

Knowledge Repository for Non-Wood Forest Products

Overview and design concepts
June 2019

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This project has received funding from the European Union's H2020 research and innovation programme under grant agreement No.774632.

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Theme 4 Climate change adaptation & forest health

Position in the Value Chain Forestry
Factsheet type Practice

Postponing cork extraction under severe and prolonged drought events



Cork sampling is vital to inform decisions on when to carry out cork debarking. Photo: Joana A. Paulo

NWFP

Cork

Keywords

Precipitation Cork caliper Cork age

Debarking Cork

Scale

National Subnational

Objective

Increase the cork market price of the extracted cork and the equivalent annual annuity of the farm

Context

Cork thickness is one of the parameters considered for industrial classification of cork quality. This variable is directly related to cork price. The increase of cork thickness implies the increase of annual cork growth and/or the increase of the cork debarking rotation period. Ultimately, this will have an impact on the equivalent annual annuity of the farm. Cork sampling is crucial for evaluating cork thickness, and for accessing the need of delaying the cork debarking period, in order to increase cork thickness and ultimately the cork price.

Results

For discount rates of 0.5% and 2% the impact of different cork debarking rotation (CDR) on equivalent annual annuity (EAA) from 9 to 14 years is low. In stands characterized by high to average site index values or high to medium cork quality characteristics, CDR of 9 and 11 years are associated with similar values of EAA. The variation of the CDR in stands characterized by low site index values and/or low cork quality characteristics did not have a relevant effect on the variation of EAA. For the simulations carried out with a discount rate of 5% the EAA decreases with the increase of CDR, indicating that the minimum legal value of 9 years for CDR should be applied.

Recommendations

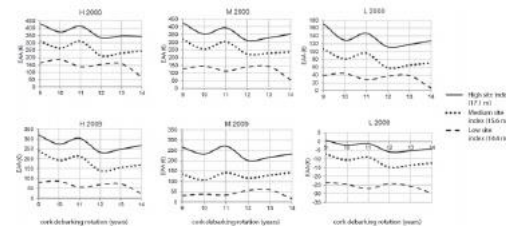
Climate is known for affecting cork annual growth and ultimately cork thickness. During the last years an increase of the frequency of severe drought events was observed in Portugal. As a result, for the same debarking rotation period, cork production shows a decreasing trend of average cork thickness. Detailed knowledge of cork and stand characteristics obtained by the collection of cork samples in a forest inventory, the consideration of climate conditions, namely precipitation regimes, during the period of cork growth, and the collection of updated information on cork prices structure and values, are essential drivers for the farmer's decision on the accomplishment or delaying of the debarking operation.

Impacts and weaknesses

Although cork annual growth is known to be much related to climate, namely precipitation regimes, it is also highly variable between farms, in different areas of one single farm, and even between trees geographically close. The importance of site conditions such as soil depth and texture, management practices and tree genetic variability implies that management operations, such as the cork debarking, should be decided for homogeneous management areas. This entails an increase investment in monitoring activities such as forest inventory and cork sampling. Cork price fluctuations and uncertainty are also a relevant driver for farmer's, that may affect the decision on cork debarking or postponing.

Future developments

Increase knowledge, that allows the quantification of the impact of soil and topographic characteristics and management operations (e.g. fertilization) on cork growth, is needed. This knowledge may be included in the management and decision support tools such as forest growth models and simulators, that should be accessible for managers.



Equivalent annual annuity (EAA) for discount rate of 0.5% as a function of cork debarking rotation for stands with different site index (14.4 m, 15.6 m or 17.1 m).

From: Paulo, J. A., Tomé, M. 2017 Using the SUBER model for assessing the impact of cork debarking rotation on equivalent annual annuity in Portuguese stands. Forest systems 26(1) e008.

