Renaturing and promoting biodiversity in apple orchards in Girona - POMELIFE

Summary

Intensifying agricultural practices raises farm profitability and productivity, but also alters the landscape and reduces biodiversity in agrosystems, favouring the appearance of pests. It is therefore essential to restore habitats to re-establish biodiversity, thereby providing a buffer from pest-causing organisms. In this sense, the project includes several actions to **promote wild life in apple orchards** by: incorporating strips of flowers and hedges as refuges for predators; improving the habitat by creating refuges to favour birds of prey, mustelids, sauria and ophidia; using mammals, insectivorous birds and bats as a control, which also **balances the ecosystem by helping control pests and reduce the use of phytosanitary products**.

Objectives

The main objective is **to define a design for apple tree orchards to make agricultural activity compatible with the conservation and promotion of biodiversity** through the following specific objectives:

- **Diagnose and catalogue the current biodiversity situation** in apple orchards
- **Design and assessrenaturing actions** to improve the establishment and promotion of biodiversity (flower borders and strips, hedges and plant cover)
- **Implement renaturing actions** on pilot farms and measuring their impact on enhancing biodiversity
- **Disseminate and transfer the knowledge gained** to facilitate implementing renaturing on other farms and in other areas

Description of the actions planned in the project

This project is structured into four activities, in line with their objectives and expected results:

- Activity 1: Diagnosing and cataloguing apple orchard biodiversity. During this activity, the agronomic status of the farms will be studied, the biodiversity structures on the farms will be quantitatively and qualitatively assessed, and a catalogue and map of the pilot area will be drawn up.
- Activity 2: Designing and assessing renaturing actions. During this activity, herbaceous plants, shrubs and trees will be studied to define the design of strips of flower to attract insects and plant borders to provide shelter for other insects and animals to favour biological control for conservation.
- Activity 3: Implementing renaturing actions on pilot farms. During this activity, the farms for the pilot test will be selected and the renaturing actions, defined in the previous activities, will be implemented to assess the efficiency of renaturing measures.
- Activity 4: Transferring results to the sector. This activity aims to disseminate knowledge and results acquired in the agricultural sector to promote the concept of renaturing as an improvement in agricultural production. Consequently, field trips, consisting of visits to the trial farms, and workshops will be carried out to disseminate and discuss the results. Finally, a working guide will be drawn up for implementing renaturing practices.

Expected results and practical recommendations

The expected results of the project are listed below:

- Quantification of the degree of efficient renaturing on farms
- Defining suitable plant species to create agro-ecological structures adapted to the conditions of apple orchards
- Establishing an objective index to quantify the degree of renaturing on farms
- Controlled increase in the biodiversity of apple tree orchards resulting from implementing renaturing structures

- Disseminating the most innovative results in the sector through conferences, seminars, etc.

Leader of the Operational Group

ORGANISATION: FRUCTÍCOLA EMPORDÀ, SL

Coordinator of the Operational Group

ORGANISATION: FRUCTÍCOLA EMPORDÀ, SL

Other members of the Operational Group (grant recipients)

ORGANISATION: GIRONA FRUITS, SCCL

ORGANISATION: GIROPOMA COSTA BRAVA, SL

Other members of the Operational Group (not recipients of the grant)

ORGANISATION: IRTA - Institute of Agrifood Research and Technology

Subject area(s) of application

☒	Agricultural production system
☒	Agricultural practice
☐	Agricultural equipment and machinery
☐	Livestock farming and animal welfare
☒	Vegetable production and horticulture
☐	Landscape / Territorial management
☒	Pest and disease control
☐	Fertilisation and nutrient management
☐	Soil management
☐	Genetic resources
☐	Forestry
☐	Water management
☐	Climate and Climate Change
☐	Energy management
☐	Waste and by-product management
☒	Biodiversity and environmental management
☐	Food quality/processing and nutrition
☐	Supply chain, marketing and consumption
☒	Competitiveness and agricultural and forestry diversification
☐	General

Geographical area(s) of application

PROVINCE(S)	REGION(S)
Initially in Girona, but the knowledge generated should be valid for other fruit-producing areas	Alt Empordà, Baix Empordà, Gironès and Selva

Dissemination of the project

As the project progresses, a dissemination activity will be carried out to publicise the results. The communication plan envisages actions at various levels, including technical meetings with technical advisors,

transfer conferences and participation at specialised congresses. Plans include field trips, consisting of visits to the trial fields with technical advisors from Girona fruit companies, annual fruit conferences at the Mas Badia centre in the summer, and workshops where the results from the trials will be discussed. Finally, a practical guide will be produced from the results, containing the indications needed to implement the renaturing actions, with the aim of making this new practice for implementing agro-ecological structures more accessible and widespread.

Project website

http://www.fructicolaemporda.com/es/

More information on the project

PROJECT DATES	TOTAL BUDGET
Starting date: October 2021	**Total budget:** €83,634.00
	DACC funding: €38,676.78
Current status: Under way	**EU funding:** €29,177.22
	Own funding: €15,780.00

With funding from:

Project funded through Operation 16.01.01 (Cooperation for Innovation) through the Catalan Rural Development Programme 2014-2022.

Order ARP/113/2021 of 20 May, approving the regulatory bases for grants for cooperation for innovation by promoting the creation of European Association for Innovation operational groups in the areas of agricultural productivity and sustainability and the execution of innovative pilot projects by those groups, and Resolution ACC/1660/2021, of 27 May, announcing the call for the grant.

Generalitat de Catalunya
Departament d'Acció Climàtica, Alimentació i Agenda Rural

Fons Europeu Agrícola de Desenvolupament Rural:
Europa inverteix en les zones rurals