

The *Prays citri* is considered at present to be the most damaging pest to lemon trees, as it destroys their floral organs, although it can also damage buds and small fruits.

Since damage occurs during the flowering period, the plants that are most prone to attack are those that have a gradual flowering period such as the lemon tree, in particular the Verna variety which has several consecutive blooms a year. Damage has also been seen in oranges and occasionally in the Clemenules Mandarin which also has a long flowering period.

MORPHOLOGY AND BIOLOGY

The adult is 10 mm in size, grey in colour with several dark spots on the wings which are lined with long fringes. The larvae are whitish or greenish with a brown head.

The adults fly at dusk and at night and lay their eggs mainly on the petals of closed flowers. They may also lay eggs in sepals, buds and small fruits.

The larva generally turns into a nymph inside the flower on which it has been feeding and to which it attaches itself with silk threads. It usually spends winter in chrysalis form and it is estimated that it can have up to 3 to 5 generations a year.



Adult of *Prays citri*



Egg of *Prays citri* on flower



Caterpillar of *Prays citri*



Pupa of *Prays citri*

On pink petals isolated eggs look like a whitish speck. If many eggs have been laid on the flower buds the damage will be extensive in the flowering period.

The caterpillars that hatch from this egg puncture the chorion and directly penetrate the flower in the area between egg and petal.

Source: Professors F. García Marí, J. Costa Comelles and F. Ferragut.
Photos: E. Llacer in <http://gipcitricos.ivia.es>

ECONEX PRAYS CITRI 2 MG 90 DAYS



SOLUTIONS OVERVIEW

CODE	TRADE NAME	IMAGE
VA428	ECONEX PRAYS CITRI 2 MG 90 DAYS 1 UNIT Pheromone diffuser with a duration of 90 days.	
VA429	ECONEX PRAYS CITRI 2 MG 90 DAYS 10 UNITS Pheromone diffuser with a duration of 90 days.	
TA001	ECONEX POLILLERO	
TA042	EOSTRAP®	
TA118	ECONEX WHITE TRIANGULAR without sheets	
TA248	ECONEX SHEET FOR TRIANGULAR	
TA242	ECONEX DISPOSABLE WHITE TRIANGULAR	
TA240	ECONEX DISPOSABLE WHITE TRIANGULAR MINI	



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ECONEX PRAYS CITRI 2 MG 90 DAYS

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Citrus flower moth

BIOCONTROL



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PHEROMONES AND TRAPS
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DESCRIPTION

CODE	TRADE NAME
VA428	ECONEX PRAYS CITRI 2 MG 90 DAYS 1 UNIT
VA429	ECONEX PRAYS CITRI 2 MG 90 DAYS 10 UNITS
	Sexual pheromone diffuser of the species <i>Prays citri</i> to attract males, with a duration of 90 days in normal field conditions.
	OMDF register number: 027/2020

The diffuser is a closed polyethylene tube that is individually packaged in an aluminium sachet with labelled specifications.

Once removed from the packaging, the diffuser needs no activation or opening, just place it properly in the trap.



**ECONEX PRAYS CITRI
2 MG 90 DAYS 1 UNIT.** Packaging
and pheromone diffuser

NECESSARY MATERIAL

A trap **ECONEX POLILLERO**, **EOSTRAP®**, **ECONEX WHITE TRIANGULAR without sheets**, **ECONEX DISPOSABLE WHITE TRIANGULAR** or **ECONEX DISPOSABLE WHITE TRIANGULAR MINI** and a pheromone diffuser **ECONEX PRAYS CITRI 2 MG 90 DAYS**.



**ECONEX
POLILLERO**



EOSTRAP®



**ECONEX
WHITE TRIANGULAR
without sheets**



**ECONEX DISPOSABLE
WHITE TRIANGULAR**



**ECONEX DISPOSABLE
WHITE TRIANGULAR MINI**

DETECTION AND MONITORING

Use **1 to 2 traps per hectare** placed at crop height. Traps may be placed on a support for that purpose.

The traps should be set as soon as new growth begins and the first flower buds appear. Hang the traps from a branch in the sunny part of the tree at a height of 1.5 to 2 metres.

MASS TRAPPING

Mostly the males of this species are captured, in order to reduce the mating, so that non-copulated females will have unviable eggs. This reduces the pest population.

To carry out mass trapping the number of traps per area should be increased depending on the location and homogeneity of the crops. One trap can control an area of between 500 and 1,000 m². This entails a trap density of **10 to 20 traps per hectare**. 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 achieve good control of *Prays citri*, it is advisable to combine the two methods: detection and monitoring and mass trapping. In spring you can place 1 or 2 traps per hectare to detect the pest and observe the level of their populations. Through established thresholds of tolerance in each area, the control measures are later defined, in this case mass trapping.

The threshold of tolerance for *Prays citri* is very low and varies according to the area. Generally it is around 7 and 21 captures per trap and per week. Moment in which we recommend to set traps all over the crop for mass trapping.

DAMAGES

The most serious damage is caused to the Verna lemon tree during the two main flowering periods, the first in April-May and the second in late summer in September. The June flowering period is not as abundant and therefore the damage is also less.

When the larvae attack the flowers, they feed on the anthers and the pistil inside. They then move on to other flowers and link the entire damaged area together with silk threads. These form masses in the interior in which there are a lot of dry petals and dark-coloured excrement.



Damages of *Prays citri* in floral bud

The damage can be confused with that of *Cacoecia* but this pest mainly attacks early fruit and not flowers and it does not produce sawdust and excrement.

Once on the leaves the larvae can feed off the epidermis. They bore a gallery along the shoot in leaf buds making rubbery excretions. When they attack recently set fruit they usually bore a gallery in the style and end up eating the entire fruit.

Damage to developing fruit can be seen as blemishes on the surface caused by the larvae eating the peel. The chorion of the egg can be found in the centre of these blemishes.

Occasionally the larvae can also damage the grafts of all types of citrus fruit trees as they penetrate beneath the shield and feed on the cambium so the graft dries out. Once the damage is complete the larva moves down to the soil to pupate. The larvae may also pupate near the damaged area. Similar damage to the grafts can be produced by other pyralids such as *Ephestia* sp. or *Cryptoblabes*.



FACTORS THAT INFLUENCE THE NUMBER OF TRAPS REQUIRED

Pest population, bordering crops, level of control required, etc.

An important factor is crop size. In small and irregular sized crops a greater number of traps will be needed.

Another important factor is the distance between plots that have the same pest. In such cases the crop boundaries should be reinforced, so a trap density of about 20 traps per hectare may be needed. More traps may be needed in the case of mass trapping.



ECONEX DISPOSABLE WHITE TRIANGULAR
with captures of *Prays citri*

STORING THE DIFFUSERS

The diffusers must be stored in its original packaging without opening it in a refrigerator at 4 °C; or in a freezer at -18 °C, in which case they remain effective for 2 and 4 years respectively.