

Easy and quick to apply and effective against the pest.

Magnet™ MED reduces more than 60% of the application time compared to conventional Mass Trapping systems, reducing application labour costs. Its field duration allows application prior to the period when fruit is more susceptible, increasing the pest-

Characteristics

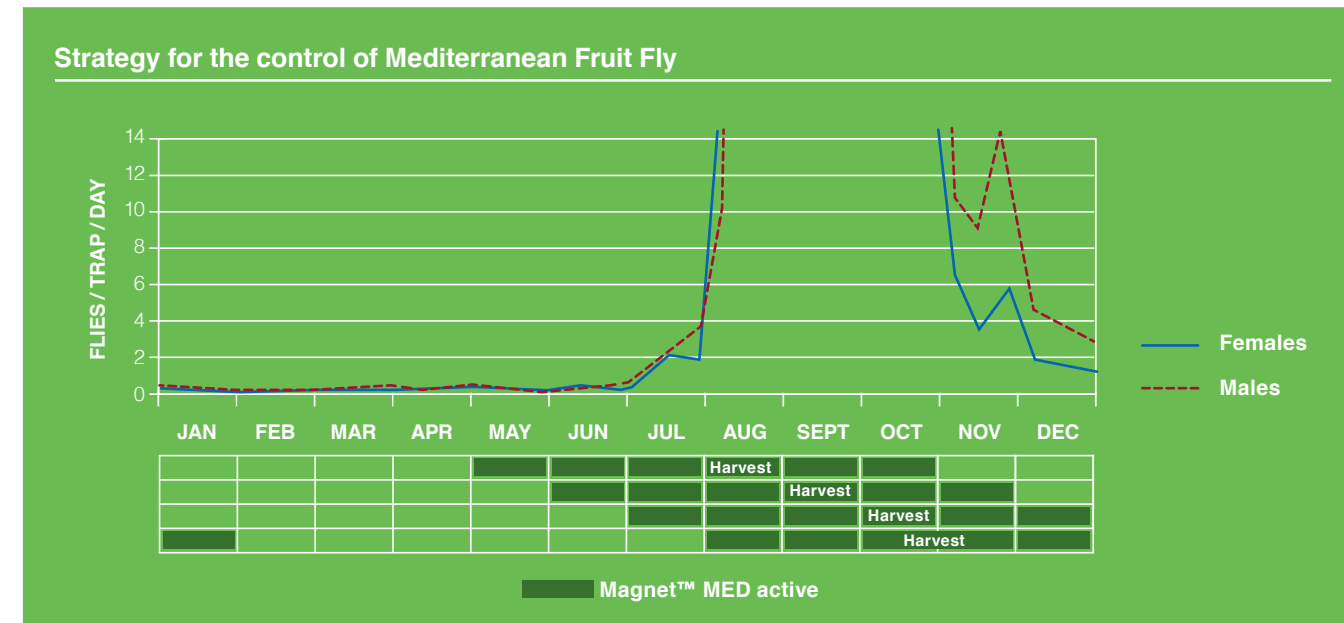
- In contrast to conventional treatments, this system has been developed to be active in the field for long periods:
 - This allows early control of Medfly, decreasing the population before the fruit becomes susceptible.
 - This also allows which reduces overwintering populations and initial pest pressure the next year.
- Patented powerful attractants (BioLure® Unipack).
- Absence of direct contact between the insecticide and the fruits, and the devices are easy to remove from the field.
- Easy to integrate within MedFly control strategies.
- Ready-to-use devices.
- Officially approved for organic fruit production (EU directive 2092/91 Annex II).

Application

- Apply at a rate of 50 (in citrus) to 75 (in stone fruits and grapes) devices per hectare
- Efficacy may improve in areas of high populations if a greater number of devices are used.

Deployment

- The device includes a hook at the top for easy placement in branches. Devices should be hung as high as practical on the sunny side. Choose a strong branch which is not likely to break or be pruned before the end of the season. Ensure the device is securely hooked onto the branch.
- Avoid placing the device near or above developing fruit to avoid direct contact between fruit and device.



We protect crops while protecting the planet.



Suterra is the world-leading provider of bio-rational products for crop protection and commercial pest control.

We offer a highly qualified Technical Service.



The best result: your fields pest-free.



Innovative technology for finding the best solutions.

