

Codling moth prevention: Preserve antagonists in organic apple and pear orchards

Problem

Codling moth (CM) is the main pest in organic pome growing. Practices for orchard management mainly aim to keep damages as low as possible.

Solution

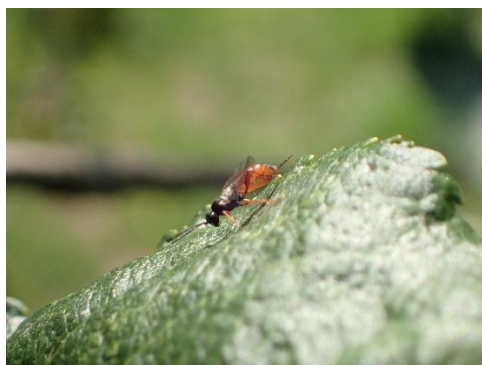
Preserving beneficials arthropods such as parasitoids (Picture 1), spiders, carabids (Picture 2), birds and bats allows to limit the use of direct control methods.

Benefits

Favourable practices will allow beneficials, such as *Mastrus ridens*, to better establish in the orchard, and help control codling moths. *M. ridens* are often found in orchards, but its population could also be increased with releases.

Practical recommendations

- Reduce plant protection products with negative side effects as much as possible, such as sulphur or insecticides, and those with broad spectrum effects like Spinosad and Pyrethrum.
- Reduce fertilisation between the rows to decrease grass species and possibly favour dicotyledons.
- Reduce mowing or soil tillage to keep a high weed cover – this acts as feed and habitat for beneficials.
- Set up flower strips in the alleys and around the orchard to attract insects & spiders¹Fehler! Verweisquelle konnte nicht gefunden werden.
- Maintain or renew surrounding hedges to help beneficials shelter.
- Set up bat boxes and/or bird nests (about 10/ha for each type)².



Picture 1: Female of *Mastrus ridens*, an efficient parasite of codling moth. Photo: INRAE.



Picture 2: Carabids are efficient predators for pests spending time close to the ground. Photo: CTIFL.

Applicability box

Theme

Temperate fruits, Pest control, Biodiversity and Nature conservation

Keywords

Temperate fruits, Pest control, Integrated pest management, Biological control, Natural enemies

Context

Northern & Central Europe
(Pressure in Southern Europe requires further methods)

Application time

All year long

Equipment

none

Further information

Videos

- [Mastrus ridens \(wasp\) laying eggs on codling moth larva \(EN\)](#)
- [Presentation of BIOCCYD \(BIOControl of CYDia pomonella\) on Cydia pomonella biological control \(FR\)](#)
- [Assessing Mastrus ridens to control codling moth in pome fruit orchards \(FR\)](#)
- [Assessing functional biodiversity in orchards with simple tools \(EN\)](#)

Further reading

- Bouvier, J., Lavigne, C. and Boivin, T. 2016. [Orchards as habitat for birds in winter](#). INRAE, Phytoma - n°693. (FR)
- Bouvier, J., Lavigne, C., Thomas, C., Musseau, R., Poss, B. and Delattre, T. 2020. [Do chickadees feed in orchards?](#) INRAE, Phytoma - n°738. (FR)

Weblinks

1. Practice abstract: [Rosy apple aphid: Prevent infestation using flower strips](#). HAS. BIOFRUITNET.
 2. Practice abstract: [Nest boxes for birds are powerful tools in organic orchards](#). GRAB. BIOFRUITNET.
- Check the [Organic Farm Knowledge platform](#) for more practical recommendations.

About this practice abstract

Publisher: GRAB – Groupe de recherche en Agriculture Biologique
255 chemin de la Castelette, F-84 911 Avignon
Phone +33 (0)4 90 84 01 70, secretariat@grab.fr
www.grab.fr

Authors: François Warlop, Jutta Kienzle

Contact: francois.warlop@grab.fr



Review: Ambra De Simone (IFOAM Organics Europe), Jutta Kienzle (FÖKO), Lauren Dietemann (FiBL)

Permalink: [Organic-farmknowledge.org/tool/44716](https://organic-farmknowledge.org/tool/44716)

Project name: BIOFRUITNET- Boosting Innovation in ORGANIC FRUIT production through stronger networks

Project website: <https://biofruitnet.eu>

© 2022

