

CASTANI-CO - The carbon sequestration in the system of chestnut fruit

Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

CASTANI-CO

Tematica

Impronta carbonica

Information

Time frame

2017 - 2020

Durata

36 months

Partners (no.)

10

Regione

Emilia-Romagna

Comparto

Frutticoltura

Localizzazione

ITH53 - Reggio nell'Emilia

ITH54 - Modena

ITH55 - Bologna

Costo totale

€198.862,72

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP003: Italy - Rural Development

Programme (Regional) - Emilia Romagna

Parole chiave

Climate and climate change

Landscape /land management

Soil management / functionality

Farming practice

Sito web

<https://www.pedologia.net/it/CASTANI-CO/cms/Pagina.action?pageAction=&page=Info...>

Project status

completed



Objectives

GO CASTANI-CO intends to exploit fruit chestnut, both as a system for carbon sequestration and as a source of food's quality (nutritional and environmental). The commitment is to quantify how much carbon is seized in the soil and in the plant depending on the pedological environment and the management of the chestnut tree in order to identify the "guidelines for good agronomic and cultivation practices aimed at encouraging carbon sequestration and the quality of the product ". The another objective is to "make a net" and to foster, in addition to the cooperation between the farms and the association involved in the GO, a wider sharing of quality and sustainability strategies in the castanilian sector.

Results

The GOI CASTANI-CO aims to promote the traditional fruit chestnut , both as a semi-natural system suitable for carbon sequestration and as a source of quality food production. The GOI has had the objective to value the role that the chestnut grower plays in the management and protection of the territory and the landscape. To this end, the "guidelines of good agricultural and cultural practices aimed at encouraging carbon sequestration and product quality" have been defined.

Activities

- Monitoring of carbon sequestration in the soil at locations representative of chestnut.
- Demonstrate demonstration Agronomic management that promote carbon sequestration in the soil.
- Evaluation of carbon sequestration in the soil and in the plant.
- Identify and share the guidelines of carbon sequestration Enhancement in a chestnut fruit.

Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	I.TER Soc. Coop.	Via Zacconi 12 40127 Bologna BO Italy	051 523976	scotti@pedologia.net
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Partner	Azienda Tizzano di Fogacci Stefano	Via Lamizze 1197/B 41059 Zocca MO Italy	334 3371777	s.fogacci@gmail.com
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Partner	Dipartimento di Scienze e Tecnologie Agro-Alimentari - DISTAL Università di Bologna	Viale Fanin 44 40127 Bologna BO Italy	051 2096240	distal.amm.dipartimento.respammgest@unibo.it

Pratiche abstract

Description

ACTION EXERCISE OF COOPERATION

This action involves the organization, activation and maintenance of the OperationalInnovation Group. I.TER will assume the role of Coordinator of Operational Activity and Management of the Operational Group (GO), planning and implementing all the technical initiatives necessary for the achievement of the results of the Plan.

Coordination activities will be developed with at least 2 meetings a year, organized through the use of technical and secretarial staff. The I.TER's staff intends to stay in close contact with all partners in order to quickly become aware of any criticalities and difficulties and to initiate consultations with the GOI in time to implement containment and define solutions. At the end of the Plan and at the end of each anniversary, the Project Manager, together with all the partners involved, will complete the analysis of the intermediate and final resultsobtained, as well as the analysis of their compliance with the Plan.

Description

STUDY ACTION IN CHESTNUT GROVES FOR FRUIT PRODUCTION IN PARTNER FARM

This action involves an interdisciplinary approach to study and verify the characteristics of chestnuts in partner farms. The task of the GO will initiate a collection of information regarding the organization and management of chestnut trees in partenr farms in order to optimize the setting of field activities, training and dissemination activities provided for in the Operational Plan. I.TER and UNIBO-DlpSA provide a first inspection at all participating farms to gather information on the management of chestnut tree (age, plant health, etc.). This survey is aimed at identifying representative sites within associated farms where the studies and the demonstration tests provided for in the Operational Plan actions are located. In particular, the types of B6management to be applied at the demonstration sites

(Action 2) will be shared so that they can be examples of management of the chestnut treeuseful to the farmers as well as a point of reference for the institutions; The final part of this study is a meeting with GO participants to share and validate the following useful documents for the implementation of the Operational Plan:

- list and location of representative sites for pedological and chestnut management, in which to carry out the activities of the actions of the Plan;

- definition of sampling protocol to be used for sampling for soil and vegetation analysis.

Description

ACTION MONITORING OF ORGANIC SUBSTANCE CONTENTS IN SOIL IN REPRESENTATIVES OF CASTANICULTURE

The scientific and operational director of the action is I.TER with the aim of monitoring and assessing the pedoclimatic and morphological conditions of the sites of the representative sites previously identified in the "Action studies required for the implementation of the plan". 15 monitoring sites will be studied by opening special pedological profiles. The sites will be selected according to the representativity but also the type of fruit chestnut (age, prairie management, foliage amplitude).

