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Sustainable Cork Production in Changing Mediterranean Agroforestry Systems

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Abstract

Mediterranean forest ecosystems play an important role in the conservation of soil and water resources and in rural economies. Large areas have been degraded and must be restored, but others show models for sustainable management in woodland systems able to prevent a further loss of biodiversity and resources. The importance of persisting traditional land-use systems compatible with the conservation of Mediterranean forests is increasingly recognised by rural development and environmental policies. Western Mediterranean oak forests are the result of a long process of transformation by human activities and demonstrate that a sustainable balance between trees, crops and cattle is possible. Different types of evergreen cork and holm oak woodlands are modified and maintained by constant human intervention in local agroforestry and sylvopastoral systems showing a great variety of products, as well as a high level of biodiversity. The contribution presented here deals with the cork oak (Quercus suber) as an outstanding element of a complex, multifunctional and changing land-use system. In those areas of Portugal, Spain and Maghreb countries, where cork production is concentrated, cork harvesting is of fundamental socio-economic importance, generally together with different complementary activities. Controlled cork stripping at regular intervals is possible without damage to the tree. The cork bark constitutes one of the most important non-timber forest products world-wide. Growing environmental awareness has raised economic interest in cork as a natural, renewable, biodegradable and recyclable product with a large number of applications. Nevertheless, the cork sector and the agro-sylvo-pastoral system as a whole suffer various problems, mainly related to recent changes of external conditions. There is a need for innovative adaptation in all segments of the cork production chain. A regeneration of cork oak woodlands and a higher qualification of labour are as important as technological and organisational innovations in industrial transformation and marketing. Great efforts are indispensable to stop the decline of traditional land-use systems, which also incorporate new production and service activities in a Mediterranean rural landscape of extraordinary attractiveness and socio-economic and ecological value.

Keywords: Mediterranean agroforestry systems, subtropical oak woodlands, cork production, sustainability