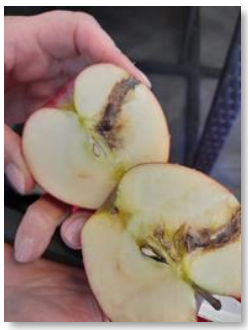
Inspirational idea

Ecofriendly techniques for organic orchard pest management

ECO_FRUCT_BN, a Romanian Operational Group, is testing different methods and technologies to improve insect pest control in organic fruit production. On 4 pilot organic farms in the hill and mountain area of Bistrita county, the project partners is carrying out trials for integrated pest management (IPM) strategies and a solution for storing organic fruit in order to improve production and contribute to the preservation of the environment and biodiversity.

In this area in Romania, pests are a particular problem for orchards. Insects such as the apple worm (*Cydia pomonella*), the apple stem borer (*Synanthedon myopaeformis*), the plum worm (*Grapholita funebrana*), the plum fly (*Eriotoma amigdalis*) can have a devastating impact on crops. "In the last three years over 80% of the apple harvest in the fall had spots, specific traces left by the apple worm, the galleries filled with excrement of the larvae giving an appearance that depreciates the quality" said a farmer from Blăjenii de Sus Bistrița involved in the Operational Group.

In conventional farming, to protect the fruit against pest attacks, farmers usually apply a range of pesticides. However, options are more limited for organic growers, who were facing a lot of crop losses because of these pests. The partners of this Operational Group therefore identified a specific need to find effective eco-friendly solutions for organic farming, but which could also be used by conventional growers.



The project is in line with the European Commission's objectives in terms of sustainable agriculture, rural employment and healthy eating. It also aims to respond to national measures to "develop, apply and demonstrate an economically viable strategic plan to implement integrated pest management (IPM) by promoting the use of low-chemical approaches in orchards and post-harvest fruit production in Bistrita-Romania agro-ecosystems". Overall, the Operational Group is developing practices as alternatives to the use of pesticides and lower environmental impact while still responding to market demands - maintaining production and quality of fruits.

Project partners are researchers and farmers. Together they set up four field trials on four farms producing organic fruit in the area, applying new and innovative pest management systems including the following techniques:

- An IPM strategy for pest control which is accepted in EU organic farming namely MD method (mating disruption) that uses ecomons (synthetically pheromones and/or kairomons) to confuse male insect and limit their ability to locate calling females with the goal to prevent

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breeding and multiplying. This keeps the pest population under damage threshold. This MD method does not affect the biological balance, as opposed to the impact of the use of toxic chemicals. Pest attack level is studied using baits in sticky traps, and the climate conditions in the orchard area are analysed.

- Ozone technology for storing organic fruits for a long time over winter. On-farm solution to store organic fruits, apples, plums, pears, maintaining taste and fragrance without applying toxic products.

A close partnership between the farmers and researchers has been maintained throughout the project, monitoring, analysing and evaluating the efficiency of the technologies and methods applied.

The project is also working on many dissemination activities such as conferences and webinars to share results with other producers in the area and in other parts of Romania.

Although the study is still on-going, the application of the techniques is leading to successful results. "Our fruits with specific organoleptic characteristics, especially taste and smell, will obtain increased added value if do not have the spots" said another farmer who is partner in this project. This also means an increased income for the farmers from the sale of these higher quality organic fruits.

The partners of ECO_FRUCT_BN also intend to go on with further trials, expanding the area where the new techniques are being applied, including the neighbouring gardens, in an extended partnership proposed in a future project.

Project information

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- **Page on EIP-AGRI database**

Photos from the project

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