Contact

Organisation ISA
Country Portugal
Lead Joana Amaral Paulo
joanaap@isa.ulisboa.pt

<https://fenix.isa.ulisboa.pt/qubEdu/homepage/isa114126/>

Author

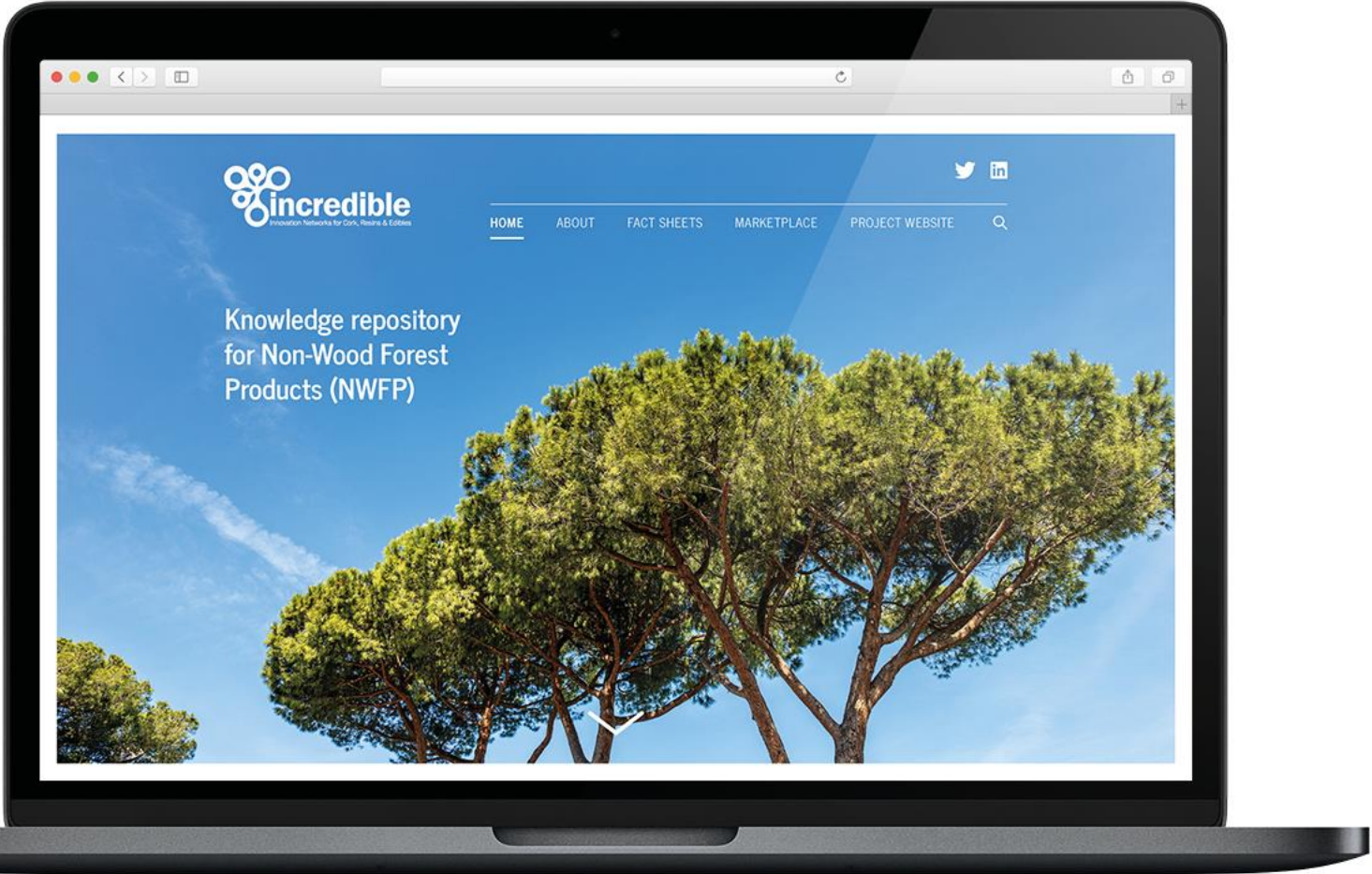
Name Margarida Tomé
Organisation ISA
e-mail magatome@isa.ulisboa.pt

