



TRansition paths to sUustainable legume-based systems in Europe

Ancient & heritage variety screening for higher nutritive value

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Introduction

Herdade do Freixo do Meio is a project that started in 1990 in Alentejo, Portugal as a consequence of a generation change in the ownership of the territory.

The mission is based on the principles of transparency, knowledge and innovation. Therefore we focus on an efficient use of natural resources as well as the reduction of waste and the ecological impact. Against the structures of markets and the maximisation of immediate results our project searches an economical suitability through effective practices of social policies and healthy environments.

The brand Freixo do Meio identifies itself throughout an offer of various food products, processed and distributed by a single company.

Methods

The general goal of Herdade do Freixo do Meio case study is to analyze the new strategies that recreate the multifunctional montado traditional system, and adapt it to new economic, social and environmental challenges. On other hand, the goal is to understand the new forces and dynamics that intercross and may result in facilitation, or blockage, in the development of farm multifunctionality. Specifically, there are two main objectives for three different crops: to learn best processes on growing Common bean, Lupin and Chickpea and to develop new processes on transformation of this products.

Actions

For production, several field tests will be conducted. As this was a peculiar year in climate terms, field tests are now ongoing. We will test different varieties, sowing and planting techniques both with pure and mixed stands. After this we will have data on growth (plant height and root depth), flowering seasons, yield and soil parameters.

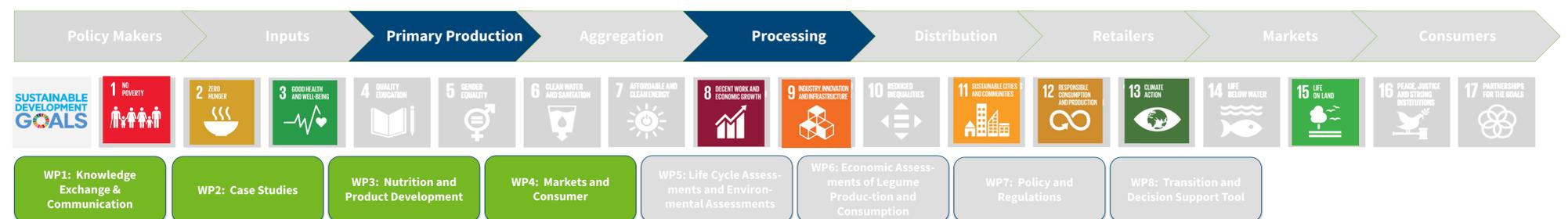
For transformation, several tests will be conducted on processing regarding the obtainment of fibers for which specific machinery will be acquired, in conservation mainly by boiling, sterilization but also in the development of innovative products more attractive for final consumers.

Field Tests

Three field tests on mixed stands with crops green manure species are being conducted right now. The basic scheme is composed by alternate lines of crops with lines of green manure species which are perennial fast growing plants in which several cuts will be performed. The result material is either used as wood when relevant being most shredded and used as soil cover. Roots will perform the role of increasing organic matter in depth. For each stand, the legume line is set as follow:

- 1- Green beans with pumpkin and sunflower.
- 2 – Chickpea, sunflower, corn and pumpkin.
- 3 – Chickpea

We believe the more complex agroforestry stands should give best results as an optimized increase in soil parameters is expected.



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