



Silvoarable practices with Walnut trees

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Walnut is together with cherry one of the most promising and valued that may provide over 3000 euros per tree to farmers after growing several decades (30 years in Galicia). However, a strong initial investment linked to the plantation together with high tree maintenance costs linked to silvicultural operations such as pruning and thinning prevents farmers to plant them, as usually no other product are initially obtained from the planted land. On the other hand, tree-less arable lands are producing crops but also decapitalizing soil fertility that can be solved through the introduction of widely walnut spaced tree plantations. Walnut trees are especially suitable to be grown with winter crops including cereals because they sprout late in the spring allowing plenty sunlight to the crop even with dense plantations. High pruning should be carried out that contribute to reduce tree/crop competition Walnut variety selection should ensure the best form of the logs. Earlier crop varieties should be adequately selected to be grown under the trees. The Spanish AFCLIMA project aimed at evaluating the development of different varieties of rye, wheat,

maize, triticale and barley under walnut with different tree ages in different climatic regions of Spain. After two years of study it was found that there is enough genetic variability that allows adequate selection of crop varieties to be grown under shade conditions. Tree distance has also shown important effects on crop growth. So, maize production is reduced until 6 meters of distance are reached far away from the tree.



Figure 1. Low walnut maize plantation

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