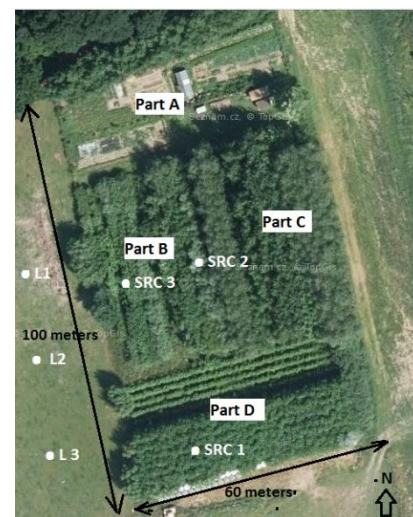




## AGROFORESTRY SYSTEMS: SYLVOPASTORAL



Year of foundation	1992
Specialization	Mixed farm system with plant and animal production
Farm area	cca 150 ha
Number of employees	4 family members
Year of starting agroforestry practices	1999 → 2004 (SRC → poultry)
Location	Nová Olešná, South Bohemian Region
Web page	-

Small agroforestry system (0,6 ha) in village Nová Olešná consists of **short rotation coppice (SRC) combined with poultry breeding and homegardening of vegetables**. It was established for self-provision of woodchips, vegetables and eggs/meat. Poultry flock consists of typically 20-30 hens with one cock and several specimens of ducks, turkeys and geese. A henhouse with water and feeder is located inside the plot. Poultry are fed with locally produced cereals and some commercial pellets ad libitum. Agroforestry system is fenced.

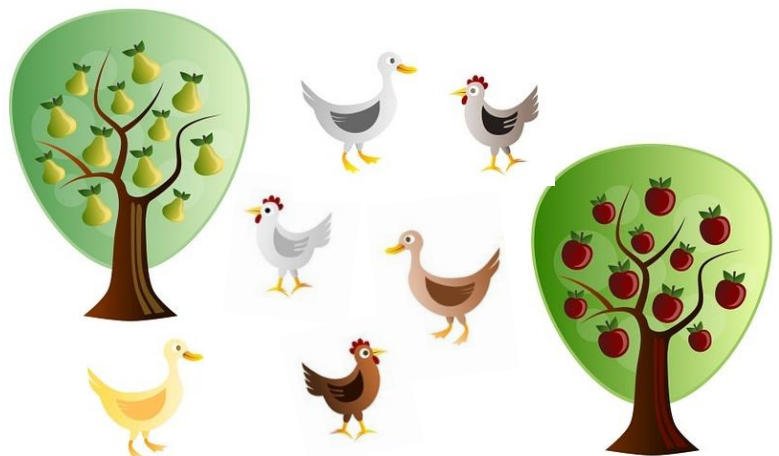


Their first reason for tree planting was **production of wood chips for energy**. After a few years the farmer's wife started keeping **poultry close to the plantation** and found, that **hens and chickens entered the plantation not only for feeding on insects and plants but also to protect themselves against birds of prey**.

**Improved welfare for chicken** free range breeding in SRC (temperature, moisture, feed, hide) has led to better production of eggs until some predators appear (fox, marten). **Monitoring of soil and climatic parameters (nutrients, pH, CO<sub>2</sub> resp. temperature, moisture) have shown improved trends for both soil productivity and poultry welfare.**



- Promotion **self-sufficiency** of the farm in food and energy
- **Protection of poultry against birds of prey** (esp. Eurasian sparrowhawk, hawk)
- **Protection of trees against pests, insects, weed** through chicken grazing
- Contribute to **diversification of agricultural landscape in the region**



Information was provided through the **long-term cooperation with research (VÚKOZ Průhonice)**. AFS is registered as **SRC which is suitable for direct payments (SAPS)**. Homegarden is within front manipulation space 12 m wide. Knowledge and equipment for secure free range breeding of poultry and for growing short rotation coppice of fast-growing trees.

## DESCRIPTION OF USED TECHNICS DURING ESTABLISHING OF AGROFORESTRY SYSTEMS

Agroforestry system (AFS) was established gradually from 1999 to 2004 and it is divided into three resp. four parts on a total area of 0.6 ha (Picture 1). **The short rotation coppice part consists of the clone test of poplars and willows (0.2 ha; 36 genotypes of poplar and willow; scheme 2m x 0,5m; 10000 pc/ha), plantations for firewood/woodchips (0.15 ha; 5 best clones of poplar and willow, same planting scheme and density) and stool bed for cuttings (planting material) on 0.1 ha with poplar clone J-105.** Garden which is used for small-scale vegetable production (0.1). Facilities for small-scale poultry breeding are movable and situated according to situation.



## THREATS/CHALLENGES

- Since last 3-4 years, there is a **problem with foxes or marten** when harming the flock during day. For night flock is closed in henhouse. Variety of different measures are used to prevent further damages including better fencing, hunting etc..

Mostly positive trends were found of monitored soil parameters in topsoil (5-15 cm) under SRC with poultry after 17 years including stable or increasing levels of Cox, pH, P, K, Ca, Mg despite no fertilization being applied and tree biomass being removed (5 harvests). Additionally, closed canopy of SRC improved welfare of poultry by lowering temporal variations of air temperature and humidity especially on hot days and by providing shelter against raptors. Combining poplar/willow SRC for biomass production with poultry breeding can be recommended for its multilateral positive effects on soil, microclimate, welfare and adaptation/mitigation effects.



#### FUTURE PLANS

Farmer would like to finish his idea of **self-sufficiency in energy for heating using SRC as source of biomass/woodchips/pellets**. Farmer's wife would like to continue with AFS with chicken and home garden.

#### FINAL RECOMMENDATION

Knowledge about tree planting and maintenance (weeding being crucial in the first years of SRC establishment), knowledge or (better) experience with poultry keeping

Základní doporučení Daniela:

*„Start with this AFS close to the house as it requires often visits. Make a good fence. If you want produce more – make a “plan” for utilization of all products – wood chips, eggs and ...have a fun with it! “*

#### KEY WORDS

Short rotation coppice, poultry breeding, homegarden, poplar, willow, investigation



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