Further information

Paulo, J. A., Tomé, M. 2017 Using the SUBER model for assessing the impact of cork debarking rotation on equivalent annual annuity in Portuguese stands. -09931 Forest systems. 26(1), e008, 11 pages.
<https://doi.org/10.5424/fs/2017261>

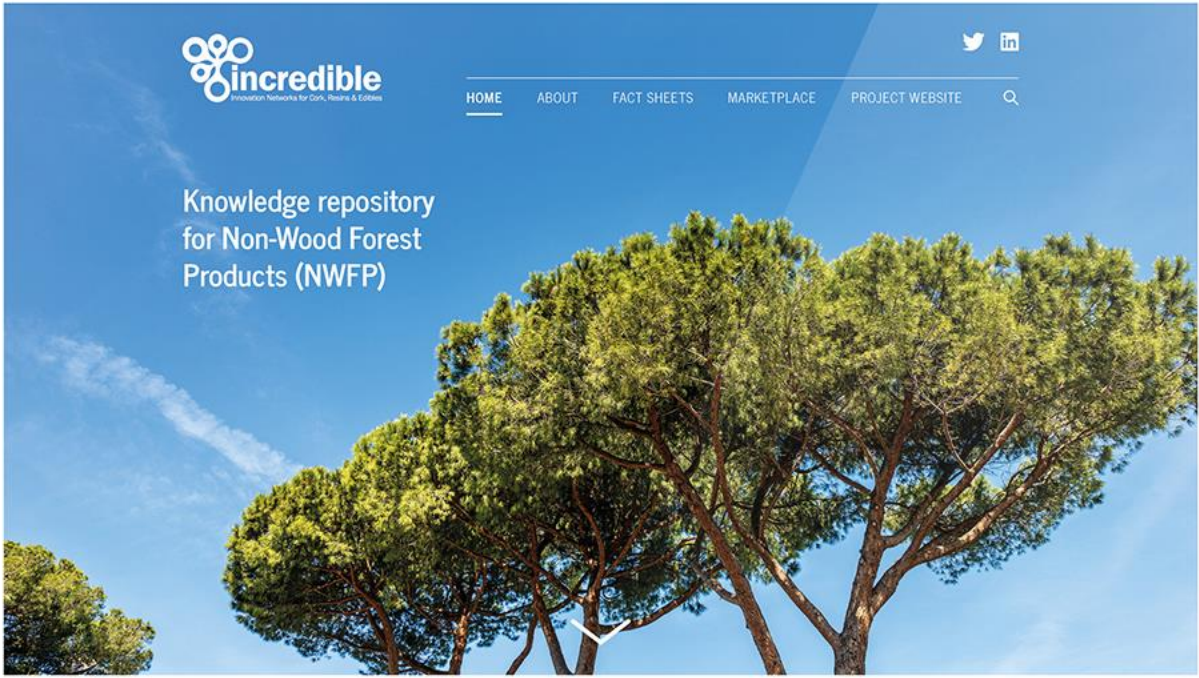
Paulo, J. A., Tomé, M. 2017 Using the SUBER model for assessing the impact of cork debarking rotation on equivalent annual annuity in Portuguese stands. -09931 Forest systems. 26(1), e008, 11 pages.
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CORK



