Cryptolaemus montrouzieri

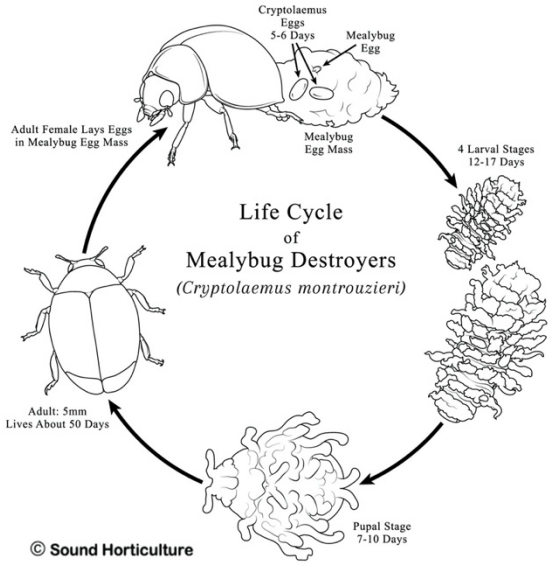
Mealybug Predator

DESCRIPTION:
Cryptolaemus is the most commonly used biological control for mealybugs.
Adult beetles are dark brown with orange heads and tails, 1/6-inch (.4 cm) long. Larvae are alligator shaped, up to 1/2-inch (1.3 cm) long, and covered with white waxy hairs that make them resemble mealybugs. The adults can fly and cover large areas to search for food.

Cryptolaemus montrouzieri

TARGET PEST:
Citrus mealybug (*Planococcus citri*); other related mealybugs

LIFE CYCLE:
The complete life cycle takes about 31 days at 81°F (27°C) and 45 days at 70°F (21°C). Sex ratio in the population is about equal, with somewhat fewer females than males
(40% females).



Eggs are laid among the cottony egg masses of mealybugs; they hatch in 5-6 days at 81°F (27°C). Females lay 5-10 eggs per day, for a total of 400-500 eggs in their 50-day lifetime. Larvae feed on mealybugs for 12-17 days, then pupate in sheltered places on stems or on the greenhouse structures. A single larva can consume 250 small mealybugs. Adults emerge in 7-10 days, mate, and females begin laying eggs in 5 days.

Adults and young larvae prefer to eat mealybug eggs, but older larvae will feed on all stages of mealybugs. If food is scarce they will also eat soft scales and aphids

USE IN BIOLOGICAL CONTROL:
Cryptolaemus is used to control mealybugs mainly in interior plantscapes. They can be used outdoors, but will not survive sub-freezing temperatures. They are less effective on longtailed mealybug (*Pseudococcus longispinus*) because this species lacks the cottony masses *Cryptolaemus* requires for egg laying.

Optimum conditions are 82°F (28°C) with relative humidity 70-80%, but they can be used between 61-91°F (16-33°C). Below 48°F (9°C) they are completely inactive, while above 61-91°F (33°C) they stop searching. They are most active in sunlight, and are therefore not as effective during dull winter months. For control of citrus mealybug, *Cryptolaemus* can be used along with the parasitic wasp *Leptomastix dactylopii*.

For more information, Please contact ***Sound Horticulture***
info@soundhorticulture.com 360.656.6680 www.soundhorticulture.com

MONITORING TIPS:

Close examination is necessary to distinguish the beetle larvae from mealybugs. The beetle larvae are more active and have more distinct segments and 6 true legs, just visible under the white hairs.

PRODUCT INFORMATION:

Cryptolaemus are sold as adults and are often shipped with shredded wood or paper to protect them en route. Do not chill the beetles below 50°F (10°C).

INTRODUCTION RATES:

Cryptolaemus are most effective when mealybug populations are high. Repeated releases are advisable if mealybug populations are low.

General Introduction Rates:

- Interior plantscapes & greenhouses – 5 beetles/infested plant, or 0.25-0.5 per square foot. **Rounded from 2-5 per square yard.**
- Outdoors – 500-5,000 beetles/acre (1250-12,500/hectare), near the mealybug infestation. First releases outdoors should be in early spring.
- Orchards – 1,000-2,000 beetles/acre (2,500-5,000/hectare) for mature fruit trees. Repeat as needed.

Because many foliage plants grow very slowly, it may take 2-4 months before results of mealybug control programs are apparent. Uninfested new growth is a sign of control.

FOR BEST RESULTS:

Release in early morning or late evening, and do not wear light coloured clothing when releasing because this predator is attracted to light colours. Screen vents and windows to prevent escape of *Cryptolaemus*. To keep mealybug populations down to acceptable levels in greenhouses, several releases of *Cryptolaemus* may be necessary, particularly during winter months.

USING CHEMICALS:

For effects of specific pesticides on *Cryptolaemus*, contact Sound Horticulture for information. Most fungicides should be safe to use.
Spreader stickers may be harmful to *Cryptolaemus*.

Mealybug Destroyer
Adult Ladybird Beetle
(Cryptolaemus montrouzieri)