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Get rid of the Mediterranean Fruit Fly with Magnet™ MED.

Protection and Efficacy in one step.



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1.

What is Magnet™ MED?

Magnet™ MED is a system for the control of the Mediterranean Fruit Fly, *Ceratitis capitata*, or Medfly, lasting at least six months. It consists of a laminated device with built-in hook. The external surfaces are impregnated with an insecticide formulation but leaving an insecticide-free surface for manipulation. A lure with specific attractants for *Ceratitis capitata* (BioLure® Unipack) is placed inside the device, releasing the attractants through holes located in each side of the device.

Use plant protection products safely. Always read the label and product information before use.

The insecticide is a special formulation of deltamethrin whose advantages include:

- Strong initial effect during the short period of contact
- Potent low-dose insecticide with long residual effect
- Highly stable formulation
- High persistence
- Resistant to rainfall washing
- Environmentally friendly
- Permitted in European organic orchards (EU Directive EU 2092/91)

Magnet™ MED Advantages compared to other devices:

Magnet™ MED

- Compact design and light weight
- Easy to transport
- Easy to apply
- Setup and deployment time of 30 minutes per ha
- Quick hanging, and ready to use
- Device design allows for a controlled release rate of the attractant

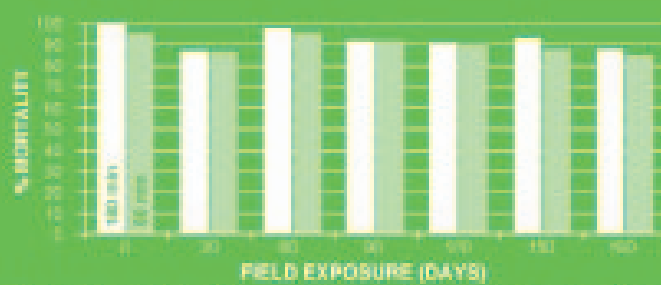
Other devices

- Bulkier and heavier
- Difficult to transport and store
- Difficult to manage
- Setup and deployment time of 80 min per ha
- Conventional hook
- Longer setup time

Magnet™ MED not only protects the crop during its period of susceptibility but also affects the pest for approximately six months, reducing the population from one season to the next. Other systems fall short by only protecting crops during their peak of susceptibility.

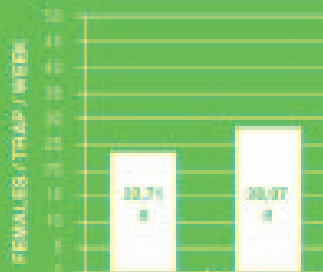
Persistence of the Deltamethrin

Mortality of *C. capitata* by Magnet™ MED of different field ages. Centro de ecología Química Agrícola, LIPV, 2011.



These results demonstrate that the insecticide activity of Magnet™ MED in the field lasts at least six months.

Persistence of the attractants



Results show that after six months of using BioLure™ Unipack, the number of females captured is similar to that of using a fresh BioLure™ Unipack.



2.

The problem: the Mediterranean Fruit Fly. The solution: Magnet™ MED.

The Mediterranean Fruit Fly is a key pest of citrus, stone fruits and table grapes throughout the Mediterranean region, Africa, Central and South America and Western Australia.

Mass trapping applied by conventional products is effective but can be expensive, slow to act, and complicated.

The Magnet™ MED Attract and Kill (A&K) system offers a new technology for management of the Mediterranean Fruit Fly that is also acceptable in organic production.

Magnet™ MED is a novel product that is intended for use as part of an integrated control strategy. The device is hand-applied to crops and each device combines long-life attractants with an insecticide formulation for season-long control.

