

## ENCARSIA-SYSTEM

### TECHNICAL DATA SHEET



### Targets

- Greenhouse whitefly
- Tobacco whitefly
- Cabbage whitefly

### Crops

- Vegetable crops
- Ornamental crops
- Soft fruit

### Registration number

- Austria: Pfl.Reg.Nr.3514
- Costa Rica: 025
- Greece: ΕΚΣΦΜ 07013
- Japan: Nr. 22757
- Norway: 2018.73/2018.68
- Spain: 489/2009
- Switzerland: W-4709
- Czech Republic: 4457-0B
- Latvia: reg. No. 0444

### What is Encarsia-System?

- Parasitic wasp
- *Encarsia formosa*
- Endoparasitoid that controls whitefly infestations
- Efficient at lower temperatures
- Also kills whiteflies by host-feeding

### Mode of action

- Female wasps will actively search for whitefly larvae in the crop and will lay their eggs inside the larvae
- *Encarsia* can develop in any larval stage of the whitefly, but prefers the third and early fourth stage of the larvae
- When the parasitized larvae pupate, they turn black
- A new adult emerges through a round exit hole at the back of the pupa
- During her life one female can parasitize around 250-450 whitefly larvae, and kills another 30-70 larvae by host-feeding
- The females prefer the second larval stage (host-feeding)

### Product specifications

Product	Package size	Package content
Encarsia-System (100-5.000)	50 cards	100 pupae/card; 5.000 pupae <sup>(1)</sup>
Encarsia-System (100-10.000)	100 cards	100 pupae/card; 10.000 pupae <sup>(1)</sup>
Encarsia-System 10.000	100 ml	10.000 pupae <sup>(2)</sup>

<sup>(1)</sup>Pupae are provided on a card with hook/<sup>(2)</sup>Loose pupae are provided on a carrier of sawdust

### Storage

Use immediately upon receipt. If not possible, product can be briefly stored horizontally at 6-8°C/43-46°F and RH>85%. Always respect the use-by-date.

### Dose rate

Mode	Dosage	Area	Repeat
Preventative	0.5-1 ind./m <sup>2</sup>	Full field On leaves or in plants	Weekly Min. 4 times
Low curative	1-2 ind./m <sup>2</sup>	Hotspots and surroundings	Weekly Until good control
High curative	5-15 ind./m <sup>2</sup>	Hotspots and surroundings	Weekly Until good control

## Application

### Release moment

Encarsia-System can be used preventatively. When whitefly larvae are detected, increase the dosage rate in line with pest density. It is recommended to combine the use of Encarsia-System with Eretmocerus-System.

### Release method

**Loose pupae:** Gently rotate the bottle horizontally to ensure homogenous distribution. Pupa can be spread very easily in the crop, either on the leaves or using a Bio-Box. It is very important to scatter the pupae on a dry surface avoiding direct sunlight.

**On cards:** Bend and tear off the cards opposite from the mounting hook. Suspend the cards in the crop by the hook, if possible, approximately 75cm below the top of the plants. Avoid direct sunlight. Spread the cards equally over the surface that has to be treated to guarantee the best result. To prevent from damage, be careful to not touch the pupae while loosening and hanging the cards in the culture.

### Release conditions

Conditions for optimal activity of Encarsia require a minimum average greenhouse temperature of 18°C/64°F. The lifespan of *Encarsia* is considerably reduced at temperatures above 30°C/86°F. *E. formosa* do not like large whitefly colonies, as excessive honeydew can hamper its mobility.

## Life cycle and appearance

Egg	Pupa of parasitized whitefly	Adult
<ul style="list-style-type: none"> <li>- Eggs are laid inside the host's larva</li> <li>- Duration: 2-4 days<sup>(1)</sup></li> </ul> <p><i>Note: Picture shows a non-parasitized whitefly</i></p>	<ul style="list-style-type: none"> <li>- Whitefly pupae that have been parasitized appear black in color</li> <li>- Wasp larva pass through three instars inside the host</li> <li>- Round exit hole visible when the adult has emerged</li> <li>- Larval &amp; pupal stage duration: 12 days<sup>(1)</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Black with a pale yellow abdomen</li> <li>- Clubbed antennae</li> <li>- 0.6 mm long</li> <li>- One female lays 20-35 eggs/day<sup>(2)</sup></li> <li>- Lifespan: 6-12 days<sup>(1)</sup></li> </ul>
		

<sup>(1)</sup> In case of an average temperature of 25°C/77°F/<sup>(2)</sup> Depending on the whitefly species

## Monitoring

- Parasitized whitefly larvae can be observed in the crop 10-14 days after the first application.
- The presence of a perfect round hole in the pupae indicates that an adult of *E. formosa* has emerged.
- Control is achieved when 80% of the whitefly larvae are parasitized.
- The efficacy can be checked by observing a reduction in pest population, reduced hotspots, healthy plant growth, free of honeydew or sooty mould and the presence of black whitefly pupae.

#### DISCLAIMER

Use plant protection products safely. Please read the label and product information before use. Please consult the instructions for use to prevent potential harm to people and environment.