Pheromone Trap : Diamondback moth

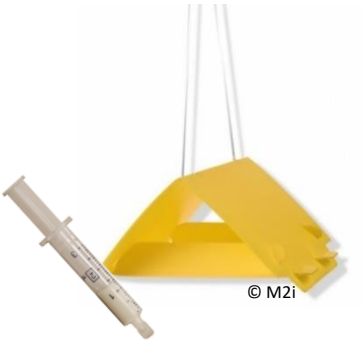
M2i technology

- Unique patented process of pheromone micro-encapsulation
- Controled rate of pheromone release for greater efficiency
- 100% biodegradable
- Easy storage, at room temperature
- Extended shelf life: 2,5 years

User guide

M2i recommends: Plutella Pro Caps® syringe + Delta trap

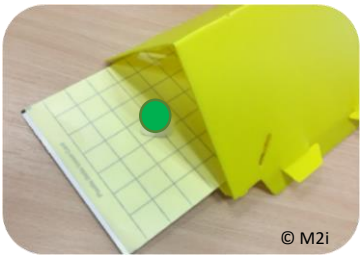
Trap setup: empty the content of the syringe into the cup. Remove the protective film from the sticky sheet. Stick the cup containing the pheromone formulation in the middle of the sheet. Place the sticky sheet in the trap. The moths are attracted by the sexual pheromone, enter the trap and are caught.



Characteristics of Plutella Pro Caps®

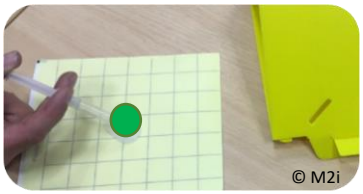
Type of product	Pheromone dispenser
Use	Monitoring
Active substance	Z11-hexadecenyl acetate; Z11-hexadecenol; Z11-hexadecenal
Formulation volume	1,2 ml
Indicative diffusion*	2 months
Targeted insect life-stage	Adult (moth)
Estimated radius of diffusion	Moths attracted on a radius of 5 m

* depending on climatic conditions, for an average temperature of 30°C and without strong winds.



Monitoring setup

Detection period: from April to October (adapt and renew the pheromone dispenser according to the recommended diffusion time).
Trap location: hung 30 cm above the crop.
Recommended density: 4-6 traps/ha or 2 traps/500m² in greenhouse.



Pest monitoring and recommendations

Trap follow-up frequency	Weekly
Recommended intervention	10 moths/trap/week
Pest control methods	During the critical season and depending on trapping levels: it is possible to perform an additional insecticide and/or a biocontrol treatment according to the insect life stage. Refer to recommendations of registered products for plant protection (ephy.anses.fr) and/or to your technical advisor.
Possible preventive measures	Favor the introduction of predators (auxiliary insects, birds); favor intercropping and crop rotations; eliminate carefully adventitious plants (wild Brassicacae plants); remove green waste from past crop.

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Pheromone Trap : Diamondback moth


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The Diamondback moth (*Plutella xylostella*)

Pest life-stage: caterpillar **Order**: Lepidoptera

The Diamondback moth is considered one of the most difficult pests to control because of its high ability to disperse. Its origin is still uncertain and it could originate from the Mediterranean area or South-Africa. This small Lepidoptera measures 10 mm with pronounced antennae, a grayish-brown body and a light strip on the back shaped with 2-3 aligned diamonds. The color of caterpillars varies with the larval instar, young caterpillars being yellow and older caterpillars bright green.

Damages are caused by the caterpillars. Young caterpillars feed on the inside of the leaves (causing mines) and older caterpillars feed on leaves, stems and flowers/fruits. Young leaves are their favorite. Usually, only the leaf veins remain untouched. This species can cause up to 90% production loss.

Plutella xylostella can perform between 4 (temperate climate) and 20 (tropical climate) generations per year. The temperature can drastically reduce its life cycle. After spending winter as a chrysalis, moths emerge in the spring. Generations will follow quickly. Be aware that this insect is resistant to a large number of insecticides, including *Bacillus thuringiensis.*

Recommandations / Security
Keep out of reach of children. Keep away from domestic animals.
Store away from food and drink. Do not freeze.
Do not eat, drink or smoke during use.
Wash hands after use.
Store in original packaging. Comply with doses, conditions, instructions and precautions for use mentionned in the user's guide.
Dispose of the empty and clean packaging in the household trash.

First aid
If eye contact occurs, rinse with water for several minutes.
In case of skin contact, wash with plenty of water.
If swallowed, do not induce vomiting, rinse mouth and see a doctor.
In case of faintness, see a doctor and show him the product label.

Product approved for organic agriculture.

Host plants

The Diamondback moth is an oligophagous species, specialist of both cultivated (all cabbages, mustard, turnip, canola, etc.) and wild (Shepherd's-purse, cardamine, etc.) Brassicacea.

Detection strategy: pheromone monitoring

Pheromones are substances produced by insects which operate as a signal between individuals of a same species. There are different types of pheromones: alarm, aggregation, sexual… Monitoring with sexual pheromones is based on a lure placed inside a trap which mimics the substance produced by the female. Lure attracts males which are captured. This enables the detection of the pest's onset and the follow-up of its infestation level. Monitoring also helps decision-making (to launch a curative intervention) and/or measuring the efficiency of a treatment.

Benefits

This method is efficient, selective and harmless for fauna, flora, operators and local residents. It does not generate residues, inputs or resistance mechanisms.

Detection period for *P. xylostella*

Indicative period for Europe

Drawings from Sophie Duprat Caoure

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