



Sweet chestnut in agroforestry systems

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Sweet chestnuts have a renovated high economic importance. European sweet chestnut (*Castanea sativa*) are rich in carbohydrates (comparable to wheat and rice) and sugar while low content in fat and are therefore highly appreciated by consumers. Well managed chestnut trees in Galicia have shown to produce around 80 kg chestnuts per tree per year, resulting in an income of 6.000 - 10.000 euros per ha per year for farmers. Most of the produced nuts are directly consumed fresh, roasted, fried or boiled. 'Marron Glacé' is an example of a highly appreciated product based on sweet chestnuts with prices over 2 euro per fruit. There are also several value-added products. For example, some varieties are used for making gluten-free chestnut flour or bee hives are moved in chestnut orchards to produce chestnut honey. Besides the nuts, the chestnut timber is also highly valued for its colour, natural durability and easiness for working. Countries of southern Europe (especially mountainous regions) are traditionally the largest producers of chestnut fruit and timber as shown the recently created Galician Protected Designation Origin that identified up to 98 varieties in their region of which 10 have edible high value. Nowadays, chestnut industries are expanding over less rugged terrain in Europe but knowledge and experience is lacking. Agroforestry systems with chestnut need to consider that the broad crown creates a lot of shade and the litter is not easily decomposed, rendering the trees more suitable for silvopastoral systems (perfect trees for shelter and wind-breaking or to use chestnuts as a supplement in the diet of the animals) such as those linked to sheep and pigs in Portugal and Spain and less

for silvoarable systems when the trees become adult. Diseases and pests are common in European chestnut plantations (ink disease, chestnut blight, chestnut weevils and the Oriental chestnut gall wasp) causing a lot of damage to chestnut trees, decimating chestnut yields. An appropriate choice of varieties for planting and grafting is crucial.



Figure 1: Highly productive chestnut trees in an agroforestry context. Source: Consortium Agroforestry Flanders.

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