

AGROFORESTRY IN FIGURES

33% increase in productivity for walnut/wheat mix crops: this means that a plot of agroforestry of **100 hectares** mixing trees and crops produce as much biomass (wood and agricultural products) as a plot of **133 hectares** separating trees and crops.²

Between **1 and 2 tonnes of carbon/hectare** stored every year for an agroforestry field with a density between **50 and 100 trees/hectare**.³

80% less erosion for agroforestry fields with cherries and walnuts with a density of **113 trees/hectare**.

75% less azote loss in underground waters during the entire life of trees.⁴

One hundred odd adult walnuts will represent a significant financial contribution (**from 50 to 100 000 €**), which will improve the long term viability of the farms.

[1] Agroforestry fact sheet, INRA and UMR. <http://agroforestry.eu/>

[2] Source : Dupraz, C., Talbot, G., Querné, A., Dufour, L., 2010. *What explanations for the surprising productivity of temperate agroforestry systems as measured by their Land Equivalent Ratio?*, Agro2010. European Society of Agronomy, Montpellier, pp. 271-272

[3] Source : Hamon X., Dupraz C., Liagre F. 2009. *L'agroforesterie, outil de séquestration du carbone en agriculture*.

[4] Source : *L'agroforesterie peut-elle permettre de réduire les pollutions diffuses azotées d'origine agricole*. Rapport de contrat de recherche n°2009 – 0009 avec l'Agence de l'Eau Rhône-Méditerranée-Corse – C. Dupraz, F.Liagre, A.Querné, S.Andrianarisoa, G. Talbot. 15 décembre 2011

For any questions, please contact Mélanie Lamaison
EBCD: melanie.lamaison@ebcd.org



AGROFORESTERIE
association française



CONCEPT NOTE

AGROFORESTRY

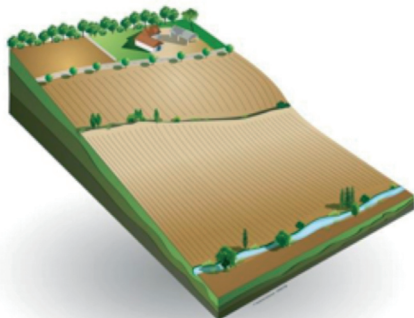
*trees for a Sustainable
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AGROFORESTRY IN WORDS

Agroforestry gathers methods aiming at mixing trees and crops or animals. This implies an integrated management of trees - both into and around fields - and of crops or pastures grown under cover partially shadowed.



BEFORE



AFTER

AGROFORESTRY IN EUROPE

There are **traditional agroforestry practices in all EU countries**, from Scandinavia to the Mediterranean and from the Atlantic to the Ural Mountains. Some agroforestry systems such as dehesa (oaks and cultures or pastures) still cover millions of hectares while other systems have significantly decreased because of crop mechanisation and the specialisation of farms. Cereals and olive trees, corn and poplars, apple trees and pastures, millenary hedged farmlands, pastures in forest, varied crops in orchards, and vineyards are significant examples.

Modernised farming practices in corridor and multifunctional hedges are being developed. In France, over 3000 hectares of new agroforestry fields are planted every year. At the European level, a recent study has demonstrated that over 50 million hectares could be progressively trans-

formed into agroforestry. Elsewhere in the world, agroforestry is growing fast such as in China, North America and tropical countries.

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AGROFORESTRY IN QUESTIONS

Planting trees in fields increase farmers' income.

TRUE:

Trees will be harvested. Economic analyses have demonstrated that a farm that will have 25% of its land area planted with high quality timber (pears, cherries, walnuts, etc.) will double its annual income, particularly by selling trees.¹

But patience is required.

« **Agroforestry allows optimising the use of natural resources and produces biomass as well as biodiversity.** »

Trees outside forests store water.

TRUE:

In the face of heavy droughts hitting European farmers regularly, trees increase the water storage and penetration capacity in soils, mitigate soil evaporation and create a micro climate with their shadow and transpiration.

Agroforestry is intrinsically linked to extensive agriculture.

FALSE:

Agroforestry can be applied in any agricultural system: conventional, integrated, organic, semi extensive and intensive. It is therefore important to avoid defining agroforestry systems as a technique combining trees and extensive agriculture on the same land.

Agroforestry impacts positively pollinators.

TRUE:

The proportion of hedges plays a positive role on the population and diversity of wild bees. For a hedge, we can identify a wide panel of honey plants and nectar plants essences which, from the end of the winter until the fall will feed pollinators, including western honey bee.

« **Agroforestry creates landscapes.** »

Agroforestry is an additional way for farmers to receive more money from the CAP at the expense of forest owners.

FALSE:

Agroforestry and forestry are not competing but complementary activities. Both provide ecosystem services and offer economic advantages. Knowledge transfer between forest owners and farmers applying agroforestry practices is critical. Furthermore, the EU does not have a European Forestry Policy and forest owners' income does not come from the CAP.

« **Agroforestry is a societal challenge.** »