

Delphastus pusillus

The best solution against whitefly



Big infestations of whiteflies are difficult to control with parasitic wasps only. In certain crops the grower can count on the beetle *Delphastus pusillus*, which wipes out whitefly hot spots efficiently.

As well larvae as adults suck plant juices. Secretion of honeydew fouls the leaves and the fruits, which become not marketable. Often moulds grow on the honeydew, which stunts photosynthesis and respiration of the plant. Moreover, whiteflies can transmit several viruses.

Delphastus pusillus is a small ladybird beetle which feeds on all stages of whitefly, but prefers whitefly eggs and larvae. Adult beetles are small, shiny, dark brown to black and 1.3 to 1.4 mm long. Females have a reddish yellow head and are lighter coloured than males.

Adult beetles are active flyers that are attracted to the smell secreted by young whiteflies.



The development time of *D. pusillus* is strongly influenced by temperature and light. The complete life cycle takes 21 to 25 days at 25 to 30°C. The optimal temperature for *D. pusillus* is situated between 16 and 35°C; at temperatures below 13°C *Delphastus* does not fly. It does not go in diapause under short-day circumstances and is therefore active during the entire season. It can stand light frost, but does not survive longer periods of cold.

Both larvae and adults are excellent predators that can consume numerous eggs and larvae each day. An adult beetle devours daily up to 160 eggs or 12 whitefly larvae. A larva eats about 1,000 whitefly eggs during its entire development (or less if it also eats whitefly larvae). A single *Delphastus* can consume 10,000 whitefly eggs or 700 larvae during its lifetime!

Application

Introduce *D. pusillus* after whiteflies have been detected, preferably in hot spots (50 to 100 eggs/m²).

HOT SPOTS:

- Release minimum 30 to 100 beetles per hot spot/week, or 10 beetles per plant/week, for a period of at least 3 weeks or until a population is established.

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ENTIRE CROP

- In case of low infestation, release 0.5 beetles/m² bi-weekly, for at least 3 weeks or until a population is established.
- In case of serious infestation release 1 to 2 beetles/m² bi-weekly, for at least 4 weeks or until a population is established.

Attention

- Use *D. pusillus* in combination with whitefly parasites (*E. formosa* / *E. eremicus*);
- Only release *Delphastus* after whiteflies have been detected;
- Release the beetles on the day they arrive; preferably at the end of the day (at sundown);
- *Delphastus* is sensitive to a broad spectrum of pesticides; avoid the use of pesticides as much as possible. Check the side-effects manual under the class *coleoptera*;
- Spreader-stickers and wetting agents may harm the beetles, but do not have residual effects;
- Soaps may be used as a correction in hot spots, but have mainly an indirect effect on the *D. pusillus* population (lack of food).
- In case of a high population density of *Delphastus*, some adult beetles might be trapped on sticky rolls and traps.
- On banker plants *Delphastus* contributes considerably to whitefly control. It cleans up the banker plants when those get greasy because of honeydew.

Monitoring

Check the whitefly hot spots weekly; especially the underside of the leaves. *D. pusillus* is easiest to see at twilight or on cloudy days. Three weeks after the first introduction you can expect to see the first larvae and pupae on the underside of leaves. 4 to 5 weeks after introduction the first beetles should be visible feeding on whitefly eggs. Two months after the first introduction, all stages of *D. pusillus* should be present in the oldest whitefly hot spots.

Packaging

Delphastus pusillus is delivered per 100 adults in a 30 ml tube on filter paper.

Advantages

- ✓ Immediate action
- ✓ Eats all stages of whitefly
- ✓ Avoids whitefly pupae parasitised by *Encarsia*
- ✓ Controls both greenhouse and tobacco whitefly

