FMC
An Agricultural Sciences Company

# Exirel®
Insect control

powered by
CYAZYPYR®
active ingredient

## A GOOD REPUTATION BUILT FROM DAY 1

USE PLANT PROTECTION PRODUCTS SAFELY AND WITH RESPONSIBLE CARE.
PLEASE ALWAYS FOLLOW THE LABEL WHEN APPLYING PLANT PROTECTION PRODUCTS.

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Insecticide

## *CERATITIS CAPITATA* CAN THREATEN A CITRUS GROWER'S BUSINESS

One of the biggest challenges for citrus growers is the Mediterranean fruit fly or medfly *Ceratitis capitata*. Female medflies lay their eggs under the skin of fruits and the eggs hatch within a couple of days. The larvae will then feed within the fruit and finally dig their way out when they have reached the final larval development stage. In this way, *Ceratitis capitata* causes an immense damage to growers.

In addition to the loss of marketable yield that *Ceratitis capitata* generates in orchards, this pest also poses a significant threat to exporters. Products showing signs of infestation will be rejected, leaving growers with a serious financial loss.

The symptoms of *Ceratitis capitata* damage start with a light spot around the oviposition puncture. When the larvae develop, the fruit starts to rot until it drops from the tree. As soon as oviposition has taken place, the fruits are hard to sell just because of the oviposition puncture.

## EXIREL® INSECTICIDE – A FLY BAIT CONTROL SOLUTION WITH A NEW MODE OF ACTION

The **Exirel®** insecticide fly bait control solution is the combination of **Exirel®** Insecticide (100 mℓ/ha) and Hym-Lure Attractant (400-1000 ml/hl), a hydrolised protein serving as a fly attractant. **Exirel®** Insecticide contains Cyazypyr®, the second active ingredient from the anthranilic diamide class of chemistry, and the first to control a cross-spectrum of chewing and sucking pests. Cyazypyr® delivers a novel mode of action for sucking pests and controls pests that are resistant to other insecticides, making it an excellent tool for Integrated Resistance Management programmes.

In particular, **Exirel®** Insecticide provides outstanding insect control of fruit flies, such as *Ceratitis capitata*. Hym-Lure Attractant attracts flies looking for a source of food in fruits and foliage, and **Exirel®** Insecticide controls those flies as they ingest the product. When used at the beginning of a pest infestation, **Exirel® Fly Bait** Insecticide will protect the fruits and prevent or delay the growth of populations of highly prolific pests.

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## EXIREL® FLY BAIT INSECTICIDE AT A GLANCE

**Exirel® Insecticide + Hym-Lure Attractant**

powered by **Cyazypyr®**

| | |
|---|---|
| Crop | Citrus |
| Pest | *Ceratitis capitata* |
| Application method | Foliar band application |
| IRAC timing | BBCH 81-89 (interval of 7 days between applications) |
| Application rate | 10g a.i./ha per application and 5 applications per season (max. 50 g a.i./ha per season) |
| PHI | 1 day |
| Amount of water | 50 – 100 ℓ/ha |

## RECOMMENDED APPLICATION OF EXIREL® FLY BAIT INSECTICIDE

For maximum control, **Exirel® Fly Bait** Insecticide should be applied with 3 back-to-back applications at a 7-day interval* during fruit ripening (the most sensitive stage for egg laying in fruits is when fruits start changing colour). Follow this with a "window" of 60 days with applications of an effective registered product with a different mode of action, after which 2 consecutive applications of **Exirel® Fly Bait** insecticide can be applied again. Further applications with other modes of action can then follow till harvest to complete the protection strategy.

Exirel® Fly Bait Insecticide
7 day interval for medfly control

60 day Alternative insecticide mode of action window

Exirel® Fly Bait Insecticide
7 day interval for medfly control

* In case of significant rain (>10-15 mm) after treatment, "reapply" Exirel® Fly Bait Insecticide.

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## FLEXIBLE AND CONVENIENT USE FOR GROWERS

**Exirel® Fly Bait** Insecticide should be applied as spot or band applications on a small part of each tree (for example 1 m² on each tree of each row). These types of applications can be carried out using a backpack sprayer, a lance sprayer on a quad or even a conventional sprayer keeping only one nozzle open and without air assistance.

