

From power trees of the enclosure to the apple trees of the commons

Book review by

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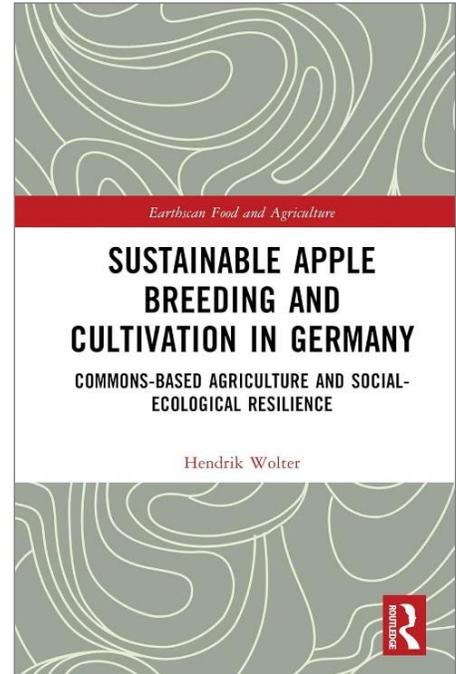
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Hendrik Wolter's *Sustainable Apple Breeding and Cultivation in Germany: Commons Based Agriculture and Social Ecological Resilience* offers a comprehensive and timely analysis of how fruit breeding systems are intertwined with the ecological, social, and political dynamics of food systems. Wolter

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argues that apple breeding should be understood not as a purely technical or scientific pursuit but as a social and ecological process embedded in ownership structures, governance arrangements, and market institutions. Drawing on social ecological systems theory, resilience thinking, and commons scholarship, he redefines fruit breeding as a reflection of broader questions about power, equity, and sustainability. His analysis resonates strongly with the four-dimensional agroecology framework developed by the Coopération Internationale pour le Développement et la Solidarité (CIDSE, 2018) which incorporates ecological, social, political, and economic dimensions. In this review, I contend that Wolter's book is an important contribution to the agroecology social movement. The book offers both theoretical depth and practical insight into how collective governance can foster ecological

resilience and social justice in food systems.

Wolter unfolds four interconnected parts that bridge conceptual discussion and empirical research. He begins with a theoretical framework that integrates resilience, ecosystem services, and commons theory to interpret plant breeding as a complex social ecological system. He argues that the evolution of modern apple breeding in Germany and, by extension, in global fruit production, has been guided less by ecological imperatives than by political and economic choices embedded in property regimes and industrial models of innovation. He critically examines the Distinctness, Uniformity, and Stability (DUS) criteria that define modern breeding standards, demonstrating how these legal requirements promote monocultures, discourage genetic diversity, and deepen dependence on patented or trademarked “improved” plant varieties.

Drawing on transdisciplinary and participatory research, Wolter develops a comparative analysis of three breeding models; corporate, public, and commons-based. He uses data from stakeholder engagement, case studies, and institutional analysis to evaluate each model on the parameters of adaptability, agrobiodiversity, and social organization. His findings reveal that corporate- and state-supported models, characterized by privatization and efficiency driven selection, undermine diversity and long-term system stability. In contrast, commons-based organic breeding, which relies on collective governance, shared local knowledge production, and ecological diversity, performs more favorably on measures of resilience and adaptability. Wolter also identifies the enabling factors that make such systems viable, including participatory decision-making, decentralized funding, and supportive legal frameworks. As quoted below, Wolter examines *apfel:gut*, a collaborative German initiative dedicated to breeding disease-resistant and climate-resilient varieties of apples and pears:

In shaping the system-to-be-governed, *apfel:gut* performs well in integrating diverse ecological and social dimensions, exchanging knowledge and technology, and promoting an eco-centric breeding approach labelled as

participatory organic fruit breeding. Both the organization and individual members support the monitoring of diversity and redundancy of fruit varieties to certain degrees. (p. 188)

Wolter’s analysis is intellectually rigorous, methodologically sound, and conceptually innovative. By combining ecological, social, and institutional perspectives, he moves beyond traditional agronomic approaches to offer a holistic understanding of plant breeding. The argument that breeding systems mirror the organization of power in food systems is persuasive and well supported by both theory and evidence. The book’s comparative framework allows for a nuanced assessment of how different models of breeding either constrain or enable adaptive capacity and social participation.

