

PEI NETWORK DIVULGATION SHEET

TITLE: **CASTANI-CO** "CARBON SEQUESTRATION IN THE FRUIT CHESTNUT SYSTEM"

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KEY WORDS

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% **FUNDING:** 100% Measure 16 Focus Area 5E - 80% Measure 1

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ADMITTED CONTRIBUTION: 198862.74 €

GEOGRAPHICAL LOCATION:

Bologna, Modena and Reggio Emilia Apennines

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Objectives of the project

The project idea proposed the following objectives:

- To quantify the organic matter content and carbon sequestration in the soils of traditional fruit chestnut groves, present in the partner farms, in different pedological environments and characterized by different management systems. In each chestnut grove chosen, the monitoring, linked to the study of the soils, provided for the opening of specific soil profiles, specific samplings using a Dutch drill and subsequent analyzes, to be able to estimate the quantity of organic substance present and its variability in space as well as the ability of soils to store carbon in the first 100 cm of depth.
- To check the quality of the organic substance by applying the indexes that indicate the soil capacity to conserve or dissipate the organic carbon present. The microbial biomass, the metabolic quotient (qCO₂), the microbial quotient (qMic), the mineralization quotient (qM) and the biological fertility index of the soil (IFB) were thus evaluated after specific sampling and analysis. The latter highlights the optimal situations and / or alarm and early warning regarding the supply of organic matter and the possible loss due to mineralization.
- To apply a first approach to estimate the carbon contained in plants
- To identify and share guidelines aimed at the best management of traditional fruit chestnut groves in order to obtain a quality product and promote the capacity of the soils to store carbon.
- To start up moments of comparison and divulgation of the values of the traditional fruit chestnut grove through a broad divulgation plan which, in addition to participating in events, and producing informative materials, also included trips to chestnut groves through the CASTANIBUS. All this, in addition to approaching a wide audience, has made it possible to foster a constructive and constructive comparison between researchers, partner chestnut growers and regional officials.

Summary expected results:

CASTANI-CO IOG was formed to enhance, through the results of research and the wide dissemination plan, the fruit chestnut grove, both as a semi-natural system suited to carbon sequestration and as a productive source of quality food (nutritional and environmental). The transversal objective of the whole plan was also to "tie up" and encourage, in addition to cooperation between companies and consortia, a wider sharing of quality and sustainability strategies in the chestnut sector. The IOG has pursued and achieved the goal of becoming a leading reference at the regional level aimed at enhancing the fruit chestnut system through the study and research of the role that the chestnut plays in carbon sequestration. In practice, the expected results were the following:

- Quantifying the organic substance content present in fruit chestnut groves according to the pedological environment and chestnut management in order to define how much carbon is sequestered in the soil;
- Improve the characterization of the type of organic substance present in the soils connected to the production of the fruit chestnut grove;
- Understand the advantages and disadvantages of the various chestnut management techniques applied in the action 2 demonstration sites;
- Identify and share guidelines aimed at managing the best fruit chestnut groves to obtain a quality product and promote carbon sequestration;
- To make known the values of the fruit chestnut wood to a wide audience (divulgation plan)

The most precious and perhaps less obvious side effect was the cohesion and participation that was created around the two projects: the chestnut growers found themselves sharing the same experiences and, together with the regional officials, they were able to discuss all the relevant issues for the future of traditional fruit chestnut cultivation. Precisely from this experience, shared with the Councilor for the mountains, internal areas, territorial planning, equal opportunities Barbara Lori and the Councilor

for agriculture and agri-food, hunting and fishing Alessio Mammi, the "Regional chestnut roundtable" has started.