# STRATEGIES OF PRECISION AGRICULTURE IN THE POTTED AROMATIC PRODUCTION CHAIN

Riferimenti
Tipo di progetto
Gruppo Operativo

Acronimo
SMARTAROMA

Tematica
Agricoltura di precisione

Information
Time frame
2020 - 2021

Durata
17 months

Partners (no.)
5

Regione
Liguria

Comparto
Colture industriali

Localizzazione
ITC31 - Imperia
ITC32 - Savona

Costo totale
€99.996,89

Fonte di finanziamento principale
Programma di sviluppo rurale

Programma di sviluppo rurale
2014IT06RDRP006: Italy - Rural Development Programme (Regional) - Liguria

Parole chiave
Farming/forestry competitiveness and diversification
Fertilisation and nutrients management
Supply chain, marketing and consumption
Water management
Energy management
Plant production and horticulture
Agricultural production system

Sito web
http://www.cersaa.it/smartaroma

Project status



Objectives
GENERAL OBJECTIVE: to make potted aromatic PLANTS productions competitive through the adoption of precision agriculture processes.
SPECIFIC OBJECTIVES.
INNOVATION 1 - PRODUCTION. Programming and control of pesticides, nutrients, energy, water and plant diseases.
INNOVATION 2. - MARKET. Product traceability. Develop a traceability system of production batches, functional to the traceability of farm operations and the application of the legislation relating to the so coalled ""Passport of the Plants"" (EU Reg 2016/2031, art. 89)
INNOVATION 3. - START-UP. Design of a start-up for the supply of precision agriculture services to companies 1 and 2.

Activities
"The project proposal intends to introduce three specific innovations:
1. Agriculture 4.0 production-oriented tools. This innovation intends to introduce IoT logics, with the acquisition of data previously never entered into computerized and very important systems to de-bureaucratize and automate data processing and to produce information to be used for all purposes of Agriculture 4.0.
2. market-oriented Agriculture 4.0 tools. Once acquired the results indicated with the innovation (1), we intend to develop an interactive recording system, with blockchain loading and certification of the data (unambiguous and unalterable traceability of the product - product tag), in order to certify the operations performed for the production / processing / handling of the product.
3. tools and services aimed at the continuous improvement of the company's agricultural activities, planning a start-up (Competence Center) for agricultural digitalization in the Ligurian context, with figures of Agronomists and Computer Technicians."

Context
The context is that of the production of aromatic potted plants in the

ongoing

Ligurian west, particularly developed in the plain of the Ingauna, but with productions also to the east and to the west of the Ingauna area itself. Production, which stands at around 60 million plants annually produced, suffers from competition from other producers, low margins, lack of capacity to differentiate itself from other competing productions and the low capacity to develop innovative products. On the other hand, continuous investments are necessary to guarantee food security and reduce the impact of agricultural activities on the environment. Therefore, companies need to reduce production costs, increase the added value of production, optimize their working time, qualify their production, improve their market penetration and benefit from innovative services.

It is therefore necessary:

- rationalize production and production practices as much as possible.
- follow the social, cultural, technological and market changes that change the way we produce and consume;
- allow the return of profitability;
- push companies to create a Hi-Tech structure;
- to favor the interaction of productive practices with the physical world through the network (Internet of things - IoT);

Partenariato

| Role | Azienda | Address | Telephone | E-mail |
|------|---------|---------|-----------|--------|
| Leader | Centro di Sperimentazione e Assistenza Agricola | Via Quarda Superiore, 16 17100 Savona SV Italy | 0182 554949 | cersaa.direzione@rivlig.camcom.it |
| Partner | Istituto Regionale per la Floricoltura (IRF) | Via Carducci n.12 18038 Sanremo IM Italy | 0184 535149 | irf@regflor.it |
| Partner | Azienda Floricola Enrico Giorgio | Regione Orti, 4 17031 Albenga SV Italy | | enrico.giorgio@aliceposta.it |
| Partner | Distretto Agricolo Florovivaistico del Ponente | Via Quinto Mansuino,12 18038 Sanremo IM Italy | | distrettosanremo@hotmail.it |

**INNOVA**RURALE

# Strategie di agricoltura intelligente e di precisione nella Filiera della Aromatiche in vaso

https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/strategie-di-agricoltura-intelligente-e-di-precisione

| Role | Azienda | Address | Telephone | E-mail |
|------|---------|---------|-----------|--------|
| Partner | L'Ortofrutticola Società Agricola Cooperativa | Reg. Massaretti, 30/1 17031 Albenga SV Italy | 0182 50374 | info@ortofrutticola.it |

