

## AGROFORESTRY SYSTEMS: SILVOPASTORAL



Year of foundation	1992
Specialization	Classical plant production, breeding of beef cattle, cultivation of medicinal plants
Farm area	207 ha
Number of employees	5 family members
Year of starting agroforestry practices	2014
Location	Kravany nad Dunajom, part Mária (district Komárno)
Web page	-

**Farm Bottka is a family farm** distributed at of 207 ha (180 ha of arable land, 25 ha of permanent grassland, 2 ha of forest). **It focuses on breeding cattle and pigs, cultivating field crops and medicinal plants.** Recently, **agroforestry practices for the preservation of native trees, planting new trees, extend wetlands and planting shrubs (wild roses) have also been implemented.**



The farm farmed an area of 600 ha in 3 villages in the district of Komárno and kept 50 cattle of the breed Charolais, which were mostly fed in the stable.

After reassessing the economic indicators, the farm came to an agreement that it is uneconomical to manage land faraway 50 km apart. **Livestock breeding without market milk production is profitable only in a grazing way.** The area of farmland was reduced to 200 ha (land around the farm). They increased the number of livestock to 150 individuals. **The pastures were also extended to areas that were not used before: alleys, temporarily wetland ecosystems, areas overgrown by shrubs and trees.** They have planted 1 ha of lavender on an area, where it is not economical to sow cereals.



- After planting the trees on pastures, the cattle began to search these areas and is hiding here from the strong midday sun, and there is also another food that is missing on the pasture in August.
- The costs of forage production have been significantly reduced.



The implementation of agroforestry on their farm was based on their own intuition, nature observation, animal behavior and by the effect of warming threat and water scarcity. They drew information abroad, on the Internet and by studying the management of our ancestors (diaries, maps, memorials).

They gained training and skills through 30 years of practice and consultations with National Forest Center in Zvolen. As there are no practical courses on agroforestry in Slovakia, they would welcome the state to be more interested in this type of farming as climate change forces us to do so.

## DESCRIPTION OF USED TECHNICS DURING ESTABLISHING OF AGROFORESTRY SYSTEMS

When they establishing agroforestry systems, they started with the production of solid fences, processing and chipping of waste wood from trees. Subsequently, they began to manually plant (using a drill) lavender around which planted trees to protect against the wind. They planted poplar and cherry in the number of 100 individuals at a spacing of 3 m from each other. The area is protected by electric fences. In November 2019, 10 ha of wild roses will be planted for the production of fruits for the pharmaceutical industry. The roses will be planted in a spacing 70x400 cm. Between the rows they want to sow a grass mix – a flower meadow that will be grazed by young cattle.



## THREATS/CHALLENGES/RECOMMENDATIONS

- The biggest threat is the **lack of water** (in the first 2 years after planting it is necessary to irrigate).
- **Overpopulated wild animals** complicate work of farmers by destroying young trees and reducing crop yields by feeding.

The Bottka family farm has been operating successfully for several years on the basis of family fellowship, patience and endless endeavor and love for their profession. Planting trees and dam the water in nature is, according to them, the only possibility of surviving their farm in the current climate change.



## FUTURE PLANS

The family farm plans to plant **additional trees on pastures and permanent grasslands** so that the livestock have more natural shelters while also damming water in the landscape. They also want to **restore water reservoirs, plant a herb garden** and gradually develop **agrotourism and educational programs for the public and schools**.

## FINAL RECOMMENDATION

Finally, family farm members add:

*“The measures that we have started to applying bring us benefit and physical well-being for humans and animals.”*

## KEY WORDS

Alley cropping, silvopastoral systems, pastures, wild rose, leveder



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