Ceratitis capitata is a highly polyphagous insect that attacks all types of fruit. The larvae live inside the fruit and prefer those that have the most sweet and fleshy pulp such as the peach, but they also damage figs, apricots, oranges, mandarins, persimmons, grapes, pears, pomegranates, mangos, custard apples, papayas, loquats, plums, quinces, etc.

It can produce several generations every year, depending on the climate of the area. During the cold season, they live on the ground in pupal stage. In areas with a mild climate, it can produce up to 7 or 8 generations.

## **BIOLOGY**

According to Gómez-Clemente, it can have the following cycle in the Mediterranean regions:

In winter, the first generation of female adults appears and attacks oranges and clementines, looking for the sunniest branches. The mature fruits are more vulnerable. All citrus fruits are exposed to its attacks, but the thickness and the texture of the pee as well as



the density of the essential oils glands play an important role in their immunity, as is the case with the lemon.

They fly over the fruits looking for the right place. They select the fruit to lay their eggs depending on its colour and scent (they prefer yellow and orange).

They lay their eggs in groups of 5 to 10. Each female lays between 300 and 400 eggs. Entering inside the fruit, the larvae feed on the pulp. The rotten fruits fall to the ground and the larvae emerges from them by pupating underground at a depth of 5-10 cm. In spring, a second generation appears and affects the apricots. At the beginning of summer, there is a third generation that affects the peaches. In August and September, a fourth and fifth generation affects peaches, pears, figs, persimmons and grapes. *Ceratitis Capitata* also begins to bite oranges and mandarins that are still green.

Later on, there is a sixth generation that attacks late fruits, such as oranges and mandarins. If the temperature is mild, there could be other generations. Activity is reduced in winter but when the temperature rises above  $14\,^{\circ}\text{C}$ , the flies become active again.

Source: Universidad Politécnica de Valencia.

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## **ECONEX CERATITIS CAPITATA 90 DAYS**

**SOLUTIONS OVERVIEW** 



CODE	TRADE NAME	IMAGE
VA001	ECONEX CERATITIS CAPITATA 90 DAYS Pheromone diffuser with a duration of 90 days.	
TA090	INVAGINATED EOSTRAP®	
TA177	INVAGINATED EOSTRAP® ORANGE LID	
TA006	ECONEX MOSQUERO	
TA125	ECONEX YELLOW CHROMATIC 40 X 25 CM	
TA273	ECONEX FOLDING WHITE TRIANGULAR WITHOUT SHEETS	Almin
TA137	ECONEX YELLOW TRIANGULAR without sheets	2004
TA248	ECONEX SHEET FOR TRIANGULAR	- No Scott - Scott - Sc
TA188	ECONEX JACKSON TRAP SUPER (12X12X18 CM)	
TA242	ECONEX DISPOSABLE WHITE TRIANGULAR	Wall.
TA240	ECONEX DISPOSABLE WHITE TRIANGULAR MINI	
TA250	ECONEX BOTTLE TRAP	2 sope

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## **ECONEX CERATITIS CAPITATA 90 DAYS**

www.ceratitiscapitata.eu

Long-lasting sexual pheromone diffuser for males of the Mediterranean fruit fly Ceratitis capitata

## BIOCONTROL















## **DESCRIPTION**

# VA001 ECONEX CERATITIS CAPITATA 90 DAYS Long-lasting sexual pheromone diffuser to attract the males of the Mediterranean fruit fly Ceratitis capitata. It lasts 90 days in field conditions. OMDF register number: 151/2013

The diffuser contains 2 g of Trimedlure and consists of a cylinder made of compact polyester fibres impregnated with the attractant. It lasts 90 days in field conditions. It is individually packaged in an aluminium sachet with labelled specifications.

Once taken out of the packaging, **the diffuser needs no activation**, just placed correctly in the trap.



ECONEX CERATITIS CAPITATA 90 DAYS

Packaging and pheromone diffuser

## **DETECTION AND MONITORING**

Place 1 to 2 traps per hectare on the south side of the trees at a height of 1.5 to 2 metres, for the detection and monitoring of the Mediterranean fruit fly populations.

The traps should be placed approximately between 1 and 3 months before harvesting the crops.

### **MASS TRAPPING**

Males of this species are captured in order to reduce mating, meaning that the unfertilised females will lay unviable eggs. In this way, the pest population is reduced.

For this purpose, the amount of traps per surface area must be increased, according to location and uniformity of the plots. A trap controls a surface area between 500 and  $1.000\,\mathrm{m}^2$ . This means a density of 10 to 20 traps per hectare placed on the south side of the trees at a height of 1.5 to 2 metres.