Nevertheless, certain assumptions deserve closer examination. Wolter’s optimism regarding the scalability and sustainability of commons-based governance could further explore the structural barriers that shape farmer agency in the context of globalized markets. The analysis would have been strengthened by a deeper exploration of the political struggles and asymmetries of power that influence who controls genetic resources and whose knowledge counts in agricultural innovation. In addition, while the concept of resilience offers analytical coherence, it risks depoliticizing the structural dimensions of inequality, particularly in relation to intellectual property rights and corporate concentration. His use of the language of ecosystem services, although valuable for bridging ecological and economic perspectives, occasionally reflects a utilitarian logic that some agroecology and food sovereignty scholars critique. Despite these limitations, Wolter’s conceptual and empirical synthesis remains an important contribution, particularly for demonstrating how the commons framework can be applied in practical contexts to redesign food system governance.

What distinguishes Wolter’s contribution is his ability to connect these theoretical traditions to the concrete realities of fruit breeding and cultivation. Rather than limiting the discussion to abstract principles, he demonstrates how policy design, intellectual property reform, and financial mechanisms can influence the resilience of breeding systems. By sit-

uating breeding within the larger debates on ecological economics and governance, Wolter provides a bridge between critical scholarship and applied policymaking. For practitioners, the work offers a roadmap for designing programs that strengthen agrobiodiversity and community participation; for scholars, it provides an empirical basis for testing theories of commons governance and resilience; and for policymakers, it offers evidence to support reforms that democratize agricultural research and innovation.

Wolter demonstrates that plant breeding is not only a site of scientific inquiry but also a domain of social action where questions of justice, equity, and ecological integrity converge. Although the book could have engaged more directly with the political economy of corporate power and the structural dynamics of global markets, its conceptual clarity and empirical richness make it a landmark contribution. By positioning commons-based governance as a viable pathway toward ecological and social resilience, Wolter offers both theoretical reorientation and a practical agenda for transforming food systems. This work deserves close attention from scholars, policymakers, activists, and practitioners committed to advancing food sovereignty and agroecology.

I find Wolter's work deeply aligned with the transformative principles guiding food systems movements, as in Africa (Tumuhe et al., 2025). His book exemplifies how commons-based governance can restore both ecological diversity and democratic accountability within food systems. The emphasis on collective management, farmer participation, and biodiversity parallels global advocacy for seed sovereignty, farmer-managed seed sys-

tems, and the protection of local seed commons from corporate appropriation. By situating breeding within a commons framework, Wolter's analysis echoes my personal conviction that true resilience requires dismantling structural inequities, revitalizing indigenous knowledge, and ensuring that food systems governance remains rooted in local agency and cultural identity. In this sense, the book contributes to a shared global vision where ecological sustainability, social justice, and community sovereignty are inseparable dimensions of the right to food.

As an activist scholar, my campaign for seed sovereignty illustrates the political agency behind Wolter's call for commons-based governance of genetic resources. Wolter's analysis resonates with our struggles in Africa led by the AFSA, which resists the International Union for the Protection of New Varieties of Plants [UPOV] 1991 framework that seeks corporate-aligned seed laws as part of a broader defense of seed commons and farmers' rights (UPOV, 2024). The parallels with Wolter's critique of intellectual property regimes in apple breeding are striking: both highlight how enclosure of genetic material undermines diversity, erodes local autonomy, and weakens adaptive capacity in the face of climate change. I call upon other activist scholars to raise and oppose repressive legal frameworks (e.g., UPOV 1991) through campaigns, policy advocacy, and community seed initiatives, to embody in practice the political transformation that Wolter theorizes, one that reclaims seeds as commons and repositions farmers as active agents in shaping just, resilient, and self-determined food systems. 

References

- Coopération Internationale pour le Développement et la Solidarité [CIDSE]. (2018). *The principles of agroecology: Towards just, resilient, and sustainable food systems*. https://www.trocaire.org/sites/default/files/resources/policy/principles_of_agroecology.pdf
- International Union for the Protection of New Varieties of Plants [UPOV]. (2024). *Guidance for the preparation of laws based on the 1991 Act of the UPOV Convention* (Publication no. UPOV/INF/6/7). https://www.upov.int/documents/d/upov/information-documents-en-upov_inf_6.pdf
- Tumuhe, C. L., Katusiime, D., Ssekamatte, D., Musyoki Muloi, J., Kamau, H., Bwambale, B. B., Kaire, S., Slivesteri, S., Naigaga, H., Mugabo, I., & Audain, K. (2025). Advancing agroecology through networking in Uganda. *Agroecology and Sustainable Food Systems*. Advance online publication. <https://doi.org/10.1080/21683565.2025.2573794>