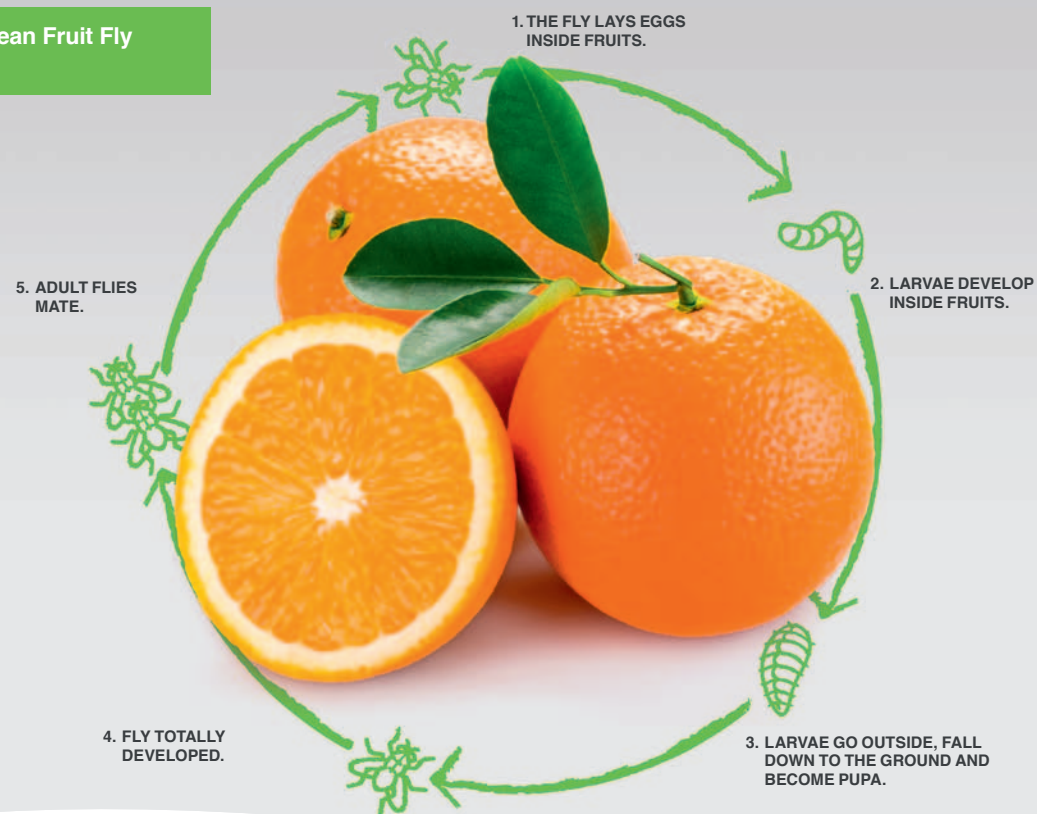
Attractants lure male and female Medflies to the insecticide treated surface, reducing the need for overall insecticide use and controlling the pest without the risk of insecticide contamination of the fruit and minimising the damage to the environment.

Magnet™ MED can be applied to any crop, including organic, and only a single application per season is required. The application not only protects during the period of greater susceptibility, but also fights the pest for a much longer period. Due to its design, Magnet™ MED is easy and quick to deploy.

Pest Characteristics

- The target stage for the control of the pest is the adult because the larvae and pupae are protected, either within the fruit or on the ground.
- The emergence of the adults is higher in high temperature weather conditions.
- Oviposition takes place under the epidermis of the fruit, and the eggs hatch after 1.5 to 3 days.
- Larvae feed and develop within the fruit, making it non-marketable. Once fully developed, they drop to the ground where they pupate. In summer a generation takes place in 4 weeks.

Mediterranean Fruit Fly Life Cycle



Magnet™ MED

3.

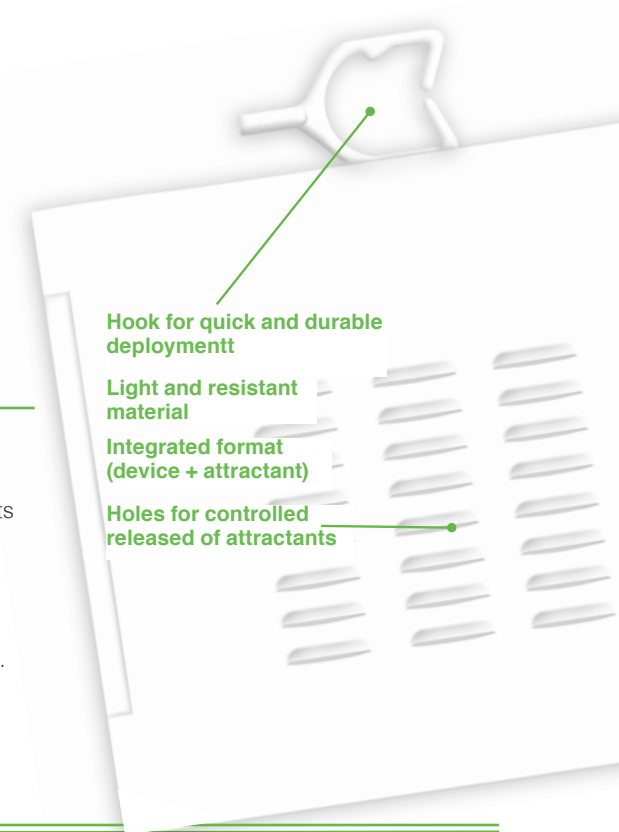
Efficacy in two steps: first lure the fly, then kill it.

