



AGROFORESTRY SYSTEMS: SILVOARABLE



Year of foundation	2006
Specialization	Crops (cereals, rapeseed, etc.)
Farm area	150 ha
Number of employees	2
Year of starting agroforestry practices	2009
Location	France, Somme, Domart-sur-Luce
Web page	https://hautsdefrance.chambres-agriculture.fr/publications/la-publication-en-detail/actualites/biodiversite-en-pratique-interview-de-jean-marc-horde-agriculteur-retraite-dans-la-somme-a-domart/ https://awafinfo.wixsite.com/awaf/la-route-de-l-agroforesterie

Jean-Marc Hordé's farm is 150 hectares and cultivated with crops in a conventional model but **with low-tillage practices. 10 hectares are planted with lines of tree in a silvoarable fasion.**



Front view of the silvoarable plot at Jean-Marc Hordé's farm (Source: CNPF)

The agroforestry plot was established to experiment on tree/crops association with the first objective being the diversification of productions and the second the improvement of the ecosystem of the farm (biodiversity, etc.) and its soil fertility (organic matter level...). The availability of subsidies was the reason that triggered the plantation of the agroforestry plot.

On its 150 hectares, a first plot has been planted in 2009 with tree lines alternated with crops strips. The no-till practices were already done before the implementation of agroforestry, facilitating the enhancement of soil fertility with the addition of trees.



Several tree lines in the silvoarable plot (Source: CNPF)

- For now, the costs of management of the trees and their low impact on the crops yields do not affect the economic results of the farm.
- All the trees have a good development even if the soil isn't perfect (calcareous).



The silvoarable model of Jean-Marc Hordé's farm has been designed to have a low impact on the yields of the crops, and require **low management**. **Lines of trees are spaced by 30 meters and trees on the line are spaced by 7 meters**. The plantation was **completely financed thanks to public subsidies** dedicated to experimental projects. Trees are intended to be sold as timber logs.

Main Skills needed:

- **Knowledge about pruning** is required
- Selecting the **good cover crop for the tree line is important** to not let the space available for undesirable **weeds**

DESCRIPTION OF USED TECHNIQS DURING ESTABLISHING OF AGROFORESTRY SYSTEMS

The soil was prepared by a mini-excavator to loosen its structure in depth and promote tree roots exploration. Individual tree protections were installed to protect the trees from wild game. Tree species have been selected for timber production, such as cedar, walnut, elm, apple, pear, maple, linden, beech and oak trees.



Another front view of the agroforestry plot (Source: CNPF)

THREATS/CHALLENGES

- **Pruning operations require a lot of time**
- Calcareous soils were not ideal
- Some trees were damaged by diseases

Jean-Marc Hordé is satisfied with his agroforestry system and he is already witnessing an increase in biodiversity in his plots. He plans to plant more silvoarable area in his farm.

Densify plantings with biomass trees to produce fuel wood.



Front view of the tree line (Source: CNPF)



One oak tree on the line of the plot (Source: CNPF)

FUTURE PLANS

Jean-Marc Hordé is planning to plant an **additional plot of 50 hectares with silvoarable agroforestry**. This time he is thinking about **planting in higher density**, being less limited by the regulations compared to 2009.

FINAL RECOMMENDATION

Tree species should be very diversified to avoid wide contamination by diseases.

KEY WORDS

Silvoarable, crops, tree diseases, low tillage, tree pruning.



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