

# Mating Disruption: Key element of a successful building block strategy against *Cydia pomonella* in organic apple production

## Problem

The codling moth (*Cydia pomonella*) is the most important and most frequent pest in organic fruit growing. The larvae of the codling moth damage apples in particular and can cause considerable crop losses.

## Solution

The confusion technique can be considered as an elementary component of codling moth control. The most important condition for successful control is a low initial population.

## Benefits

The pheromone confusion technique is a residue-free and beneficial insect-friendly method with high efficacy in large-scale cultivation and low infestation pressure.

## Practical recommendations

- Pheromone confusion as a biotechnological process
- Attraction mechanisms based on sex pheromones
- A suitable method for codling moth regulation, especially in larger, adjacent plantations
- Type of dispensers
  - Aerosol dispensers (approx. two puffers per hectare) (Picture 3)
  - Passive dispensers (500-1,000 dispensers per hectare) (Picture 1 and 2)
- Dispensers should be applied shortly before codling moth flight begins (Flight control with pheromone traps)
- Regulation of moth flight with dispensers: regular release of sex pheromone over the entire codling moth flight period is crucial for treatment success
- Weather conditions have a decisive influence on the dispensing behaviour of the dispensers
- Distribute dispensers regularly within the orchard and double the amount in the last outer row or along the fence around the plantation.
- Suspend the dispensers in the upper third of the crown, otherwise, the efficiency will be low
- Apply the total number of dispensers per hectare; otherwise, the effect will be reduced
- Combined dispensers are available (effect against fruit peel and codling moth)
- Collect and dispose of the empty passive dispensers (at the latest when digging up the old plant), as they are very difficult to decompose in the soil

## Applicability box

### Theme

Crop production, Horticulture, Temperate fruits

### Keywords

Plant protection, pest control, biological pest control

### Context

Central Europe

### Required time

Immediately

### Period of impact

Spring, before the beginning of codling moth flight

### Equipment

Passive dispenser, Aerosol dispenser

### Best in

Pome fruits



Picture. 1 and 2: The most commonly used (in northern Germany) Passive Dispensers Isomate CLR Maxx TT and RAK 3. Picture 3: Checkmate Puffer (Photos: Christina Adolphi, ÖON).

### Further information

#### Weblinks

- Trautmann, M. 2017. [The pheromone confusion technique: A mainstay of successful winder regulation in fruit growing](#). KOB Bavendorf. (in German)
- Schluchterer, M., Kiem, U., Zimmer, J., Kienzle, J. 2020. [Regulation of codling and cup moths](#) (in German)
- The [Organic Farm Knowledge platform](#) for more practical recommendations

### About this practice abstract

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