Magnet™ MED includes patented Medfly food attractants, ammonium acetate, putrescine and trimethylamine hydrochloride. The BioLure® Unipack, is patented by Suterra® LLC and the USDA, and Suterra® LLC has the commercialization rights worldwide.

The entire device acts as a controlled release mechanism, releasing the attractants for a period of at least six months.

Adult Medflies of both sexes, **mainly females** (70%), are attracted to the device and when they land on its surface, they are killed by the insecticide.

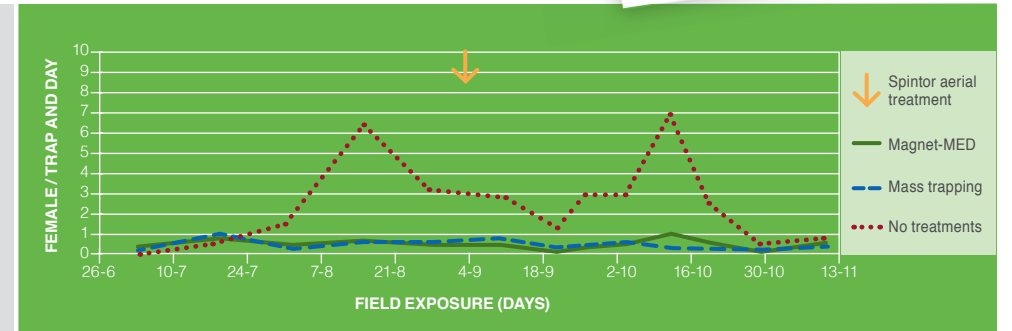
Its effectiveness is supported by a large number of field trials conducted over the last five years in the Mediterranean Region, mainly in Italy, Spain and North Africa.



Captures

MedFly population reduction.

As Mass trapping as well Magnet™ MED achieved a significant population reduction in trials conducted in clementine orchards.



Comparison of fruit damage according to the control system

The long life of Magnet™ Med (six months) allows for earlier and long-lasting applications. This not only improves the efficacy during the period of susceptibility of the fruit, but also affects the population of Medfly after harvest, reducing the population level from one season to the next one.

Control system	Rate	Site	Year	Crop	% Damage
Magnet Med	50	Murcia, Spain	2009	Citrus	4,5 a
Mass trapping with liquid lure	120				4,7 a
Magnet Med	50	Murcia, Spain	2009	Citrus	0,12a
Mass trapping with liquid lure	120				0,03a
Magnet Med	50	Murcia, Spain	2009	Citrus	0,15 a
MasstrappingwithBioLure®Unipack	50				0,0 a
Magnet Med+insecticide	50+2	Portugal	2009	Citrus Marisol variety	0,8 a
Chemical treatment	7				2,0 b
Magnet Med	50	Murcia, Spain	2009	Grapes	0,0 a
Mass trapping with liquid lure	120				0,22 b
Magnet Med	50	Agadir, Morocco	2009	Citrus	0,01a
Chemical control					1,97 b
Untreated					9,2 c
Magnet Med	50	Kentira, Morocco	2009	Citrus	0,9 a
Chemical control					5,8 b
Untreated					20 c
Magnet Med	75	Italia	2009	Peach	1,5 a
Chemical control					6,9 b
Magnet Med	50	Valencia, Spain	2010	Citrus Marisol variety	0,13a
Spintor					0,28a
Masstrapping withBioLure®Unipack	50				0,28a
Magnet Med	50	Valencia, Spain	2011	Citrus Marisol variety	0,04 a
Spintor					0,03 a
Mass trapping withBioLure®Unipack	50				0,03 a

*% Damage: Different letters demonstrate significantly different damage results.