



Restoration of abandoned wood pasture

Renewing the past for the future

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Why restore abandoned wood pastures?

Wood pastures with high nature and cultural value (HNCV) have been present in Hungary for thousands of years. Currently, there are 33 318 hectares of HNCV wood pasture in Hungary: 28 % is in protected areas and 60 % in EU Natura 2000.

In the 1950s, 88 % of productive land was wood pasture. Today, many HNCV wood pastures are now forested and overgrown with shrubbery and trees, causing serious problems at farm level.

The restoration of abandoned wood pastures is a key issue for developing the natural and cultural value of the rural region, and also for the profitability of the livestock industry. If areas are left abandoned they could be registered as forest areas, after which silvopastoral activity (grazing and/or pasture clearing) would be forbidden.



Closed and thorny shrubs on abandoned part of wood pastures Ref: Varga et al. 2016



Large, scattered trees are again visible after clearing shrubs and restoring pastures (Dörgicse, Hungary). Ref: Varga et al. 2016

How to renew an abandoned wood pasture

Status assessment

It is not possible to apply the same management template for all wood pasture designs. Before regeneration begins, it is important to understand the history of land management, and to acquire sound knowledge of local environmental and climatic conditions.

Shrub clearing

The establishment of a pasture in overgrown shrubland begins with clearing the bushes. This can be done in several ways: shrubs lower than 3 metres high can be cleared using a rough rotary mower, while older and taller stands are best removed by hand. Cleared shrubs need to be removed from the area, otherwise the grass will start to decay underneath, leading to weed infestation later on. After clearing, and before livestock are allowed onto the land for grazing, rotary mowing is necessary, because remaining stumps may result in injuries. Wherever shrubbery is not too dense, a sanitary rotary cutting might be sufficient. After shrub removal, extensive grazing is best started with cattle and goats, which are good for clearing and less prone to injuries than sheep.

Wild fruit trees (e.g. pear, apple, cherry) are important assets commonly found in traditional pastures. In addition to their shade, they also provide forage and food to stock and people.

Choosing and leaving trees and shrubs

A wood pasture consists of three structural units:

1. open parkland (5-40% canopy cover)
2. forest patches left mainly for shelter (40-100% canopy cover)
3. grassland (maximum 5% canopy cover)

Leaving shrubbery intact on 2-10% of the area provides protection for young trees and enhances biodiversity.



Advantages

Shrub clearing give the possibility for grazing new lands, and to maintain wood pastures for longer periods.

- Shrub clearing requires a lot of manual labour, time and funding by the farmers but, over time, saves on herding and feeding costs.
- Applying for subsidies is currently possible.



Closed forest patches in wood pastures are important, not just for livestock welfare but also for biodiversity. Ref: Varga et al. 2016



Cut shrubs can be sold for fuel Ref: Varga et al. 2016



Scattered wild fruit trees (pear and apple) on renewed and cleared wood pasture (Váczakó-farm, Dudar, Hungary) Ref: Varga et al. 2016

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Inspiration from farm level experiences

Tibor Nagy and his family bought an abandoned farm in Bakonyregion in 2007. Previously, the land had been managed as a community wood pasture (Pénzesgyőr ancient wood pasture) and wood farms with small grazed areas, forest and arable land (Tűzkövesbörc Farm). The new owners are renewing this area to develop and maintain a high natural and cultural value silvopastoral system.

Comparing the botanical data from the time the area was abandoned with recent data shows that the percentage of the protected species has increased. The results also illustrate the importance of the diversity of shrub clearing methods. Botanical and management data show the significance of the different silvopastoral habitats. Clearing should be gradual and partial, in order to maintain a gradient from 0-100% canopy closure. A developing high-value agroforestry system needs time to adapt to the new environment, which provides more openness, and greater light. Young trees also need a long time to grow.

All of this highlights the importance of the remaining agroforestry systems, especially those that are partly or totally abandoned.

Further information

Molnár Zs, Kis J, Vadász Cs, Papp L, Sándor I, Béres S, Sinka G, Varga A (2016). Common and conflicting objectives and practices of herders and nature conservation managers: the need for the 'conservation herder'. *Ecosystem Health and Sustainability* 2(4): <http://onlinelibrary.wiley.com/doi/10.1002/ehs2.1215/full>

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Varga A, Molnár Zs, Biró M, Demeter L, Gellény K, Miókovics E, Molnár Á, Molnár K, Ujházy N, Ulicsni V, Babai D (2016). Changing year-round habitat use of extensively grazing cattle, sheep and pigs in East-Central Europe between 1940 and 2014: Consequences for conservation and policy. *Agriculture Ecosystems & Environment* 234:142-153

Videos

Gastronomy and knowledge transfers of the Hungarian wood pastures: Gasztróangyalfáslegelők: <https://www.youtube.com/watch?v=OVeBEYc3tdk>

Ancient wood pastures in education: <https://www.youtube.com/watch?v=tC6bgY6w0mM>

Traditional ecological knowledge of the Hungarian herders: <https://www.youtube.com/watch?v=dj5iLAuWoJg&t=1135s>

Facebook page and further information about Hungarian wood pastures: www.facebook.com/faslegeloerdo