

Chrysopa-System & Chrysopa-MC-System

Lacewing for aphid control. *Chrysopa*, better known as lacewing, is a native predator that often spontaneously occurs in greenhouses and open fields. The larvae are extremely greedy and efficient against aphids. The adults are fragile, light green insects with long, transparent, fine-veined wings and golden eyes. The adult lacewing is no predator but feeds on nectar, honeydew and pollen.

BIOLOGY

In nature, there are 2 to 3 generations per year. In spring, the adults start laying eggs (approximately 20 per day). These eggs are deposited separately or in groups on short stalks (length of 0.7 mm) at the underside of the leaves. After 3 days, the first larval stage develops and later on, also the second and third larval stages follow. The third larval stage is the most important one for biological control, as it represents 80 % of the total amount of food taken. The third instar has a length of approximately 0.8 mm and eats up to 50 aphids per day (total: ± 600 aphids). About 16 days after eggs are laid, the larvae pupate. Two weeks later, the adult lacewings emerge.

APPLICATION

Chrysopa carnea can be introduced in different vegetable crops, fruits and ornamentals against different species of aphids.

Chrysopa also eats thrips, red spider mites, whiteflies, small caterpillars, eggs of butterflies and mealy bugs.

Especially in crops with a high temperature variation and/or changing relative humidity, *Chrysopa* will not have any problems.

As the larvae cannot fly, they need to be able to reach their prey via the shortest way. It is therefore important to introduce the larvae near the aphids. Anyway, the larvae are able to move 4 till 5 km before they become adults.

The advantage of using larvae is the fact that they work immediately. With *Chrysopa*, only the hot spots or the entire greenhouse can be treated. If hot spots are controlled in an early stage, there is less probability of infestation of the entire crop. It is although not possible to build a population with lacewings, as adults mostly leave the greenhouse after hatching from the pupae.

PACKAGING

Chrysopa-MC-System

The larvae of *Chrysopa* are delivered per 500 pieces in cardboard multicells covered with fine gauze.

If necessary, Chrysopa MC-500 System can be stored for a short while at 6-10°C and RH >85%.

As lacewing larvae are cannibalistic, thus eat each other during transport, they are packed in small individual cells grouped as a honeycomb. One multicell (MC) contains 500 larvae.

Chrysopa-System

The larvae of *Chrysopa carnea* are delivered per 1.000 and 10.000 pieces respectively in a 0,5 L tube and 5 L bucket with a buckwheat carrier. The bucket also contains an additional food source for the larvae to prevent cannibalism.

BIOBEST'S INTRODUCTION SCHEME

1. Introduce in spring, when aphids become more numerous, 5 larvae/m² (repeat 2 times every 2 weeks).
2. In hot spots, 2 introductions of 40 pieces/m² are required in a period of 8 to 10 days.
3. For Chrysopa-MC-System: Open a part of the multicell as far as necessary to spread the amount of larvae you wish to distribute. Turn it around and carefully shake it a few times so that the larvae fall on the plants that need to be treated.

ADVANTAGES

- The activity of *Chrysopa carnea* hardly depends on temperature and does not depend on relative humidity. The larvae work from 12°C to 35°C and can therefore also be introduced in open fields;
- As they are rather primitive insects, there is a fairly good resistance against different pesticides;
- The larvae are very aggressive and very efficient in hot spots. One larva can eat up to 50 aphids per day;
- *Chrysopa* is a predator that does not only eat different kinds of aphids, but also other insects like red spider mites, thrips, whiteflies, etc.