

# Food-attractant trap: Western Flower Thrips

## M2i technology

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

## User guide

**M2i recommends:** Frankliniella Pro Caps® syringe + blue Sticky trap

**Trap setup:** remove the protective film. Stick the cup in the middle of the adhesive part. Empty the content of the syringe into the cup. Thrips are attracted by the food-attractant and are trapped on the adhesive.

### Characteristics of Frankliniella Pro Caps®

Type of product	Food-attractant dispenser
Use	Monitoring
Active substances	Cyclopropyl methyl isonicotinate ; Lavandulyl cyclopropane carboxylate
Volume of formulation	1 mL
Indicative diffusion*	3 months
Targeted insect life-stage	Adult (thrips)
Estimated radius of diffusion	Thrips attracted on a radius of 10 m

\*for an average temperature of 30°C and in the absence of strong winds.

### Monitoring setup

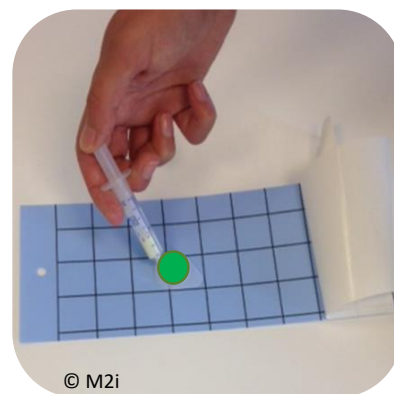
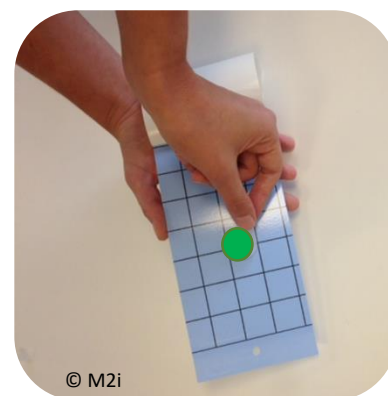
Detection period: approx. from April to October for field-scale crops ; throughout the year in greenhouses (adapt and renew the dispenser according to the recommended diffusion time).

Trap location: suspended around 10 cm above the crop (market gardening) or in the canopy of the tree (tree crops).

Recommended density: 1 trap / 50-100m<sup>2</sup>

## Pest monitoring and recommendations

<b>Trap follow-up frequency</b>	Weekly. Renew the trap when the number of catches becomes too high
<b>Recommended intervention threshold</b>	1 to 2 thrips per flower/fruit ; 3 to 10 thrips/trap/week
<b>Pest control methods</b>	During the critical season and depending on trapping levels: it is possible to perform an additional insecticide and/or biocontrol treatment according to the insect life stage. Refer to recommendations of registered products for plant protection ( <a href="http://ephy.anses.fr">ephy.anses.fr</a> ) and/or to your technical advisor
<b>Possible preventive measures</b>	Control the development of attractive weeds ; perform green pruning and thinning to aerate the crop and limit contact between the fruit (appreciated by thrips) ; harvest mature fruits and pick those that have fallen to ground ; control humidity when possible



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## The Western Flower Thrips (*Frankliniella occidentalis*)

**Pest life-stage:** larva + adult

**Order:** Thysanoptera

Native from North America, the Western flower thrips has been present in France since 1987. Adults are yellow - brown and measure 0,9 to 1,4 mm. They live around 30 to 45 days. Females can lay 20 to 40 eggs during their lifetime, in the epidermis of leaves, flowers and fruits. Eggs hatch 2 to 4 days later.

Larvae are white - cream colour. They measure 0,4 to 0,9 mm and can develop in 3 to 6 days. Adults and larvae feed on plant tissues (leaves, petals, shoots and fruits) sucking the host plant's fluids. This feeding pattern but also egg-laying lead to direct damages like discoloration, distortions of attacked plant organs and poor plant growth. The pest also causes indirect damages with the transmission of viruses like the tomato spotted wilt virus (TSWV) or the impatiens necrotic spot virus (INSV).

At the end of their development, larvae migrate to more protected areas such as lower leaves of the plant or in the soil to morph into pupae. Adults emerge 2 to 5 days later. Flights extend throughout the year, depending on the environment of the crop (ex. greenhouse) and climate conditions. The pest can complete up to 15 generations per year in favourable development 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.

## Hosts plants

The Western flower thrips is a highly polyphagous species which attacks more than 250 different plants. The pest is founded in tree crops (peach, plum or apple trees, vine,...), market gardening (bean, eggplant, pepper, strawberry, tomato,...) or ornamental crops (gerbera, cyclamens, chrysanthemum, african violet, rose,...).

## Detection strategy: food attractants

Food attractants are mimicking substances produced by the host plant in order to attract a targeted insect. Monitoring using such molecules can attract either males or females from this pest. It allows the detection of the fly in the orchard. In case of high pest pressure, performing a curative treatment and measuring its efficiency can also help.

## 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 *F. occidentalis*

Depends of climate and environmental conditions of the crop

