

Pheromone Trap : Horsechestnut Leafminer



PHEROMONE DISPENSER



M2i technology

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

User guide

M2i recommends: Cameraria Pro Caps® syringe + Delta trap

Trap setup: empty the content of the syringe simply by pressing the plunger (no need to cut the tip) 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 Cameraria Pro Caps®

Type of product	Pheromone dispenser
Use	Monitoring
Active substance	8E,10Z-Tetradecadienal
Volume of formulation	0,5 mL
Indicative diffusion span*	3 months
Targeted insect life-stage	Adult (moth)
Estimated radius of diffusion	Moths attracted on a radius of around 7m

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

Monitoring setup

Detection period: from March to October (adapt and renew the pheromone dispenser according to the recommended diffusion time).

Trap location: hung on branches, in the canopy of the tree. Use a weighted string to set up the trap.

Recommended density: 1 trap/tree for isolated horsechestnuts ; 1-2 traps/tree in areas with higher density of horsechestnuts

Pest monitoring and recommendations

Trap follow-up frequency	Weekly
Recommended intervention	Not applicable
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	Collect and eliminate leaves fallen to the ground in the late season.

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The Horsechestnut Leafminer (*Cameraria ohridella*)

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

The horsechestnut leafminer is native from the Balkans. Adults are deep brown with bright white chevrons (lined with black). They measure 4-5 mm long and their wingspan is 7-8 mm. They live only a few days. Females lay their eggs one by one at the surface of the leaves. They hatch 2-3 weeks later.

Caterpillars have a corrugated body, translucent yellow in colour. They measure 0,5-3,5 mm and develop in 25-35 days. Caterpillars feed on leaves by digging galleries. Leaves become yellow, then brown and fall to the ground. In cases of a high pressure, a total leaf fall can occur but seems not to affect the development of mature trees.

When fully grown, caterpillars pupate in the leaves, inside the galleries. Adults emerge 2-3 weeks later. The pest overwinters at the pupal stage, in a cocoon inside the galleries, in dead leaves fallen to the ground. The pest can spawn 2 to 4 generations per year depending on the geographical area and weather conditions.

Recommendations / 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 mentioned 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

Cameraria ohridella is the major pest of horsechestnuts. It mainly attacks *A. hippocastanum* and *A. turbinata* and can also develop on Sycamore maple, Norway maple and other *Aesculus* species.

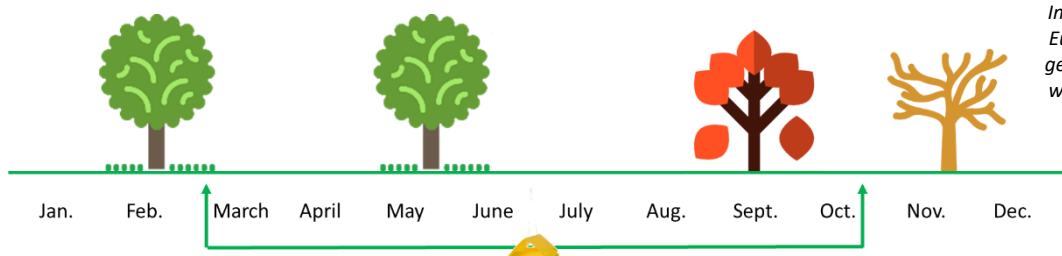
Detection strategy: pheromone monitoring

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 *C. ohridella*



Indicative period for Europe (depends on geographic area and weather conditions)