

# Trichogramma carverae capsules

## Egg parasitoid of LBAM, CM and OFM



### Timing of release

*Trichogramma carverae* are tiny wasps that lay their eggs into the eggs of codling moth, oriental fruit moth and lightbrown apple moth. These wasps form a valuable component within an IPM program that is likely to include a range of “soft” options e.g. pheromone mating disruption, selective insecticides like Insegar®, Mimic® and bacterial insecticides or B.t.’s.

**Trichogramma** should be released when moths are active and laying eggs. Refer to your local history for a guide when ordering. Peak egg lay usually occurs just after a peak in the number of moths caught in pheromone traps. If port wine traps are used for LBAM, release the wasps as soon as moth numbers increase. In vines, the actual level of egg lay can be measured by sampling leaves for egg masses.

### Release rates

60 capsules per hectare per application is the base recommended rate but should be increased to 120 capsules per hectare if pest pressure is high or if quick establishment is required. It is best to make two applications a week apart for the major moth flights. This will lengthen the period of the wasps activity and will provide a more even emergence of the offspring from parasitised eggs. If regular monitoring is done for LBAM eggs through the season (possible in grapes) and these reveal moderate to high levels of parasitism (due to earlier wasp releases) then future releases may be reduced or even omitted.

### Release capsules

Each capsule contains a minimum of 1,000 parasitised moth eggs from which the wasps emerge. The capsule protects the eggs from predators and the weather. The wasps will begin to emerge near the time stated on the package if kept at the temperature noted (usually 25°C). If it’s cooler, they will take longer to emerge and if warmer, will emerge more quickly.

### Indicator vial

The package will also be accompanied by a small clear vial containing parasitised eggs. This vial is used as an indicator of wasp emergence. Wasps will emerge in the vial about 24 hours before those in the capsules. Start placing the capsules in the field when the wasps emerge in the vial. If conditions are unsuitable for release (raining or very hot), the capsules and vial can be stored in a standard fridge for another 3 days. Do not allow the fridge to drop below 3°C.

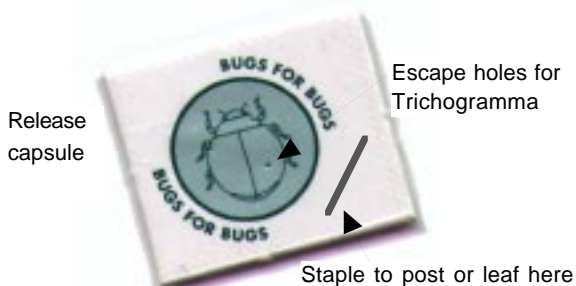
### Placement of Trichogramma release capsules

Staple the capsule through one corner to a leaf. If its hot select a shady spot. The wasps will gradually move down wind so place any extra capsules along the windward side of the crop.

**Vines :** *Where layout of 3m. between rows and 6 m. between posts in the rows -*

When releasing 60 capsules per hectare, place one capsule every 3rd panel in every 3rd row.

**Tree crops:** Divide the number of trees per hectare by the release rate. For example 600 trees/ha ÷ 60 capsules / ha = 10. Place the capsules in every 10th tree in every row (and stagger so release trees are not adjacent) or else in every 5th tree in every second row.



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