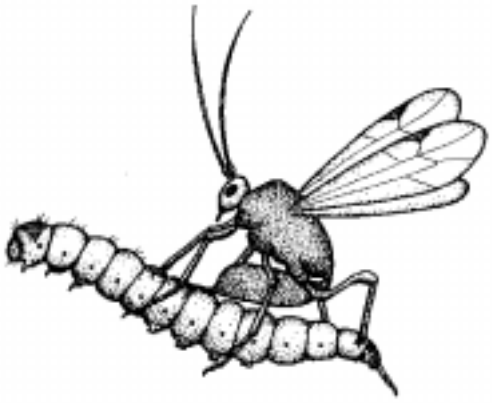
Potato Tuber Moth Parasite *Orgilus lepidus*



Background

Orgilus lepidus were introduced into Australia from South America (the home of potatoes and potato moths) about 40 years ago. They are small, black parasitic wasps which use the larval stage of potato tuber moth as a site to lay their eggs. They attack the early instar stages that are very hard to see in the paddock. Their eggs then hatch inside the larva and develop into fully formed wasps in about 21 days. The wasps are able to hunt out moth larva in dense foliage and through the paddock. The female wasps live for two to three weeks and can parasitise around 150 moth larvae in their life.

In potatoes, the first wasps are released within two weeks of the foliage emerging and then weekly for another 5 to 7 weeks. In warm to hot weather, potatoes have about three generations of potato moth per crop. The first and second generations cause leaf damage that is of little economic significance. Parasitism from Orgilus increases rapidly so that the third generation is much smaller, with very few larvae dropping onto the ground to cause damage to tubers.

In tomatoes, it is best to start releases before transplanting if there are sources of PTM in the area, otherwise immediately after transplanting to minimise damage to seedlings and to prevent the moths establishing within the crop and producing successive difficult to control generations.

Releasing Orgilus wasps

Orgilus are sold in programs to treat a planting. A typical program consists of 5 releases of 500 wasps, enough to treat up to 10 hectares of potatoes. The first release should start within two weeks of crop emergence. The wasp pupae are packed in plastic containers containing shredded paper with a little honey as food for the emerging wasps. Release them as soon as possible after you receive them but if its wet wait until the rain ceases. The wasps will emerge over the following few days.

**** Do not leave the closed containers in direct sun or in a closed car in the sun. ****

To let them go:

- *Orgilus* are robust and strong fliers and only need to be released at a few sites.
- Release them at points around the edge of the crop, especially where potato moth are likely to invade (e.g. windward edge, near an older crop, near self sown plants).
- Remove the tissue insert and replace the lid, remove masking tape and fold up flaps on the sides to allow the wasps to escape.
- In young crops, place the container on the ground with a piece of cardboard on top and a rock to stop it blowing away. In more advance plants, just position the container amongst the foliage.

What to expect

Larger larvae present at the time of release will not be effected by the wasps. The wasps only attack the small larvae. In potatoes, some damage to foliage is normal and acceptable. After about 4 weeks or into the 2nd generation of moths, parasitism will have increased. The 3rd moth generation is likely to be much smaller and a high percentage of these moth larvae are likely to be parasitised.