



LIFE BIODELEAR - Addressing Med fly with an innovative and environment friendly attractant through an Integrated Pest Management Strategy

LIFE13 ENV/GR/000414



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Project description:

Background

The Mediterranean fruit fly or ‘med fly’ is considered to be one of the world’s most destructive pests, particularly in regards to agriculture. It has the widest host range of any fruit fly, is a rapid coloniser and can tolerate cooler climates than other species of fruit flies. The med fly attacks more than 260 different fruits, flowers, vegetables and nuts. It can be especially damaging to citrus/stone fruits, pome fruits, peppers, tomatoes and figs with the potential to cause damage to 100% of the fruit when infestations are not controlled.

This pest is usually controlled through the use of insecticides and other chemical plant-protection products. Plants, however, can build up a resistance to these chemicals, which moreover have a range of negative impacts on the environment. Alternative methods of combating the med fly are available including the use of chemical and biological attractants, sterilisation of male flies and mass trapping. But such methods are mostly non-selective, affecting a large number of beneficial insects as well.

There is a need to develop a method that acts selectively and attracts or acts on female med flies only. Such a method should also be based on low-cost and widely available materials, low production costs and a long action period. Moreover, it should be harmless to humans and to the environment. The project coordinator has already developed and patented a product named Biodelear, which satisfies these requirements.

Objectives

The LIFE BIODELEAR project aims to:

- Implement an innovative, patented, environment friendly and low-cost food attractant (Biodelear) for the control of med fly on a full scale. The attractant is non-toxic to humans and selectively attracts female med flies and virtually none of the non-targeted insects;
- Eliminate the use of insecticides, which are toxic to humans and the environment and decrease biological diversity;
- Develop a sound, integrated and environmentally sustainable management strategy to address the med fly problem in the Mediterranean region, using as an example the cultivation of citrus trees;
- Make Mediterranean farming less dependent on pesticides in line with current EU policies; and
- Enhance biological diversity eliminate the residue levels of pesticides in human food and animal feed.

Expected results:

- Web inventory of the pilot area;
- Reduction in the percentage of the fruit infestation to under the threshold of 1%, which is the target for citrus fruit producers in order for the fruits to be commercially viable;
- Negligible impact on the biological diversity in the pilot orchard;
- Steady, annual reduction in the population of the med flies;
- A scientific, technical and financial analysis of the method;
- Strengths, weaknesses, opportunities and threats (SWOT) and a cost/benefit analyses;
- Development of an Integrated Management Strategy (IMS) that will enhance sustainable use of protective agents against med fly, sustainable management of environmental quality, production of safe, high-quality products, increased yield and income for the farmers;
- A simplified guidebook, which will present and describe the IMS to farmers in English, French, Greek, Hebrew, Italian, Spanish and Turkish, as well as other relevant Mediterranean languages;
- Evaluation of environmental indicators measuring the impact of the method on the field;
- Risk analysis at the beginning and end of the project; and
- An impact report of the IMS on the socio-economic status of Mediterranean countries.

Results

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Environmental issues addressed:

Themes

Industry-Production - Agriculture - Forestry
Risk management - Pollutants reduction

Keywords

pest control, Agriculture, pollutant elimination, horticulture, alternative technology

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Hellenic Agricultural Organization DEMETER
Type of organisation	Research institution
Description	The Hellenic agricultural organisation (ELGO-DEMETER), which is sponsored by the Greek ministry of agriculture, is the national body responsible for agricultural research and technology development. It carries out research in agricultural, forest and fish production, veterinary management, management of marine resources, soil science and land reclamation. The Soil Science Institute of Athens, which is the direct coordinating beneficiary of the project, is made up of one of ELGO-DEMETER's institutes.
Partners	UTH(University of Thessaly – Research Committee), Greece AUTH(Aristotle University of Thessaloniki), Greece BPI(Benaki Phytopathological Institute), Greece

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Administrative data:

Project reference	LIFE13 ENV/GR/000414
Duration	01-JUN-2014 to 01-JUN -2019
Total budget	2,205,454.00 €
EU contribution	1,102,727.00 €
Project location	Voreio Aigaio(Ellas)

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