The three steps are:

1) Study and sampling of soil profiles for the pedological characterization; 2) study of the organic matter variation in the superficial layer for first year management thesis; 3) Study of the variation of organic matter in the superficial layer for third year management thesis

Description

ACTION TESTS DEMONSTRATIVE OF AGRONOMIC MANAGEMENT FURTHER THE CARBON SEQUESTRATION IN THE SOIL

It is well-known that defoliation caused by the Chinese wasp has brought attention to soil management and maintenance of organic matter in chestnuts. At one time it was assumed that the accumulation of leaves and curls in winter were sufficient to maintain the fertility of the soil. Over time and in some areas, however, some unsuitable habits have developed, such as burning leaves and scraping residues or excessive grass cuts under the plants. In the long run these practices have resulted in a reduction in the organic matter present in the soil with consequent depletion of the microflora. It is recognized that the presence of organic matter in the soil helps the plant to overcome and react better to parasitic attacks. For this reason, the GO provides for the establishment of demonstration sites where some chestnut farming practices will be applied to encourage the organic matter increase in soils and hence carbon sequestration. The protocol of management activities will be shared within the action studies where researchers and colleges will compare to identify the setting and techniques to be performed in addition to defining a field observation and data collection protocol. It is expected that the three actual partner companies will follow two demonstration tests.

Description

ACTION ASSESSMENT OF THE CARBON SEQUESTRATION IN SOIL AND PLANT

In this action, a data collection protocol will be initiated for the components of the carbon footprint of the various cultivation operations of fruit chestnut. The carbon footprint will be calculated on two levels: level "foliage" and "soil" level.

"foliage" assessment: I.TER will consider the carbon balance resulting from the agronomic practices on the aboveground and will be collected data on the biomass produced, to the product harvested, to the operations carried out in the chestnut tree during the vegetative cycle. UNIBO-DipSA will carry out specific sampling of leaves and branches from the tree hair and of the litter box more or less decomposed to carry out total C and N analysis and respective isotopic ratios to evaluate the C imprint of the plant.

The assessment of carbon sequestration in soil will account for potential soil storage but also CO₂ emission

The assessment of carbon storage in the soil will be based on the data of the chemical analysis and the evaluation of the apparent bulk density. I.TER will determine the organic carbon stock at equivalent volume based on the Batjes equation (1996). A first evaluation will be made on the first year and a second evaluation will be made on the third year.

The CO₂ emission assessment will be carried out by UNIBO-DipSA within the demonstration sites by identifying representative areas where it will place appropriate circular collets in the soil (depth 10 cm) that will allow the evolution of Heterotrophic CO₂ from the soil.

Description

ACTION LOCATE AND SHARE GUIDES LINES FOR THE VALUE OF THE CARBON SEQUESTRATION IN THE CHESTNUT FRUIT SYSTEM

The present Operational Plan targets several results that all converge on the main objective that "binds" the GOI participants, namely to define "guidelines for good agronomic and practices cultivation to encourage carbon's sequestration and quality's product".

The goodness of the end result will be determined by the ability to work collectively, testing and verifying the field data collected in the relevant territories of associated farms to share and then define the best management techniques for fruit chestnut.

The guidelines will have to be validated by the farms and GO organizations and will serve to promote and enhance the role of fruit chestnut.

Special excursions will be organized, to which the GOI's members will be present, to the associated companies and possibly to real cases of optimal management or representative cases. At such moments the work group will be able to compare to identify shared "guidelines"

Description

DIVULGATION

1. Define and promote the slogan "CASTANI-CO" so that it becomes a symbol of work's group; The slogan will be "launched" also on the EIPi network to start interchange with any similar reality.
2. Organization a Press conference to start the plan and send invitations.
3. Definition of press releases that will be addressed to the major headlines.
4. Organization of a technical seminar.
5. Definition of EIPi Card.
6. EIP Contacts.
7. Organization of 2 demonstration activities (2nd and 3rd year).
8. Creating web pages in the web site.
9. Radio broadcasts of "rural communication" at Radio Budrio.
10. Publication at least 1 article in regional and national magazines.
11. Organization of a final presentation of the results.
12. ROLL UP that will portray the logo and slogan of the project.
13. POSTCARDS; I.TER counts to produce 1000 postcards to divulge, also through qr code linked to "Terra Terra" bets, the role that chestnuts have in the sequestration of carbon.
14. 1 Disclosure brochure "The fruit chestnut and its sustainability", which will outline guidelines for good agronomic and cultivation practices aimed at encouraging carbon sequestration and quality's product.
15. VIDEO to communicate the sustainability and values of the fruit chestnut.
16. Organization of two itinerant bus comparisons ("Castanibus").

Description

ACTION TRAINING

To promote a concrete understanding of the role that fruit chestnut can take on carbon sequestration in the plant and soil is provided, at the beginning of the plan, an individual coaching activity for all partner companies. The proposal No. 5015577 entitled CASTANI_CO: CARBON SQUARE IN THE FRUTTO CASTAGNET SYSTEM inserted by I.TER in the Green Catalog provides 8 hours of training distributed throughout the first year of activity.

Link utili

Titolo/Descrizione	Url	Tipologia
Sito web del progetto	https://www.pedologia.net/it/CASTANI-CO/cms/Pagina.action?pageAction=&page=Info...	Sito web
Video realizzato dal GO CASTANI-CO	https://youtu.be/8QZWNrbFB7Q	Materiali utili
Relazione tecnica finale	https://agricoltura.regione.emilia-romagna.it/progetti-innovazione/raccolta-pro...	Materiali utili
Articolo su Agronotizie su evento finale	https://agronotizie.imaginenetwork.com/agricoltura-economia-politica/2021/02/...	Materiali utili
Articolo su Agronotizie "Biodiversità e sostenibilità del castagno nelle zone montane dell'Emilia-Romagna"	https://agronotizie.imaginenetwork.com/agricoltura-economia-politica/2021/05/...	
Comune di Zocca (Modena)	https://www.comunezocca.it/index.php/tutte-le-news/458-castani-co-l-importanza-...	Link ad altri siti che ospitano informazioni del progetto
Articolo su Pianeta PSR	http://www.pianetapsr.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/2561	Materiali utili