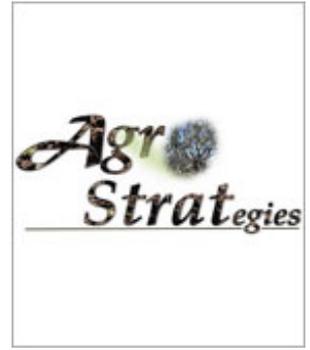




AgroStrat - Sustainable strategies for the improvement of seriously degraded agricultural areas: The example of Pistachia vera L.

LIFE11 ENV/GR/000951



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Project description:

Background

Greece is Europe's number one producer of pistachios and the sixth largest producer worldwide, with an annual production volume of about 9,500 tonnes. The variety of pistachio produced on the island of Aegina is the most famous in Greece, and has been awarded a Protected Designation of Origin (PDO). However, little is known about the management of the waste generated during the cultivation and processing of pistachios in Greece and elsewhere. Evidence suggests that liquid waste is spread on the cultivated land, or disposed in water courses, while solid waste is either deposited untreated on the soil or left to be naturally composted. Even though the solid waste is very rich in organic matter (65-75%) and could be an excellent soil additive, it also contains high levels of other nutrients, as well as toxic substances, which could damage soils and water bodies. Analysis of soil samples from pistachio cultivation areas reveals a progressive degradation of the soil over the last 5-7 years.

Objectives

The AgroStrat project will develop and demonstrate an integrated approach for the sustainable management of intensively cultivated areas in the Mediterranean, such as the pistachio producing areas on the island of Aegina. This approach will include the formulation of a sustainable management and monitoring plan at

local/regional level, and the re-use of pistachio waste.

Specific objectives include:

- To identify and characterise practices that contribute to soil degradation;
- To define appropriate soil quality indicators;
- To develop a software tool so that farmers and farmer networks can monitor soil quality;
- To examine how pistachio waste could be processed to produce compost and low-cost activated carbon for the treatment of wastewater containing organic and inorganic contaminants;
- To develop a GIS-based Land Information System (GIS-LIS) and land suitability maps that enable the controlled and sustainable application of treated pistachio waste.

Expected results:

- Assessment of the environmental status of the pilot area before and after the implementation of restoration activities;
- A set of indicators that can be used to detect relevant soil and water degradation and contamination;
- Characterisation of the composition of pistachio and its suitability for agricultural use;
- An instrument to be used by farmers in the field to measure soil pH, moisture and electrical conductivity, including guidelines for its use and maintenance;
- Defined optimum procedures for the production and application of pistachio compost;
- Pilot-scale production of activated carbon from pistachio waste and its use to decontaminate wastewater;
- An integrated management plan for the sustainable cultivation of *Pistachia vera* L. (the variety grown on Aegina) in the Mediterranean area;
- A GIS-based Land Information System and monitoring software for farmers and project managers;
- A set of indicators for monitoring the socio-economic impact of the pilot project;
- Thematic geo-environmental maps of the pilot area and other areas in Greece and/or the wider Mediterranean region where *Pistachia vera* L. is intensively cultivated.

Results

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Environmental issues addressed:

Themes

Environmental management - Integrated management
Industry-Production - Agriculture - Forestry

Keywords

environmental impact of agriculture, soil degradation, monitoring system, restoration measure, agricultural waste

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Hellenic Agricultural Organisation Demeter - Soil Science Institute of Athens
Type of organisation	Research institution
Description	The National Agricultural Research Foundation (NAGREF) is the national body responsible for agricultural research and technological development in Greece. It is sponsored by the ministry of agriculture. The Soil Science Institute of Athens (SSIA) is part of the NAGREF.
Partners	Technical University of Crete-Dept. of Mineral Resources Engineering, Greece Institute of Mediterranean Studies-Foundation of Research and Technology, Greece

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Administrative data:

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Duration	01-OCT-2012 to 30-SEP -2017
Total budget	1,026,509.00 €
EU contribution	509,504.00 €
Project location	Attiki(Ellas)

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