



ITHub 5 – Agroforestry Systems

FOREST4EU partner: USC

OG: Operational group for the valorization of the Extremadura chestnut tree (CASTANEA)

OG's country: Spain

Type of Innovation: Technological innovation



Chestnut varieties recommended for cultivation in Extremadura (Southwest Spain)

Introduction

The selection of plant material (varieties/rootstock) is a fundamental aspect for the development of agroforestry systems established on chestnut groves and must respond to multiple factors such as climate change, reconversion of the traditional chestnut groves due to the high mortality of trees, the modernization of chestnut cultivation through the implementation of new techniques and cultivation systems, as well as specialization productive towards fresh chestnut trade. Therefore, two lines of work must be developed. On the one hand, the use of rootstocks resistant to chestnut ink and thermal and water stress, and on the other hand, looking for chestnut varieties with a good aptitude for fresh marketing, staggered production and adapted to the climatic conditions of the producing area.

Objectives

One of the objectives of the CASTANEA operational group was to create a network of experimental plots, both new and existing, in which to carry out the characterization of plant material (traditional varieties and rootstocks) at different altitudes and areas of Extremadura (Southwest Spain).

Methods

In total 4 experimental plots were established where ink-resistant hybrid rootstocks grafted with a series of selected chestnut varieties were planted to evaluate the adaptation of the rootstocks and varieties and their agronomic behaviour. These plots were planted in an intensive 5x5 m frame, with two types of rootstocks (clon 111-1 and clon 7521) and were grafted with 8 selected chestnut varieties (Verata, Pablo, Bouche de Betizac, Manolo, Judía, Calvotera, Famosa y Martainha) in 4-foot blocks per variety and rootstock, with a total of 64 plants. In the short term, the rooting of the plant, the percentage of budding with different types of grafts and the development of the grafts will be evaluated. However, in the medium and long term, these plots will be references and the production of the different varieties will be studied to be able to recommend them to chestnut growers, in terms of plant material based on accumulated and comparative knowledge.

Main results

A network of plots has been established which will be the starting point for future research and the development of new chestnut cultivation techniques.



Figure 1: Experimental plantations in Extremadura (Southwest Spain).

Lessons learnt

1. Conclusions without taking into account the pattern: i) Bouche de Betizac is the one that reached the greatest length and Martainha the smallest, ii) Judia obtained the greatest thickness and Martainha the smallest, iii) Bouche de Betizac presented the highest percentage of yields, iv) The spike graft obtained greater length and greater thickness than the awake bud graft

2. Conclusions on the 111-1 pattern: i) Bouche de Betizac is the one that reached the greatest length and Martainha the shortest, ii) Famosa was the one that reached the greatest thickness and Martainha the shortest, iii) The spike graft presented the highest percentage of attachment, iv) 111-1 had a survival rate greater than 7521, v) 111-1 had a thickness greater than 7521, vi) 111-1 had a similar percentage of attachments to 7521









3. Conclusions about pattern 7521: i) Bouche de Betizac is the one that reached the greatest length and Famosa the shortest, ii) Judia was the one that reached the greatest thickness and Famosa the shortest, iii) The spike graft presented the highest percentage of attachment, iv) 7521 had a length greater than 111-1."

The information presented in this factsheet was developed by the FOREST4EU partner, drawing on the innovations and knowledge generated by the indicated operational group with their explicit authorization.

Further information

<http://gocastanea.eu/>



 <p>Funded by the European Union</p> <p>Funded by the European Union (Grant n. 101086216). Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or REA. Neither the European Union nor the granting authority can be held responsible for them.</p>	 <p>UNIVERSIDADE DE SANTIAGO DE COMPOSTELA</p>		 <p>FOREST4EU</p> <p> FOREST4EU Project</p> <p> FOREST4EU Project</p> <p> info@forest4eu.eu</p>	<p>Website</p> 
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