

Low pesticide IPM in sustainable and safe fruit production

Project background

Plant pests and diseases cause important yield and quality losses in fruit crops. Due to the hazardous effects of agrochemicals on both humans and the environment, there is a growing trend towards agro-ecosystems based on the management of ecological interactions and the use of integrated pest management (IPM).

IPM has become an accepted model for plant protection in the EU, as it helps maintain food security while addressing environmental considerations. Moreover, sustainable fruit production is a top priority for European producers. With the new Regulation on Plant Protection Products (1107/2009) and the Directive for the Sustainable Use of Pesticides (2009/128), many chemical products have disappeared from the European market, creating new challenges for pest and disease control. The promotion of low-pesticide input management, notably IPM and organic farming, has achieved a significant reduction in pesticide use, but the sustainable use of pesticides requires additional efforts to ensure technology transfer.

Project objectives

The overall objective of the LIFE.SU.SA.FRUIT project is 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 typical Croatian and Italian agro-ecosystems. The project aims to create an environmentally friendly management system for fruit production and storage, by making more efficient use of resources and ensuring food safety is not compromised.

Specific objectives are to:

- Implement innovative practices in the field (e.g. insect exclusion netting systems and biocontrol agents) and post-harvest (e.g. hot water treatments) for fruit production;
- Promote practices aimed at reducing the use of pesticides; and
- Through reduced pesticide applications, lower their environmental impact and the risk of worker exposure.

Expected results

- Reduction of chemical pressure and of risks for growers (e.g. reduction of about 50% of insecticides, and of about 25% of chemicals used against diseases and pests);

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Beneficiary:

Type of beneficiary

University

Name of beneficiary

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Duration of project:

42 months (16/06/2014 – 16/12/2017)

Total budget in euro:

1,839,378.00

EC contribution in euro:

901,938.00

Themes: Industry-Production: Agriculture – Fisheries
- Food and Beverages / Risk management: Pollutants
reduction / Waste: Waste reduction - Raw material saving

- Reduction of agricultural costs and increase in growers' profits, in terms of money and energy saved due to the use of exclusion netting systems (e.g. saving of about €300-500/ha for the control of insects);
- Reduction of fruit losses (at least 20%) from pest and fungal diseases;
- Increase of fruit quality due to the effects of nets, on the basis of quality parameters such as firmness, colour, acidity, RSR (e.g. increase of sugar content of 1-1.5° Brix in apples); and
- Reduction of pesticide residues (at least 60%, due to less insecticide and fungicide treatments, and to the hot water treatment to remove residue), and consequent increase of food safety and decrease of risks for consumers and environmental health (e.g. lower pollution of water, soil and air).