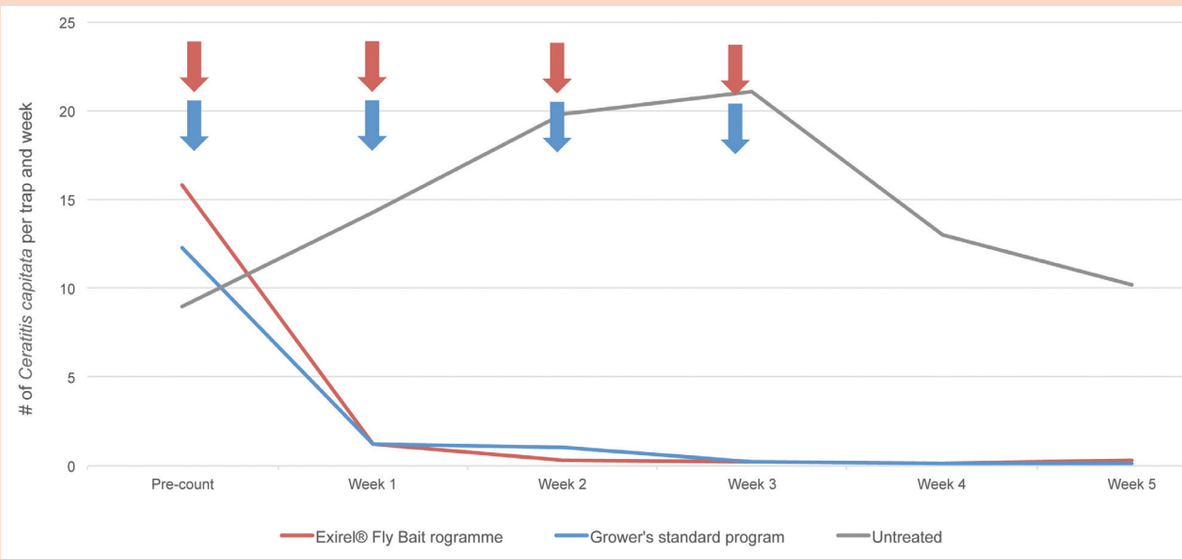
**Exirel® Fly Bait** Insecticide can be adapted to a grower's current practice in terms of application technology (band or spot application) and water volumes (from 50 to 100 ℓ/ha), as no differences between application volumes or methods have been recorded in our field trials.

## EXIREL® FLY BAIT INSECTICIDE HELPS TO REDUCE MEDFLY POPULATIONS

One key component of a successful *Ceratitis capitata* strategy is to keep the level of the fly population as low as possible in the orchards. This can be achieved by different means, such as mass trapping systems.

**Exirel® Fly Bait** Insecticide has also been shown to be an effective method of reducing adult fly population levels in citrus orchards up until harvest, if applied when the colour of the fruit begins to change (ripening). This increases the overall efficacy of the entire control program against *Ceratitis capitata*.

### AVERAGE NUMBER OF *CERATITIS CAPITATA* ADULTS CAPTURED PER TRAP AND WEEK




Source: Averages from 5 x **Exirel®** insecticide registration trials against Mediterranean fruit fly (*Ceratitis capitata*) on sitrus in South Africa.

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## EXIREL® FLY BAIT INSECTICIDE HELPS ENSURE A MARKETABLE YIELD FOR CITRUS GROWERS

Untreated plot with much *C. Capitata* damaged fruit on the ground.

**Exirel®** Insecticide plot with almost no damaged fruit on the ground.

Source: Turkey (2014)

| | EXIREL® FLY BAIT INSECTICIDE PROGRAMME: 2 x Exirel® Fly Bait Insecticide application (10 – 12 day interval) followed by grower's programme (7 day interval) | GROWER'S PROGRAMME: spinosad fly bait application (7 day interval) | Untreated |
|---|---|---|---|
| # of applications | 6 | 7 | 0 |
| Average yield of the Marisol variety | 23,000 kg/ha | 23,000 kg/ha | 23,000 kg/ha |
| Damaged fruits after storage of 10d in climatic chamber | 4.5 % | 8.5 % | 13 % |
| Loss | 1035 kg/ha | 1955 kg/ha | 2990 kg/ha |

Source: Trial conducted with IVIA (Instituto Valencian de Investigaciones Agrarias (2015 Spain)

