



AGROFORESTRY SYSTEMS: SILVOARABLE



Year of foundation	1998
Specialization	Crops: wheat, corn, sugar beets, beans, potatoes
Farm area	138 ha
Number of employees	2
Year of starting agroforestry practices	2009
Location	France, Somme, Verpillères
Web page	https://awafinfo.wixsite.com/awaf/la-route-de-l-agroforesterie

Sylvia Haguët's farm is a **conventional farm of 138 hectares**. The objective is to maintain the farm activities in accordance with the previous farm practices set up in 1998. **She stopped tillage in an agroforestry plot** after tree plantation in 2009 and tested cover crops since 2000.



Front view of the silvoarable plot (Source: CRPF Hauts de France)



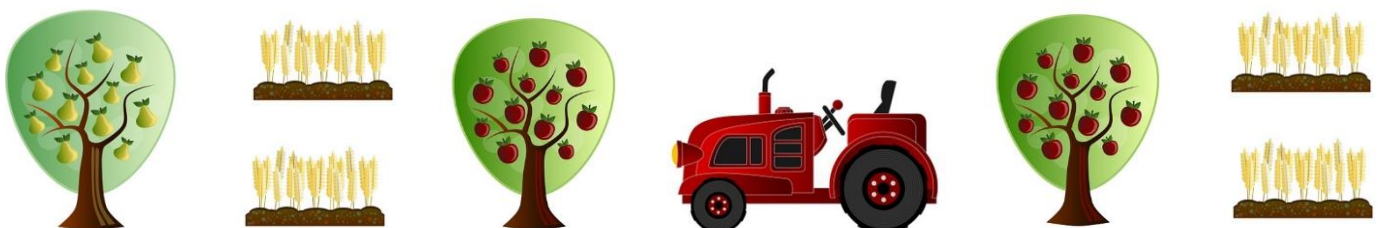
The farm is located in the Northern part of France. Soils are silty but prone to create sealing layers (17,4% clay), with neutral pH (7,3), and a depth of 6 meters. A groundwater table is present at an 8 meters depth. Soil can be hydromorphic downslope. The crop rotation alternates with wheat one of two years. Cover crops are used also before a crop of sugar beets or potatoes, the mix is composed of rye, vetch and clover.

13 hectares have been planted in a silvoarable model, with tree lines planted for timber production. The agroforestry plot is managed with low-tillage practices (operations of 15cm depth) when the other plots are tilled.



Crops growing in the agroforestry plot (Source: CRPF Hauts de France)

➤ The agroforestry was implanted with the objective of reducing the wind and rain erosion, and also to increase the level of organic matter of their soils.



This agroforestry system was chosen to leave a **maximum of space to the crops**, and also **practicality of operations with agricultural machinery**. This plot is also part of an **experimental program** led by a French forestry institution (CRPF). It has been fully financed (total cost of 4'800€) thanks to local subsidies.

The main skill required concerns **the pruning and how to use the specific equipment** in a safe manner.

DESCRIPTION OF USED TECHNIQS DURING ESTABLISHING OF AGROFORESTRY SYSTEMS

7 lines of trees were planted with a North-South orientation, and a spacing of 30 meters between each, the width of Sylvia Haguët's agricultural machinery. The tree lines are 2 meters wide, and trees are spaced by 6 meters on the line. The final tree density reaches 46 trees/ha. Species were selected for timber production, especially for the making of furniture (Cherrywood, Elsberry, Maple...). Soil was prepared with an excavator and each tree protected with individual protection up to 120 cm high.



A tree line of the agroforestry plot under snow (Source: CRPF Hauts de France)

THREATS/CHALLENGES

Some branches can complicate the passage of agricultural machinery such as sprayers if not pruned correctly. However, pruning can be a time-consuming operation and must be planned in advance not to overflow the farmer with the additional workload. Some maple trees experienced issues with diseases.

Sylvia Haguët's farm is a **classical example of silvoarable systems** in Northern France, with tree lines widely spaced **to focus on practicality of agricultural operations such as low-tillage and passage of sprayers.**

The design of the plantation should be done carefully. **The plantation must be done gradually to anticipate new tasks organization, optimize workload and avoid pitfalls.**



Harvesting the crops into the silvoarable plot (Source: CRPF Hauts de France)

FUTURE PLANS

Sylvia Haguët **will not establish additional agroforestry systems** at this time. **Labour requirements for the tree management are the limiting factor**

FINAL RECOMMENDATION

KEY WORDS

Silvoarable, low tillage, timber production



Co-funded by the
Erasmus+ Programme
of the European Union