Postponing cork extraction under severe and prolonged drought events

30 May 2019

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CORK

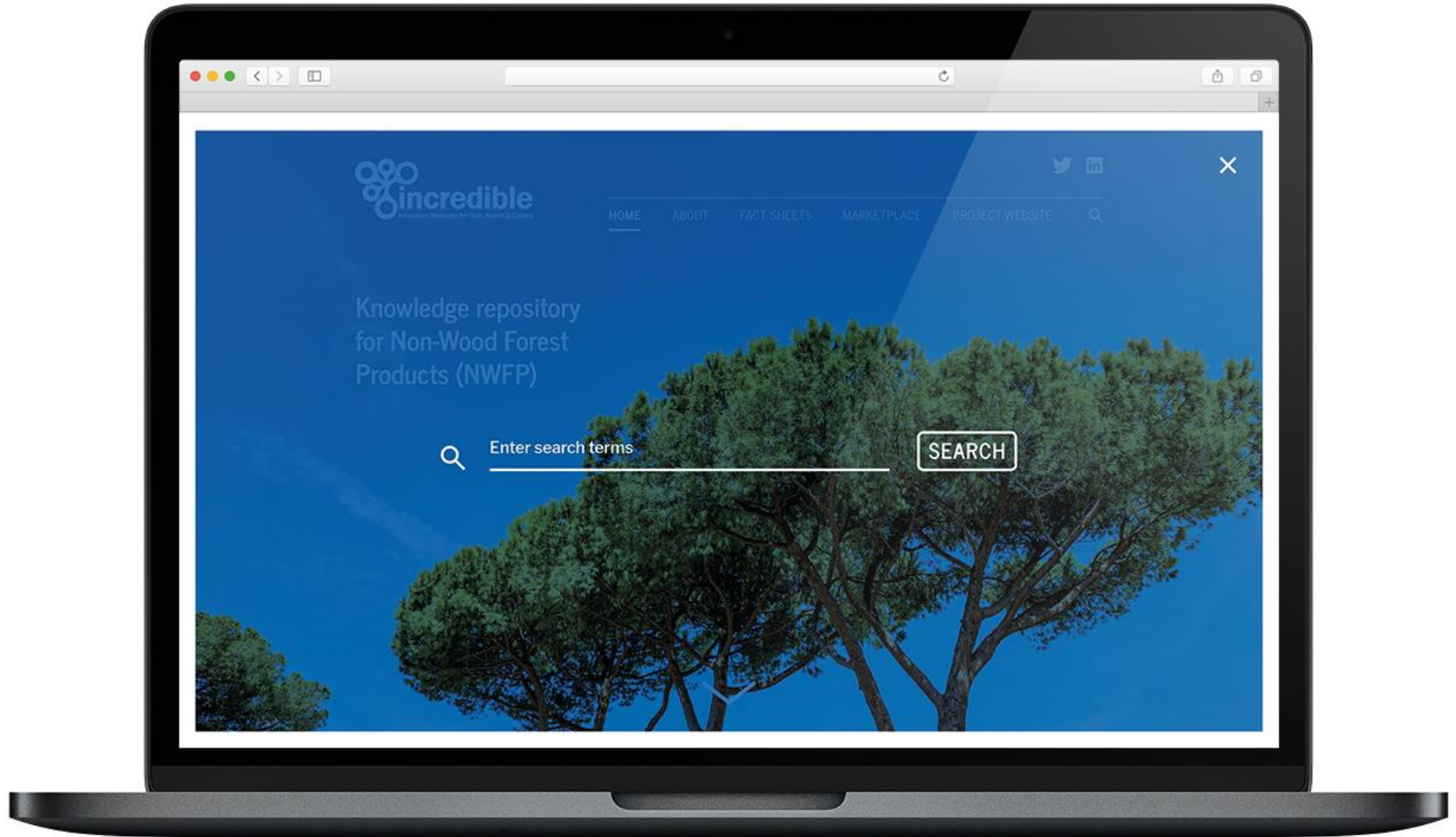


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ABOUT

The INCREDIBLE project aims to show how Non-Wood Forest Products (NWFP) can play an important role in supporting sustainable forest management and rural development, by creating networks to share and exchange knowledge and expertise. 'Innovation Networks of Cork, Resins and Edibles in the Mediterranean basin' (INCREDIBLE) promotes cross-sectoral collaboration and innovation to highlight the value and potential of NWFPs in the region.

FUNDING



'Innovation Networks of Cork, Resins and Edibles in the Mediterranean basin' (INCREDIBLE) project receives funding from the European Commission's Horizon 2020 programme under grant agreement N° 774632.

CONTACT

Email: info@incredibleforest.net
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INCREDIBLE repository
will be powered by Oppla





The EU repository of **Nature-Based Solutions**





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Spain	Sven MUTKE	mutke@inia.es
Tunisia	Ibtissem TAGHOUTI	ibtissem.taghouti@gmail.com

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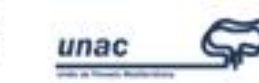
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