

The aim of IPMWORKS is to encourage the implementation of IPM methods across the European Union by utilizing a network of farmers. Through peer-to-peer learning and collaborative efforts, these farmers will advance in their use of IPM strategies and showcase the effectiveness of holistic IPM in achieving reduced pesticide reliance, improved pest control, cost savings, and increased profitability.

This factsheet outlines the IPM practices employed by the orchards sector.



COUNTRIES



ITALY



SLOVENIA



HUBS

There are **2** orchards hubs, one per country. There are **12** farmers involved in Italy and **3** in Slovenia.



CROPS/CULTIVARS

Apple, Olive (leccino, muraiolo frantoio, pendolino)



MAJOR PESTS AND DISEASES

Olive: Olive Fly
Apple: Weeds

ROCK POWDER (KAOLIN AND ZEOLITE)



SOLUTIONS TO HIGHLIGHT

Applied max 3 time a year to produce a film to avoid olive fly to recognize the three and the fruit. It also reduce moisture in the lives surface, to prevent fungi disease and also reduce leaf temperature reducing heat stress.

EFFICACY OF THE IPM SOLUTIONS

Rock powder may reduce both the use of copper reducing the spread of fungi disease and can reduce the need of cytotropic insecticide application . Due to dimethoate ban, many farmer start using rock powder as preventive method to reduce the use of other allowed pesticide. Thanks to the weather condition the application of pesticide after rock powder application last year was near to zero.



Rock powder applied



Rock powder applied



Rock powder applied

MASS TRAPPING

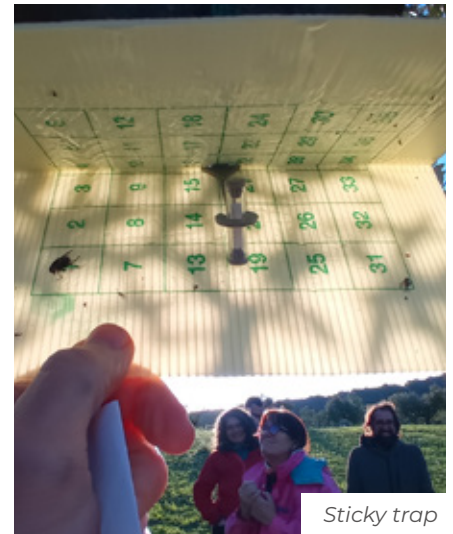


SOLUTIONS TO HIGHLIGHT

Using traps activated with pheromones, food attractants, or a combination of both, it is recommended to deploy a range of 50 to 75 traps per hectare, depending on the severity of the infestation. The primary constraint lies in the necessity to cover a minimum area of 3 hectares to achieve optimal effectiveness. However, numerous farms have smaller or fragmented land holdings, presenting an opportunity for collaborative efforts with neighboring farmers.

EFFICACY OF THE IPM SOLUTIONS

Mass trapping can also serve as a strategy to decrease the reliance on directly applying pesticides to the fruit. Farmers employing mass trapping theoretically have the option to supplement it with pesticide usage. Notably, in the previous year, thanks to favorable weather conditions, the application of pesticides in areas where mass traps were deployed amounted to zero.



Sticky trap

DECISION SUPPORT SYSTEMS (DSS)



SOLUTIONS TO HIGHLIGHT

DSS can be employed to simulate the olive fly population under varying conditions as observed in different farms. These tools are partially accessible to farmers, and new experimental apps are becoming more widely available. Typically, farmers tend to consult digital bulletins, which, while informative, are less personalized than DSS. Nevertheless, by leveraging both sources of additional information, farmers can effectively monitor olive fly populations and make informed decisions regarding the frequency of preventative and direct control measures.

EFFICACY OF THE IPM SOLUTIONS

DSS which are essentially bulletins based on pest population models, have proven highly efficient in recommending the optimal timing for implementing preventive and direct control methods. By utilizing DSS and bulletins, numerous farmers have been able to avoid the unnecessary application of pesticides when the olive fly is not present in the field, often due to weather conditions that reduce pest prevalence. During hot and dry summers, with diligent monitoring, it becomes entirely feasible to forego treatments altogether.



DSS discussion meeting



Field observation and monitoring

PROTEIN-BAIT



SOLUTIONS TO HIGHLIGHT

Spread in large droplets on the upper, sun-exposed parts of the tree. It can also be activated with a natural insecticide approved for organic farming, such as Spinosad. This method attracts and eliminates insects using a food-based attractant.

EFFICACY OF THE IPM SOLUTIONS

The application of protein bait has been somewhat limited due to rising product costs. Farmers who employ this method, often in combination with rock powder, tend to use it only when infestations exceed recommended thresholds. For this reason, it can be considered a viable alternative to cytotoxic pesticides.



Olive fly

MECHANICAL WEED MANAGEMENT



SOLUTIONS TO HIGHLIGHT

Mechanical weed management helps farmer to get rid of herbicide to manage weed above canopy layer. Innovative machinery studied to avoid damaging apple trees and roots while removing weeds from the three lines are solution implemented at farm level.

EFFICACY OF THE IPM SOLUTIONS

Weed management and reduction of herbicide use in apple orchard is crucial issue for many farmers. Mechanical weeding performed with innovative machine that allow to manage weeds under the canopy, without damaging the trees represent a valid and economical alternative to herbicide spraying.



Slovenian Hub mechanical weed management

SOWING COVER CROP



SOLUTIONS TO HIGHLIGHT

Sowing cover crop under the canopy of the tree can reduce the weed competing with the apple trees and increase the vegetation diversity present in the agroecosystem

EFFICACY OF THE IPM SOLUTIONS

Low undergrowth, annual flowers, perennial flowers and low soybeans grown under the apple trees are good alternatives to the glyphosate use. They play a beneficial role by providing biodiversity and supporting ecosystem services. Regulation of grass mixtures must be optimally adapted to the environment to facilitate the management and reduce the weed presence.



Flower strips under apple trees Slovenian hub