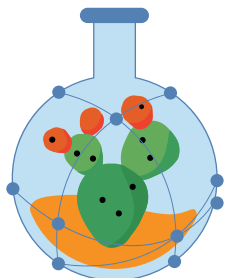


PSR SICILIA 2014 - 2020 | SOTTOMISURA 16.1
**"SOSTEGNO PER LA COSTITUZIONE E LA GESTIONE DEI GRUPPI OPERATIVI
DEL PEI IN MATERIA DI PRODUTTIVITÀ E SOSTENIBILITÀ DELL'AGRICOLTURA**



PROJECT EBioScart

Extraction of Bioproducts from Opuntia Ficus-indica Scraps



EBioScart

EBioScart
Extraction of Bioproducts from
Opuntia Ficus-indica Scraps

Gruppo Operativo FICO
CUP G66D20000290009



@EBioScart

www.ebioscart.eu
info@ebioscart.eu

The Project

The project is aimed at introducing and developing a green industrial process to extract bioproducts from scraps of fresh produce that cannot be sold on the market. It will employ new production methodologies in the field and set up a true “Communal processing workshop”. At the same time, the farms will be accompanied along a modernization process to boost product traceability and also enhance environmental sustainability by introducing innovative methods to manage plants irrigation and employ residual mucilage as natural fertilizers.

The activities are part of the prickly pear production chain located in three Sicilian hubs: the Mount Etna area, and the towns of Roccapalumba and Santa Margherita di Belice.

Objective

The goal is to exploit and reuse the by-products and residues of the Sicilian prickly pear production process to obtain new bioproducts with a high added value such as pectins, betanins (colourings), oils, mucilage, and concentrated juice. They are effectively employed in the cosmetic, pharmaceutical and nutraceutical industries and provide high profit margin to the involved companies with growing trends.



Expected Outcomes

Starting from scrap or unmarketable fresh fruits, the aim is to:

Develop a mechanical process to separate the peel from the pulp;

Mechanically separate the pulp from the seeds;

Extract by-products from fresh produce scraps;

Reuse the scraps to obtain new bioproducts;

Introduce innovative irrigation methods to increase environmental sustainability;

Carrying out tests, trials and lab analyses to validate the outputs;

Diversify the production chain and widen the market share by using the resulting bioproducts;

Economically validate the project outcomes;

Introduce a management modernization process concerning traceability to innovate and make traditional farms go digital in order to improve business management.



**FROM PRICKLY PEAR PROMOTION TO
SCRAP-MADE BIOPRODUCTS FOR AGRICULTURE 4.0
AND A SUSTAINABLE CIRCULAR ECONOMY**

Activities to be developed: Experimental fields, meetings, scientific and dissemination activities, experimentation of new extraction processes and use of new technologies, and promotion of the product and its innovative uses in Italy and abroad.

Impact

In view of a modern circular economy, the soil will be given back what has been taken away by employing digestate under the form of fertilizer.

By reusing production/processing waste to make high added-value products, it will be possible to increase the profit margins for businesses and implement proper market placement for the new products. At the same time, the whole cycle will become more sustainable by facilitating waste management.

Such innovative practices can have a considerable impact on the Sicilian economic and social fabric by:

- Starting new business and employment opportunities;

- Suitably supporting the production and processing/marketing stages of the entire prickly pear production chain;

- Developing the industrial stage specific to this field in order to increase farmers' income.



Pectins, betanins and essential oils have recently become an opportunity to fully exploit the scraps of prickly pear, whose production is almost entirely (90%) concentrated in Sicily and is mainly aimed at its consumption as fresh fruit.

Producing pectines, betanins and oils is a true opportunity to increase the profitability of the prickly pear production system at a regional level by providing new ways to employ fresh fruits having a low market value, which would otherwise become waste.

The project EBioScart – GO FICO is aimed at creating something completely new. Through an industrial-scale process and by employing reject fruits or fruit that do not meet market standards, it is possible to extract all the useful elements that can be profitable on the market with the same 'nose-to-tail' approach used for pigs.



Partners



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INNOVAZIONE E SVILUPPO PER LA TUA AZIENDA

Promotergroup S.p.A.
www.promotergroup.eu

Innovation Broker - Carmelo Danzi

Project Manager
Nicoletta Paparone

Press Office
Rosy Abruzzo
Sonia Distefano
ufficiostampaebioscart@gmail.com



@EBioScart

www.ebioscart.eu
info@ebioscart.eu