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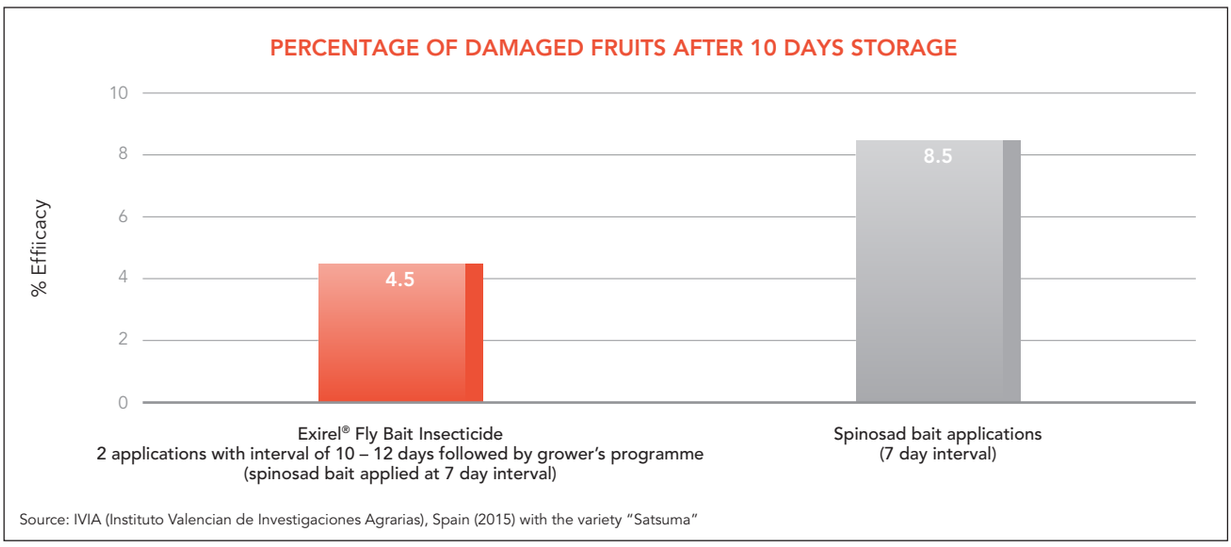
## GREATER SECURITY FOR THE SHIPMENT OF YOUR HARVEST

**Exirel® Fly Bait** Insecticide is the right tool to start protecting crops against *Ceratitis capitata*. It can help reduce the risk of rejected harvest and financial losses by minimizing the development of *Ceratitis* damage during storage. This helps growers to increase their reliability for their customers when they export their production.




Source: IVIA (Instituto Valencian de Investigaciones Agrarias), Spain (2015) with the variety "Satsuma"

## INTEGRATED PEST MANAGEMENT (IPM)

The active ingredient Cyazypyr® has been tested with several different beneficial arthropods and the results indicate that products powered by Cyazypyr® have an excellent profile. In almost all cases no or low impact could be observed when the product is used according to its label recommendation. This makes **Exirel®** Insecticide an excellent product for IPM programmes.

In studies conducted specifically in citrus orchards, **Exirel® Fly Bait** Insecticide did not show adverse effects on predators (like *Adalia bipunctata, Cryptolaemus montrouzieri*, chrysopids, hoverflies), parasitoids (like *Aphytis melinus, Cales noacki,* Metaphycus) or phytoseiids.

Additional studies assessing the effects of **Exirel® Fly Bait** Insecticide show that it is not attractive to honeybees, and has no effect on mortality, flight activity, behaviour, brood development or colony size. It is always recommended to not apply any insecticide to actively foraging bees.

## SAFE USE

Safety is a priority at FMC, and we encourage farmers and other workers to use our products with care.
We recommend that they:

- Reduce potential user exposure through improved application techniques;
- Reduce dermal and inhalation exposures by the proper use of appropriate Personal Protective Equipment (PPE);
- Reduce any environmental impact with effective container rinsing, correct disposal and avoidance of surpluses.

For more information please contact:

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Claims of crop growth enhancement and yield improvements are based on internal trials and data. Actual field results may vary. Exirel® contains cyantraniliprole (anthranilic diamide) (Cyazypyr®) Reg. No. L10447 Act No. 36 of 1947, caution. Exirel® and Cyazypyr® are trademarks of FMC Corporation or an affiliate. Date: 09/2020.
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