

Adalia-System-Plus

The solution against aphids!

Adalia bipunctata is a native ladybird. The larvae are used in ornamental, fruit and vegetable crops as beneficials to control aphids. *Adalia* has a large appetite and it can be used against several kinds of aphids in different cultures. *Adalia* can be used in combination with other beneficials and is harmless for mankind and nature.

ADALIA BIPUNCTATA

Biology

These ladybirds belong to the order of Coleoptera and the family of Coccinellidae.

An adult *Adalia* lays 20 to 50 eggs a day. The eggs are elongate and have a yellowish, orange colour. The egg stage depends on the climate, but normally takes 4 to 8 days.

After hatching, the larvae will seek aphids immediately. The chances of survival of these young larvae depend upon the ready availability of food when the larvae start to crawl. The development time is about 20 days at a temperature of about 20°C.

Once in the 4th larval stage, the larva stops eating and pupates. During pupation, which takes 8 days at a temperature of 20°C, the ladybird stops eating for a few days and stays inactive. Attention! It is not dead!

Finally, the adult beetles appear by tearing the pupal skin. During September and October they will look for a hibernation place. *Adalia bipunctata* prefers outside walls, window frames or bark crevices.

Application

Adalia is a native ladybird which can be found in nature in Europe. It finds its way in a pretty extensive range of biotopes and feeds on different species of aphids. It appreciates a sunny climate and relatively dry living conditions with short, non-overgrown vegetation. Therefore *Adalia* is a regular visitor of vegetable gardens, fields and flowerbeds. *Adalia* can be used in several protected cultures and open field cultures in gardens (roses, small shrubs, and annuals), vegetable gardens and vineyards.

PACKAGING

Adalia is packed in its larval stages and per 100 larvae. Especially for applications in the open air a small jute sack can be delivered to introduce the *Adalia* larvae easier in trees and bushes.

ADVICE

- Introduce the larvae in the center of aphid hotspots before these get too big.
- Introduce the larvae immediately after arrival. They can be stored in the refrigerator max. 1 to 2 days at 8 to 10°C.
- Hang out bioboxes in aphid hotspots and divide the larvae homogenically in these bioboxes or use the small jute sacks which can be delivered with the product.
- The amount of larvae needed depends on the size of the infection and the development/growth of the culture. Check the aphid infestation and reintroduce every week if necessary. Introduce for example 3 to 5 larvae at the foot of the rose bush in the beginning of the infestation; at early introduction 10 larvae on young trees in fruit culture.
- Introduction of *Adalia* larvae occurs preventively as from May and June and afterwards especially in aphid hot spots.
- If you work with *Adalia*, the period of introduction is essential. If you introduce too soon, it means insufficient food supply and too late means a long-lasting nuisance through aphids. The advised quantity of *Adalia* for a tree with a trunk thickness of about 30 cm is 200 pieces. In trees with a trunk thickness of 100 cm it is advisable to introduce 600 larvae in the crown.

These numbers are indicative; depending on the present quantity of aphids the exact quantity of *Adalia* to be introduced is determined.

REMARKS

One *Adalia* eats about 100 aphids a day. When the food supply is big enough, they reproduce and hibernate on the location where they are introduced.

The trees or bushes, in which *Adalia* is introduced, may not be treated with chemical products at least six weeks before the introduction. If you doubt about the side effects of chemical products, consult the Biobest Side Effects Manual on www.biobest.be.

The battle for control of aphids using ladybirds does not work without the elimination of ants (by using glue barriers) which, when they are present, will reduce the efficacy of ladybird larvae. Ants try to protect the aphids to profit from the sugar substance which the aphids secrete.