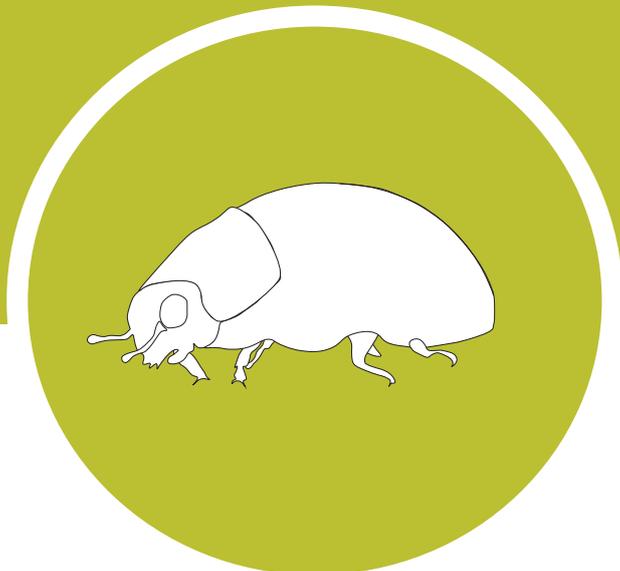




BioCryptolaemus

Cryptolaemus montrouzieri

Predatory beetle for the biological control of mealybugs



BioCryptolaemus



Cryptolaemus montrouzieri, a predatory beetle also known as the "Mealybug Destroyer", is a type of ladybird beetle.

TARGET PESTS

Cryptolaemus montrouzieri is a voracious predator of multiple varieties of mealybug in both greenhouses and open fields.

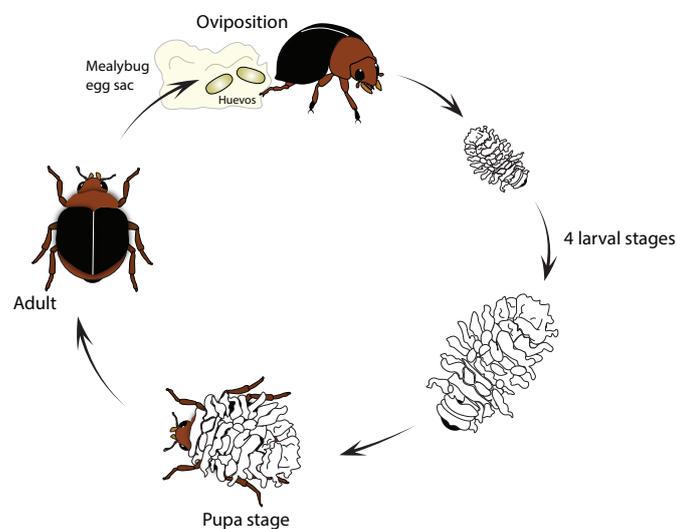


Mealybug damage on citrus and grapes

DESCRIPTION

Cryptolaemus montrouzieri is a small dark brown beetle, about 4 mm long with a distinctive orange head, prothorax, wing tips and abdomen. Its eggs are yellow.

LIFE CYCLE



The adult female seeks dense populations of mealybug and lays its eggs in the mealybug egg sac, hence it's effective for treatment in mealybug hot spots. It's able to lay up to 500 eggs in its lifetime (10 a day).



The *Cryptolaemus* larval, pupal and adult stage

Cryptolaemus montrouzieri has 3 larval stages and a pupal stage. At the larval stage, they show a waxy covering that mimics the mealybugs. All larval stages and adult *Cryptolaemus montrouzieri* feed on mealybugs.

