

AGROFORESTRY SYSTEMS: SILVOARABLE



Year of foundation	2017
Specialization	Production of fruit in organic quality, seedling production of long fruit varieties
Farm area	6 ha
Number of employees	The farm works on the basis of volunteering and cooperative economy
Year of starting agroforestry practices	2013
Location	Agricultural cooperative in Moravské Lieskové (district Nové Mesto nad Váhom)
Web page	www.ovocnystrom.sk

Ovocný strom (Fruit tree) is a group of young people who have interest in fruit growing and nature-friendly farming in the landscape. Since 2012 they have been intensively involved in volunteering to preserve the diversity of fruit varieties and practical landscape protection. Since 2017 they have been farming in Moravské Lieskovo on an area of 4.5 ha. **They transformed conventionally farmed arable land into an organic orchard with a cultivated adjacent crop.** They love their work and produce apples in organic quality without the use of chemicals.

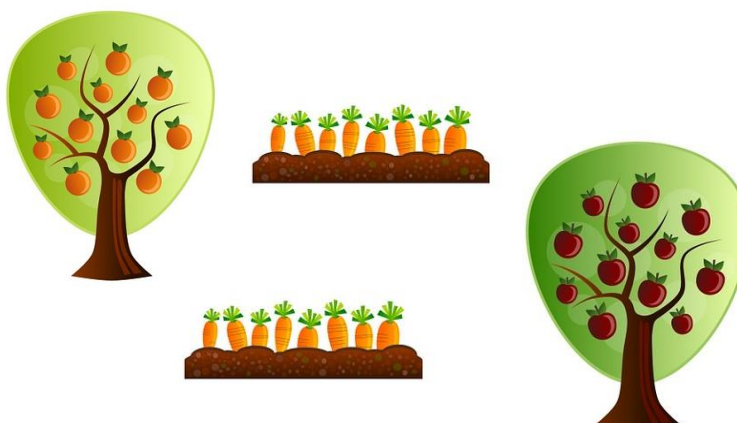


From the very beginning, activities of Ovocný strom were directed to mixed cultures. They started to restore an extensive orchard in Nová Bošáca on more than 12 ha. Their activity (at that time the PANGAEA Civic Association 2013 -2017) was to restore the orchard, plant long fruit trees and care for trees and to clean the nature seeding. Sheep grazing was provided by the Civic Association BROZ. Since 2013 a fruit nursery has also been established to produce high-quality long-lived trees of obsolete varieties and landraces. In 2017 they established an apricot gene pool in Moravské Lieskovo. Previously, field crops were conventionally grown there.

After the implementation of agroforestry practices, an apricot orchard with an area of 4.5 ha, 150 varieties of apricot in spacing 8x10 m on myrobalan and green plum rootstock, 26 varieties of cherries, 50 varieties of large-fruited dogwood and 12 varieties of plums were planted. Next planting will be more than 40 varieties of pears and 15 varieties of tart cherries. Adjacent crop is a lantern and clover mixture to revive and overcome soil. In the future they are preparing the cultivation of tree seedlings and root vegetables in 10 m wide rows.



- Based on the implementation of agroforestry they achieved excellent results. They came to the **improvement of the soil under cultivated green manure and after application of 30 tons of manure per 1 ha + 20 pieces of 200 kg of bales of straw per 1 ha.**
- The growth of new trees exceeded expectations. After 2 years the **soil structure was improved significantly.** After 4 years they want to start growing between rows.



Young farmers from **Ovocný strom** started without subsidies and were naturally inspired by farm orchards – field orchards and wood pastures. The term „agroforestry“ is according to them completely unnecessary, misleading from the original established names that they know in agriculture and landscaping. **They recognize so-called field orchards, wood pastures and cultivation of adjacent crop (root crops, cereals or fruit shrubs) under the trees.** It is an old way of land management before collectivization.

Practical skills are considered to be the main competencies in the implementation of agroforestry systems: proper design of tree species composition and their distribution on the land, planting and care (especially pruning of trees in the first 6 years), using of green manure and organic farming skills.

DESCRIPTION OF USED TECHNICS DURING ESTABLISHING OF AGROFORESTRY SYSTEMS

Apricots, plums, cherries, tart cherries and dogwoods – all the species on the fast-growing rootstocks. The spacing was at least 8 – 12 m. Stubble breaking – subsequent vibrating harrow – sowing green manure mixtures. The 3 m wide lines under the trees were ploughed with disc harrows and undersowed with green manure.



THREATS/CHALLENGES/RECOMMENDATIONS

- The biggest threat is the **lack of knowledge in agroforestry and lack of interest in nature conservation and landscaping of large agribusinesses.**
- Workers with large agricultural machineries have no sense for living trees and they damage tree trunks.
- **Compaction of field roads** is a problem (they must be grassed).
- **When planting young trees, little organic matter is supplied.**
- According to young farmers, the lack of quality seedlings is associated with **insufficient post-planting care.**

The main reason for the establishment of the Fruit Tree Association was the response to the demand for planting long-lived fruit trees, pruning adult trees with quality assurance and fruit education. Their intention is to restore functionality to the landscape and gardens by designing and implementing high-quality planting of long-lived fruit trees and providing professional care for fruit trees. They are constantly educated in this field and are also involved in educating the general public.

They perceive their work in a broad context and see long-lived fruit orchards as a possibility for nature-friendly, low-input fruit production. **When planning orchards, they take into account the progressive climate change and establish orchards resistant against climate extremes.** These orchards can become an important source of livelihoods in a difficult foreseeable climate and social future.



FUTURE PLANS

Young farmers plan to **expand the orchards in 3-4 years to further arable land.**

FINAL RECOMMENDATION

“Natural and cultural wealth in the form of a gene pool of fruit varieties is disappearing before our eyes. In old gardens and landscape, fruit trees hundreds of forgotten varieties anonymously live, often exceptional in their properties“.

Finally, the young orchardists add:

“The first step to saving and returning fruit varieties is their discovery. Therefore, we devote ourselves to practical pomology, expect to reveal variety names, take the scions from the mother trees and to graft them again on the long-lived rootstocks from the seed.”

KEY WORDS

Alley cropping, extensive orchard, gene bank, obsolete varieties and landraces



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