

PEI NETWORK DIVULGATION SHEET

TITLE: BIODIVERSAMENTE CASTAGNO: GUIDELINES FOR THE PRESERVATION AND ENHANCEMENT OF THE EMILIA ROMAGNA CHESTNUT BIODIVERSITY

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KEY WORDS

Genetic resources, biodiversity and nature management, soil management, functionality, landscape, land management

PROJECT DURATION:

Start date: 15 july 2017

End date: 20 february 2021

PROJECT STATE: CONCLUDED

FUNDING: RDP 2014-2020 EMILIA-ROMAGNA REGION Measure 16.1.01 – Operational Groups of the European Innovation Partnership for Agricultural Productivity and Sustainability.

% FUNDING: 90% Measure 16 Focus Area 5E - 80% Measure 1

TOTAL COST: 173.159,48 €

ADMITTED CONTRIBUTION: 155.694,73 €

GEOGRAPHICAL LOCATION:

Bologna, Modena and Reggio Emilia Apennines

PROJECT PARTNERS CONSTITUTING THE IOG

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Objectives of the project

The project idea proposed the following objectives:

- To define the genetic variability of chestnut germplasm; this was determined by the fact that the characterization of chestnut biodiversity in Emilia-Romagna was based on biometric (pomological) and morphological analyzes as can be seen from the files of the regional repertoire of regional varieties at risk of genetic erosion.
- To define the characteristics of the soils of the chestnut groves by describing pedological observations made using a Dutch drill and opening specific soil profiles in the traditional fruit chestnut groves of the partner companies located in different geo-pedological situations.
- To define the biodiversity present in the soils of chestnut groves through specific surveys and processing to determine the biological quality index (QBS) and the biological fertility index of the soil (IBF).
- To create custody fields of chestnut varieties at risk of extinction at partner farms; genetically recognized slips were taken from the collection fields available in Emilia-Romagna which were appropriately grafted at the two actual partner farms which, in this way, undertook to safeguard the plants and promote the protection of biodiversity in the chestnut sector.
- To set, define and share "guidelines aimed at the study, preservation and enhancement of the biodiversity of the chestnut" which also allow to enhance and promote the role of the chestnut grower as "guardian" of biodiversity and territory protection.

Summary expected results:

The goal of the IOG was to be able to face and set up a collective study shared by the scientific community and chestnut producers to learn about the genetic variability of chestnut germplasm.

The results of the collegial work organized according to the various skills were aimed at:

- The characterization of the chestnut germplasm of the Emilia-Romagna Apennines. Through specific research, a genetic analysis (with molecular markers) was carried out, extended to the main varieties, to define the genetic diversity within the Emilia-Romagna chestnut heritage. The analysis highlighted the "diversity" of chestnuts and distinguished all the different varieties of our area, from 'Carrarese' to 'Hairy', Switzerland, Pastanese ', ' Biancherina 'and others. DNA analyzes, on the other hand, indicated that the different types of chestnuts, a typical Emilia Romagna product, share the same DNA profile with extraordinary precision, demonstrating that all plants derive from a single strain of chestnuts from the Apennines.
- The varieties recognized at risk of extinction were taken from the collection fields available in Emilia-Romagna (Granaglione and Zocca) and were inserted in special catalog fields at two effective partner companies that will become their custodians; at least 10 plants per farm are expected.
- The quality of the organic substance was verified by applying indices that provide indications on the ability of the soil to conserve or dissipate the organic carbon present. Thus, after specific sampling and analysis, the microbial biomass, the metabolic quotient (qCO₂), the microbial quotient (qMic), the mineralization quotient (qM) and the soil biological fertility index (IBF) were evaluated. 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.
- The soil and its biodiversity have been studied in some geo-pedologically different and suitably selected sites among those from which genetic material is taken, through specific indices such as the biological quality index (QBS-ar), based on the presence and the type of arthropods, small insects, which live in the soils of chestnut groves, and the soil biological fertility index (IBF); It emerged that the soil of the fruit chestnut grove is the habitat of an enormous quantity and variety of organisms.
- "Guidelines aimed at the study, preservation and enhancement of the biodiversity of the chestnut" have been set, defined and shared.
- Through a divulgation plan, the aim was to make the values of the fruit chestnut wood known to a wide public.

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.