Practice Abstract
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Baumschule Kastanienkultur: a small-scale woody crop nursery growing the foundation of regenerative, regional food systems

Problem encountered and objective

The resilience and productivity of short food supply chains (SFSCs) can be strengthened by agroforestry systems (AFS). AFS do this by integrating trees and shrubs into farming systems to diversify food and income, buffer climate impacts, and enhance soil health and water cycling. Especially important are nut crops, which provide a perennial source of carbohydrates, fats, and proteins that are easy to store and process—an eco-friendly alternative to annual staple crops. A key barrier for AFS adoption in Europe is access to suitable woody plant material. Tree nurseries are often distant, lack appropriate species, and rely on intransparent supply chains and plant trading—affecting trust, quality, and crop success. Regional nurseries producing appropriate, seed-grown woody crop seedlings are vital for AFS and SFSCs yet are scarce. *Baumschule Kastanienkultur* (BK) in Germany is a unique small-scale tree and shrub nursery addressing a major gap in both AFS and SFSCs by growing specialized plants from seed, grafting if needed, and selling seedlings directly to regional customers establishing AFS.

Main results / outcomes

BK focuses on niche crops that meet urgent needs of regenerative, regional food systems in Germany—sweet chestnut, hazelnut and nitrogen-fixing trees. It centers on blight-resistant chestnut—a neglected high-potential crop. BK is one of Germany's only chestnut-focused nurseries. Trees are grown in air-pruning pots for strong, healthy roots, unlike many nurseries where root circling or lab cloning weakens tree vitality. BK also provides expert advice to help select trees for each location and need. They aim to build a genetic foundation for regenerative local food systems through in-house testing of hybrids for traits such as disease resistance, taste, local adaptability, and peel quality, using dedicated testing sites and breeding fields. BK is flourishing, almost selling out of trees and shrubs each year.

Practical recommendations

To navigate challenges in developing a small agroforestry-oriented nursery, BK´s business focuses on the following pillars, which have proven successful. They also serve as practical recommendations for others in Europe:

- Follow principles of slow growth, e.g., avoid loans when possible
- Focus on niche crops that support regional, regenerative food systems
- Foster customer relationships grounded in trust and aligned values

Further information

Baumschule Kastanienkultur website: https://www.kastanienkultur.de/

Selected further reading:

- Kreitzman, M., Toensmeier, E., Chan, K., Smukler, S., & Ramankutty, N. (2020). Perennial staple crops: Yields, distribution, and nutrition in the global food system. *Frontiers in Sustainable Food Systems*, *4*, 588988. https://doi.org/10.3389/fsufs.2020.588988
- Gaede, F., Quintas-Soriano, C., Davison, B., & Plieninger, T. (2024). Integrating perennial staple food crops in agroforestry systems: A case study of chestnut (Castanea sp.) in Germany. *Trees, Forests and People*, *15*, 100473. https://doi.org/10.1016/j.tfp.2023.100473

About this abstract

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Date: December 2025

EU4Advice: (https://eu4advice.eu/): aims to lay the ground for effective capacity building of Short Food Supply Chain (SFSC) actors, by supporting advisors as catalysers of the knowledge flow from research to practice within an EU network of SFSC advisors, and by promoting the integration of SFSC advisors into national AKIS

Photo: Franziska Gaede of Baumschule Kastanienkultur with chestnut saplings

Funded by the European Union

This project has received funding from the European Horizon Europe research and innovation programme under grant agreement No 101059911