On the borders of the plots, it will be necessary to place a barrier of traps separated 10 to 15 metres from each other.

## **PERIOD OF USE**

To obtain a good level of control of the Mediterranean fruit fly it is advisable to combine two methods: detection and monitoring; and mass trapping.

In spring, 1 to 2 traps per hectare can be placed for the detection of the pest and observation of its population levels. Through tolerance thresholds established in each area, the moment to adopt control measures is later defined, in this case mass trapping.

The tolerance threshold for *Ceratitis capitata* is very low and varies according to the area and type of traps used. In general, captures per trap and per day are between 0.5 and 3.

## **NECESSARY MATERIAL**

We can use the following traps: INVAGINATED EOSTRAP®, INVAGINATED EOSTRAP® ORANGE LID, ECONEX MOSQUERO, ECONEX BOTTLE TRAP, ECONEX FOLDING WHITE TRIANGULAR WITHOUT SHEETS, ECONEX YELLOW TRIANGULAR without sheets, ECONEX DISPOSABLE WHITE TRIANGULAR, ECONEX DISPOSABLE WHITE TRIANGULAR MINI, ECONEX JACKSON TRAP SUPER (12X12X18 CM) or ECONEX YELLOW CHROMATIC 40 X 25 CM.

The INVAGINATED EOSTRAP® and ECONEX MOSQUERO traps are more appropriate than the ECONEX TRIANGULAR and ECONEX JACKSON traps for mass trapping. In the INVAGINATED EOSTRAP® and ECONEX MOSQUERO traps it is recommendable to place a substance capable of killing or retaining the captured insects inside the traps, for example olive oil.



The ECONEX FOLDING WHITE TRIANGULAR WITHOUT SHEETS and the ECONEX YELLOW TRIANGULAR without sheets traps are activated by placing an ECONEX SHEET FOR TRIANGULAR on the base. The sheet is impregnated with a pressure-sensitive adhesive, without solvents, in which the insects are trapped.

The **ECONEX JACKSON TRAP SUPER (12X12X18 CM)** includes an adhesive sheet impregnated with a pressure-sensitive adhesive, without solvents, in which the insects are trapped.

The **ECONEX YELLOW TRIANGULAR without sheets** trap is specifically designed to increase the effect of the pheromone diffuser by its chromatic attraction. The colours used in the design of the trap with its chromatic attraction (visual) reinforce the use of the pheromone diffusert, creating a highly attractive environment for the *Ceratitis capitata*.



ECONEX CERATITIS CAPITATA 90 DAYS diffuser placed in an ECONEX WHITE TRIANGULAR trap

The **ECONEX YELLOW CHROMATIC 40 X 25 CM** is an adhesive trap. It is a yellow polythene sheet of  $1000 \text{ cm}^2$  (40 x 25 cm), resistant to sunlight, and with a 2x2 cm black grid on both sides. The sheet is covered on both sides with a pressure-sensitive adhesive, without solvents, which is protected by translucent silicone paper. There is a 1 cm margin on the longer sides of the sheet that does not contain the adhesive to facilitate its handling. It has a hole in each corner to make its installation easier.

The **ECONEX BOTTLE TRAP** is a bottle-shaped disposable trap with a capacity of 1 litre and made of PET. It has 4 diagonal holes with yellow polypropylene inserts that are a truncated cone shape. These inserts make it easier for the target insects to enter the trap both by chromotropic attraction as well as its funnel shape, also preventing them from escaping. It is a versatile and economical trap, optimised for its use in attraction and capture, by filling it with the appropriate attractant (not included) for the Mediterranean fruit fly (*Ceratitis capitata*).

The traps ECONEX FOLDING WHITE TRIANGULAR WITHOUT SHEETS, ECONEX YELLOW TRIANGULAR without sheets, ECONEX DISPOSABLE WHITE TRIANGULAR, ECONEX DISPOSABLE WHITE TRIANGULAR MINI, ECONEX JACKSON TRAP SUPER (12X12X18 CM) and ECONEX YELLOW CHROMATIC 40 X 25 CM stand out because of their simplicity of use. They still working until the pheromone runs out or the adhesive sheet is saturated with captured insects. They are less recommended in areas with lots of dust in the air.

## STORING THE DIFFUSERS

The diffusers must be stored in its original packaging in the refrigerator at  $4\,^{\circ}$ C; or in the freezer at -18  $^{\circ}$ C, in which case they will last for 2 and 4 years respectively.