Pratice abstract

Description
"INNOVATION 1. Introduction of Agriculture 4.0 production-oriented tools (PRODUCT ORIENTED)

TARGET:
Develop and setup a computerized system that allows, following the loading of some essential information (type of cultivated species, date of transplant or seeding, cultivation environment, ...), continuous and real time recording / acquisition , where possible without the need for human intervention, for information deriving from agricultural activities and in particular:
1. to detect, monitor and make available all the procurement and use of production factors (plants, pesticides, fertilizers, water, energy);
2. acquire and make available the characteristic data of the productions and environmental (sowing / transplantation dates, BBCH phases, the environmental conditions, the environmental conditions influencing / triggering the manifestation of plant diseases, the presence of the plant diseases themselves, intersecting them with the operational ones of referred to in the previous point (1);
3. acquire and make available the results of phytopathological analyzes, residual analyzes and any other information necessary for the reference market and the chosen quality certification regime.

PRODUCT: Identify and collect input data to feed the software platform of Innovation 2. The input data will come from different sources (crop, climate, cultivation environment, production and defense factors, ...) to enable the services of Agriculture  4.0.

The innovation consists in the introduction of IoT logics, with the acquisition of data previously never entered into computerized and very important systems to de-bureaucratize and automate the processing of data and to produce information to be used for all purposes of Agriculture 4.0 . Eg loading ditosanitari in the locker, recording of the weigh, registration of the act of distribution, recording of the presence of pathogens and parasites and of the conditions that triggered them.

Description
"INNOVATION 2. Market-oriented introduction of Agriculture 4.0 tools (MARKET ORIENTED)

TARGET. Once acquired the results indicated with the innovation (1), we intend to develop an interactive recording system, with blockchain loading and certification of the data (unambiguous and unalterable traceability of the product - product tag), in order to certify the operations performed for the production / processing / handling of the product. With this system, which uses the data produced with innovation 1, support is provided to the operator in identifying the production lots, in the publication of the business operations necessary to meet the traceability requirements of voluntary certifications (eg GlobalGAP) or regulations (eg DO, IG) and to satisfy the requirements of the legislation relating to the so-called ""Passport of the Plants"" (EU Reg 2016/2031, art. 89).

PRODUCT:
A platform and an app will be created as a user interface that will return useful information to achieve the Goals. The platform will be multi-entry, that is, with different credentials and limits it will be possible to have access, in addition to the

farmer, also to other stakeholders, customers or certification bodies, also during the production phases and not only at their end. In this way, the transparency of corporate operations will be guaranteed, even in real time. The product is based on the Blockchain system. The system will return useful information to self-compile the Campaign Notebook and the Green Passport, providing the tracking of all sensitive operations for product certification, or to satisfy the provisions of EU Reg 2016/2031, art. 89.

Eg: the farmer geolocates the crop, records every operation carried out, answers questions following a drop-down menu, carries out the interventions, all traced with sensors appropriately positioned and dialoguing with the system. With this approach, the field notebook, the green passport and part of the checklist of the certification schemes are filled in automatically, to the point of generating a Label also compliant with the EU Reg 2016/2031, art. 69"

Description
INNOVATION 3. Introduction of tools and services aimed at the continuous improvement of farm activities (Agriculture 4.0) (INNOVATION ORIENTED). (Business plan and feasibility)

TARGETS
Designing a start-up (Competence Center) for supporting companies operating in aromatic plants with particular regard to agricultural digitization in the Ligurian context, with figures of Agronomists and Technicians and Computer scientists. It is a question of implementing the business plan and the feasibility plan of an incubator dedicated to training technicians and managing / providing high-tech services for farmers. The expected result is to encourage the increase of profit margins for the farmer, create innovative products and raise the quality of productions. The start-up services will focus on the development of the tools referred to in point (1) and will consider the procurement of controlled propagation material from the genetic, physiological and phytopathological point of view.

This innovation will produce the following effects: - having available innovative and quality propagation material to be included in the production flows
- push farms to give themselves a Hi-Tech structure;
- to favor the interaction of productive practices with the physical world through the network (Internet of things - IoT);

PRODUCTS
Final Start Up project complete with forecast budget and evaluation of return on investment. The project will include the evaluation of economic advantages, for companies and for the Start Up, related to the introduction of the innovative technological service model (objective of this Innovation 4).

Link utili

| Titolo/Descrizione | Url | Tipologia |
| --- | --- | --- |
| Sito web del progetto | http://www.cersaa.it/smartaroma | Sito web |
| Sito istituzionale del capofila | http://www.cersaa.it | Link ad altri siti che ospitano informazioni del progetto |

**INNOVA**RURALE