



Delphastus catalinae is a North American predatory ladybird of whiteflies. It is predacious as an adult and as larvae. Adult beetles are active flyers that are attracted to the volatiles secreted by young whiteflies. They lay their eggs within the whitefly colonies. They feed on immature whitefly stages, but prefer whitefly eggs and young larvae. *Delphastus* beetles are voracious and need to be introduced in large whitefly populations. An adult beetle can consume 160 eggs or 12 whitefly larvae a day, with a total of up to 10.000 whitefly eggs or 700 larvae during its lifetime. A *Delphastus* female needs to consume at least 100 whitefly eggs per day to lay eggs. A *Delphastus* larva can eat around 1.000 whitefly eggs during its entire development. *Delphastus* avoids feeding on parasitized whitefly pupae, so are ideal to be used in combination with *Encarsia*-System and *Eretmocerus* -System and it is not affected by short photo periods.

Product Specifications

Commercial name	Specifications
Delphastus-System - 100	<ul style="list-style-type: none"> • 30 ml vial: 100 beetles • Carrier: shredded paper

Storage

Use immediately upon receipt. If not possible, product can be briefly stored horizontally at 50-59°F (10-15°C).

Rates

Mode	Dosage	Area	Repeat
Low curative	0.5-1 ind./m ² Min. 10 ind./release point	Full Field	Weekly / Biweekly
High curative	1-2 ind./m ² 30-100 ind./plant	Full field and hotspots	Minimum 3x as needed until control is achieved

DELPHASTUS-SYSTEM

Delphastus catalinae

Features

- Whitefly predatory ladybeetle
- Larvae and adults are predacious
- Controls tobacco whitefly (*Bemisia tabaci*) and the greenhouse whitefly (*Trialeurodes vaporariorum*)
- Curative biological control agent (immediate action in hotspots)
- Discriminates parasitized whitefly pupae (Non diapausing)

Targets

- Greenhouse whitefly
- Tobacco whitefly

Crops

- Vegetables / Herbs
- Ornamentals
- Strawberries / Soft Fruits
- Cannabis / Hemp



DELPHASTUS-SYSTEM

Instructions

Release moment

Introduce Delphastus-System at the first signs of whiteflies.

Release method

Apply in the evening.

Introduce in Bio-Boxes or directly onto whitefly-infested leaves.

Introduce lid & paper in the crop and leave the tube horizontally in the crop for the beetles to escape.

Complement its action with whitefly parasitoids (Encarsia-System, Eretmocerus-System or Eretmix-System).

Release conditions

The optimal temperature for *D. catalinae* is situated between 77°F (25°C) and 86°F (30°C); at temperatures below 55°F (13°C) the adult beetles don't fly. The larvae do not survive in environments where temperatures are consistently below 59°F (15°C) or above 95°F (35°C). Delphastus does not go in diapause under short-day circumstances and is therefore

active during the entire season. It can tolerate light frost but does not survive longer periods of cold.

Delphastus is sensitive to numerous pesticides; avoid their use as much as possible.

Monitoring

- Check the whitefly hot spots weekly; especially the underside of leaves
- *D. catalinae* 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.
- 4-5 weeks after introduction the first beetles should be visible feeding on whitefly eggs
- When new adults start to emerge, they may become trapped on yellow sticky traps/rolls
- Use sticky cards to monitor the pest population, a reduction on whiteflies counts and the recovery of spots showing sooty mold are good indicators that they are working.

Life cycle and appearance

Egg	Larva	Pupae	Adult
<ul style="list-style-type: none">• Females deposit eggs within or around clusters of whitefly eggs• Females can lay a total of up to 300 eggs• Duration: 4-5 days*	<ul style="list-style-type: none">• Pale yellow, white/light grey color• 4 larval stages• Duration: 8-12 days*	<ul style="list-style-type: none">• Pale yellow to green color• Attached to the underside of leaves, often in groups• Duration: 5-6 days*	<ul style="list-style-type: none">• Shiny, dark brown to black color• 1-1.5 mm long• Females have a reddish-yellow head and are lighter colored than males• Lifespan: 2 months*
			

*At an average temperature of 68-77°F (20-25°C)

