

Session 1 – Cultural Landscapes Lab – Minutes

- 🍎 **Date and time:** Monday, 28 September | 6.30 pm (ending at approx. 8.00 pm)
- 🍎 **Series theme:** Retaining water in the landscape
- 🍎 **Topic of the first session:** If you can green the desert, you can do it anywhere.
- 🍎 **Speakers:** Gerd Meyer ([Botany, Weißenburg](#)) and Rico Horn ([Erdenwert e.V.](#))

Faced with soil erosion and desertification on Fuerteventura, Rico Horn and Gerd Meyer are revitalising depleted soils. Using Terra Preta, they are improving soil fertility and effectively retaining rainwater in the landscape. They are stimulating soil processes through innovative establishment and planting methods for a wide variety of food crops, and offering practical ideas for resilient systems.



Rico Horn (left) and Gerd Meyer are breaking new ground in retaining water within the landscape. Among other things, they are greening the arid landscape of Fuerteventura (photos: Erdenwert e.V., Botanik Weißenburg).

Lessons Learnt

Biomass input is important for humus formation

- 🍎 The targeted addition of biomass (organic waste, shredded cuttings, leaves) restores degraded soils and immediately stimulates soil biology (e.g. the re-establishment of earthworms).
- 🍎 Biomass acts as a natural protection against excessive evaporation and erosion caused by sunlight and wind.
- 🍎 Shredded hardwood with a maximum diameter of 7 cm, harvested in winter, is ideal.
- 🍎 Shredding stimulates the microbiome (fungi, bacteria, yeasts on bark/leaves), which makes nutrients available to plants.
- 🍎 Guideline quantity for large-scale forest soil establishment on arable land: approx. 150–300 m³/ha as an initial boost.

Water retention and storage

- 🍎 The combination of different planting levels protects against evaporation, e.g. growing sweet potatoes directly beneath olive trees or vegetable crops in the shade of trees.
- 🍎 Dense plantings break the wind and reduce water loss across the area.
- 🍎 Biochar enriched with nutrients/liquid manure, combined with rock dust, drastically increases water storage capacity (up to 280 litres/m² was achieved at the Hamburg-Marmorgarten trial site).
- 🍎 Traditional retention basins (gavias) and slope channels (caños) used on Fuerteventura divert heavy rainfall into depressions and retain all the water within the landscape.

Seedlings & air-pruning method (Affolter system)

- Young trees and shrubs without twisted roots establish themselves much more quickly and form deeper taproots to ensure their own water supply.

Protection against voles

- Voiles prefer covered grassy mats and avoid woodland-like biomass and mulch structures.
- Dense row planting with high tree and shrub diversity sustainably reduces the risk of root damage.

Practical application to orchard meadows:

- Planting pruned hedges (e.g. mulberry, hazel, willow, poplar, wild fruit, nut trees) in rows provides wind protection, supplies local biomass directly on site and improves the root microclimate.

Outstanding issues

- Economics & cost-effectiveness: How can more sustainable agricultural and food systems, as well as traditional cultural landscapes and farming practices, be made economically viable?
- Legal framework & nature conservation: What are the legal requirements regarding the implementation of management measures that are no longer common practice in conventional agriculture (e.g. sowing trees rather than planting young trees)?
- Implementation on Sloping Land: How can water be retained on slopes?

Further links from the chat

Project links & research

- Climate-resilient seedlings (Wurzel AG): <https://wurzel-ag.de/forschungsprojekte/klimafitte-saemlinge>
- Quick guide to the Affolter system (PDF): https://wurzel-ag.de/fileadmin/user_upload/Wurzel_AG/Forschungsprojekte/20260812_Kurzanleitung_Affolter_comp.pdf
- Affolter Development Diary: <https://wurzel-ag.de/tagebuch-affolter>
- Design & Management Principles for Climate-Resilient Orchard Meadows (Booklet): <https://www.hochstamm-deutschland.de/files/hochstamm/ARCHIV/Streuobst-News%202024%2005/Sammlung/2025%20Booklet%2020Auflage%20compressed.pdf>
- Soil Sampling Laboratory (Eurofins Agro): <https://www.eurofins-agro.com/de-de>
- Frau Holle Land Nature Park - Nature Conservation & Orchard Landscapes (PDF): https://www.naturparkfrauholle.land/fileadmin/user_upload/downloads/Aktuelles/Ergebnisbericht_StrobWMK_anonym.pdf

Initiatives & Speakers

- Erdenwert e.V.: <https://erdenwert.org/>
- Botanik Weißenburg (Gerd Meyer): <https://botanik-wug.de/>
- Fuerteventura Workshop (expression of interest): <https://eveeno.com/auswuestewirdzukunft>
- Literature by Noemi Stadler-Kaulich (oekom verlag): <https://www.oekom.de/person/noemi-stadler-kaulich-6864>

YouTube videos

- Video: Affolter in the sweltering heat: <https://www.youtube.com/watch?v=fYMtbHaeEqA>
- Video: Dense planting & reduced vole pressure (Jörg Beuerle): <https://www.youtube.com/watch?v=vzrnjtyJKk>

Contact for enquiries and topic suggestions: institute@hochstamm-deutschland.de

About the Cultural Landscapes Lab

Hochstamm Deutschland e.V. is known as a network dedicated to the further development of orchard meadows. However, orchard meadows do not stand alone; they are part of a global family of traditional cultural landscapes. They make a significant contribution to nature and to us as humans, but are often not very profitable economically. The [Cultural Landscapes Lab](https://www.hochstamm-deutschland.de/streuobst-bewahren/cultural-landscapes-lab) is therefore being established under the umbrella of Hochstamm Deutschland e.V. Our aim: to combine knowledge from traditional systems with modern solutions in order to develop resilient, sustainable and productive agricultural and food systems.

Contact Cultural Landscapes Lab @ Hochstamm Deutschland e.V.

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<https://www.hochstamm-deutschland.de/streuobst-bewahren/cultural-landscapes-lab>

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