TEMPERATURE & DEVELOPMENT

| Temperature [°C] | Development time (days) |
|------------------|-------------------------|
| 18 | 72 |
| 21 | 54 |
| 27 | 33 |
| 30 | 25 |

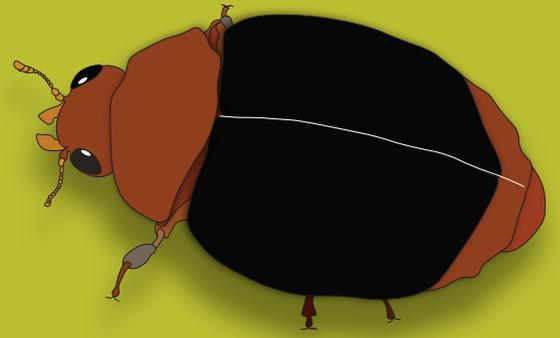
Lower Threshold= 15°C
Upper Threshold= 35°C

CROPS

Vineyards, citrus orchards, vegetables, ornamentals, flowers, field and fruit crops.



BioCryptolaemus



THE PRODUCT

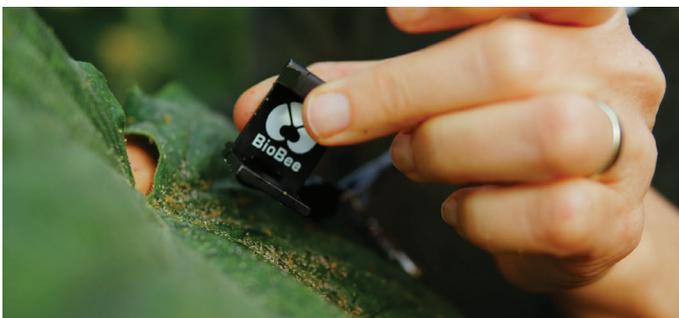
500 adult *Cryptolaemus montrouzieri* individuals (BioCryptolaemus) are packed in a container with a honey-soaked paper inside the container, temporarily nourishing them, until their arrival to the final destination.

The BioCryptolaemus containers are shipped in cooled insulated boxes.



MONITORING

Scouting and monitoring is crucial.



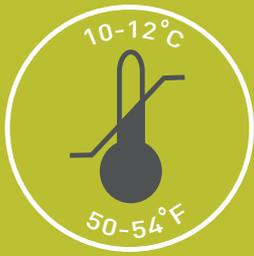
The amount and frequency of beetle release is determined by the degree of infestation, weather conditions and damage inflicted on the crop.

APPLICATION & HANDLING

- If ants are present at the mealybug hot spots, they must be destroyed.
- Ants encourage honeydew secretion by the mealybugs, transferring them from one place to another while protecting them vigorously from predators.



- Treat the area against ants.
- The predators are released by removing the package's lid and either placing it adjacent to the mealybug infested spot or, while walking between the plants, tapping the package gently and letting the beetles fly out towards the plants.
- Release beetles in the early morning or late in the afternoon, when temperatures are cooler.
- The beetles should be released within 24 hours of receipt.
- Leave the bottles inside the insulated shipping boxes until placement in the field.
- Remove the containers from the box, one at a time and place them as quickly as possible.
- **Do not expose the bottles to direct sunlight.**



BIOLOGICAL PEST CONTROL



3 – 4 weeks following the predatory beetles' release (depending upon temperature), their larval offspring are clearly seen within the mealybug-infested spot. Remains of dead mealybugs, preyed upon by BioCryptolaemus, are also visible. The subsequent established generations of the predatory beetle will effectively control mealybugs in the long run.

DISCLAIMER

The success of biological pest control is affected by the crops initial pest population (upon application of the product), weather conditions and chemical residue present in the crop, among other possible aggravating factors.

Biological pest control continues throughout the growing season, as successive generations of *Cryptolaemus* continue to control the mealybugs, providing a long-term solution.

The predatory *Cryptolaemus* beetle can be combined with the *Anagyrus* wasp, these two natural enemies complement each other in controlling infestations of mealybugs and can coexist in the same environment.

GENERAL COMMENTS

Before combining BioCryptolaemus with any chemical pesticide in the crop, please consult your BioBee's technical advisory representative.

WE HAVE SOLUTIONS



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