

Optimization of flowering planning and post-harvest conservation of some cut flower species cultivated in the Riviera Ligure di Ponente

Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

OTTIPROGRAM

Tematica

Gestione aziendale

Information

Time frame

2020 - 2021

Durata

17 months

Partners (no.)

3

Regione

Liguria

Comparto

Florovivaismo

Localizzazione

ITC31 - Imperia

ITC32 - Savona

ITC4C - Milano

Costo totale

€99.988,48

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

Supply chain, marketing and consumption

Farming practice

Agricultural production system

Sito web

<http://www.progetti.florcoop.it/>

Project status



Objectives

The main goal of the project is to increase the profitability of three important cut flower crops (Viburnum Opulus snowball, ranunculus and peony) grown in the Riviera Ligure di Ponente. This will be achieved with two approaches: 1) designing and testing innovative cultivation and forcing protocols of the three species in the Riviera Ligure climate in order to be able to produce in the period of the year when there is very little production; 2) testing preservation protocols that allow to better preserve the quality of the cut flower of the three species.

Activities

The project is divided into the following activities: 1) Project coordination and reporting; 2) Design and testing of methods for overcoming the chilling requirement of Viburnum opulus with physical methods (thermal treatments of cold and / or hot) / chemical (biostimulants, hormones); 3) Design and testing of the effectiveness of chemical or physical treatments for the induction of flowering process in peonies and ranunculus, also through the use of pot cultivation and climate chamber; 4) Design and testing of the effectiveness of different post-harvest treatments on maintaining quality and extending life in ranunculus, peony and Viburnum opulus; 5) Dissemination of the results obtained.

Context

In the last 15 years, a deep economic crisis hit the cut-flower floriculture of the western Riviera Ligure: the historical crops mainly based on carnations and roses has been largely replaced by the cultivation of ranunculus,

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ongoing

anemones, poppies and calla lilies as well as from other minor species such as the snowball (*Viburnum opulus*) and the peony. Today, the ranunculus is the first cut flower crop cultivated on the Province of Imperia both in terms of number of farms and cultivated area. In the last years, the *Viburnum opulus*, (snowball) has acquired a good economic importance for the western Riviera Ligure: it is fundamental for the composition of certain bouquets and it appears an excellent substitute of the cultivation of the rose in the greenhouses. Finally, the peony is also acquiring economic diffusion over the years, especially in view of a crop rotation as an alternative to chrysanthemum and ranunculus. The lack of a large expansion of its market is due to short shelf-life of the cut flower and the restrict period of cut flower harvesting. A better planning of the ranunculus flowering would allow to the floricultural companies to concentrate this product in the periods of greatest request by the market and thus, it could produce a strong increase of the profitability of this cultivation as well as a strengthening of the sales position of the Ligurian cut flower growers on national and international cut flower markets.

Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	Florcoop Sanremo società cooperativa agricola	Regione Periane 248 18018 Taggia IM Italy	0184 51650	g.vinci@florcoop.it
Partner	Università di Pisa - Dipartimento di Scienze Agrarie, Alimentari e Agroambientali	Via del Borghetto 80 56124 Pisa PI Italy	050 2216090	disaaa@agr.unipi.it
Partner	Università degli Studi di Milano - Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia	Via Celoria 2 20133 Milano MI Italy	02 50316589	direzione.disaa@unimi.it

Pratiche abstract

Description

Development and testing of thermal and chemical protocols to anticipate and postpone the flowering of the *Viburnus Opulus*. The aim of these project activities is to anticipate or delay the flower induction of this ornamental plant. The early and the delayed production allow the growers obtaining higher and remunerative prices for their ornamental product. The commercialization of this flower out of season or at beginning or at the end of the production period can increase the competitiveness of the ornamental farms.

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Description

Development of protocols for the forcing rhizomes of ranunculus, through the application of low-temperature and/or high temperatures cycles, combined with chemical treatments for breaking of the dormancy of flower buds. The dormancy breakdown is a complex process, because it is well synchronised with the environment. In the dormancy, endogenous and environmental factors are involved and all these factors must be studied and characterised for the dormancy removal. The innovation is represented by the developing a protocol for the bulbs preparation in order to give the opportunity to the grower to plan the flower production and have them in the best commercialization period.

Description

Development and testing of protocols for the cultivation of potted peonies, in order to be able to use climatic growth chambers to extend its flowering period. Peonies are generally grown on soil in greenhouse, the innovation is represented by the cultivation in pots which can be transferred in growth chamber for thermic treatments which can stimulate the flower induction. The flowering will be also stimulated using plant growth regulators. In particular, gibberellins and cytokinins will be used as flowering promoters.

Description

Development and testing of protocols to improve the quality and post-harvest of the ranunculus cut-flower. The quality of cut flowers depends from the visual appearance and from the vase life duration. The postharvest life is defined by the leaf yellowing of flower senescence. The innovation of this project is represented by the identification of the best postharvest treatments that can preserve the quality and extend the vase life. The postharvest treatments will be performed using thidiazuron, a compound with cytokinin-like activity and gibberellins. These are both inhibitors of leaf yellowing and flower senescence with the preservation of quality and extending the vase life of cut flowers. The possible use of selenium for the improvement of the shelf-life of ranunculus will also be investigated: in other species, selenium addition showed marked slowing effects of senescence, and one goal of the project is to test these effects also on the preservation of the vase life of ranunculus.

Description

Development and testing of protocols to improve the quality and the post-harvest of the Viburnum opulus as cut flower. The commercialization of Viburnum opulus must be associated with an improved vase life that can be achieved by the optimization of postharvest treatments based on citric acid for improving water relation and inhibitors of flowers senescence. Among the different treatments will be used the ethylene inhibitors such as 1-methylcyclopropene.

Description

Development and testing of protocols to improve the quality and post-harvest of the peony as a cut flower. Peonies have nice big flower and its quality is essentially associated to the flower senescence. The project activities will be oriented on the inhibition of ethylene biosynthesis and perception. Several inhibitors will be tested in order to extend the vase life of the products.

Link utili

Ottimizzazione della programmazione della fioritura e della conservazione post-raccolta di alcune specie da fiore reciso di interesse per la Riviera Ligure di Ponente.

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Titolo/Descrizione	Url	Tipologia
Sito web del progetto	http://www.progetti.florcoop.it/	Sito web
Sito del capofila	http://www.florcoop.it	Link ad altri siti che ospitano informazioni del progetto
Sito del partner	http://www.agr.unipi.it/settori-di-ricerca	Link ad altri siti che ospitano informazioni del progetto
Sito del partner	http://www.disaa.unimi.it/ecm/home/ricerca/progetti-finanziati	Link ad altri siti che ospitano informazioni del progetto