

CATEGORY: HORTICULTURAL PRACTICES IMPACTING HEALTH

Horticulture Best Practices

“Best practices for plant production related to diverse health issues including chemical sensitivities, water source contamination, children’s delayed cognitive development, and nutritional deficits (Mie et al., 2017), have influenced the green industry and its use of chemicals, GMO seeds, food borne pathogens and production practices, development of nutrient-dense food and more (Callejon et al., 2015)” (Fleming, 2021). These continue to evolve with collaborative efforts between government, educational institutions, businesses, consumers and horticulture/agriculture trade groups. Best practices involving pest management, soil, permaculture, landscape management, and biodynamic systems span a wide range of topics which can also impact human health. New plants and species are always being identified.

Key Organizations

[American Community Gardening Association](#)

[AmericanHort](#)

[American Society for Horticultural Science](#)

[Biodynamic Association](#)

[The Garden Professors](#)

[Horticulture and Agriculture Professional Associations & Organizations](#)

[Innovation Lab for Horticulture, University of California, Davis](#) – Feed the Future

[International Society for Horticultural Science](#)

[Plants for Human Health Institute at North Carolina State University](#)

[Seed Your Future](#)

[Soil Science Society of America](#)

State Agricultural Schools

University Extension Services (county)

Books, journals & epublications on horticulture best practices

Chalker-Scott, L. (2023). [Gardening with companion plants](#). Washington State University Extension.

Chalker-Scott, L. (2020). [Protecting water resources: Planting and caring for home wetlands and other riparian areas](#). Washington State University Extension.

Coleman, E. (2018). *The new organic grower. A master’s manual of tools and techniques for home and market gardener*, 3rd edition. Chelsea Green Publishing.

[Greenhouse Management](#) magazine

[Horticultural Myths](#) by Dr. Linda Chalker-Scott

[HortScience](#)

[HortTechnology](#)

[Journal of ASHS](#)

[Nursery Management](#) magazine

Milliken, S., Ovca, A., Villarroel, M., et al (2022). Lessons learned from introducing aquaponics to higher education curricula. In *Enhancing environmental education through nature-based solutions* (pp. 153-181). Springer, Cham.

[Permaculture Design Magazine](#)

Pettorelli, N., Durant, S.M., & Du Toit, J.T. (Eds.). (2019). *Rewilding*. Cambridge University Press.

Tallamy, D. (2020). *Nature’s best hope*. Timber Press.

Tallamy, D. (2023). *Nature’s best hope (Young Readers Edition): How you can save the world in your*

own yard. Timber Press.
[Trends in Plant Sciences](#)

Research & articles on horticulture best practices

Recently published selected research & articles:

- Abdi, D.E., Fields, J.S., & Beasley, J. (2023). [Pine straw mulch depth modulates soil conditions](#). *HortTechnology*, 33(5), 464-466.
- Anding, J.D., & Fry, J. (2024). [Assessing Master Gardener practices and confidence in responding to clientele questions about home food preservation in Texas](#). *HortTechnology*, 34(2), 137-141.
- Aziz, M.A., Brini, F., Rouached, H. et al. (2022). [Genetically engineered crops for sustainably enhanced food production systems](#). *Frontiers in Plant Science*, 13, 1027828.
- Bagavathiannan, M.V., Graham, S., Ma, Z. et al. (2019). [Considering weed management as a social dilemma bridges individual and collective interests](#). *Nat Plants*, 5(4), 343-351.
- Beller, M. (2023). [Triumph over apple scab: University of Minnesota releases apple variety resistant to fungal disease](#). *Food Tank*.
- Bennett, P. (2021). [The National Initiative for Consumer Horticulture and the role it plays in human well-being](#). *ISHS Acta Horticulturae 1330: XV International People Plant Symposium and II International Symposium on Horticultural Therapies: The Role of Horticulture in Human Well-being and Social Development*.
- Berning, E.H., Andersen, C.V.H., Mertz, O. et al. (2022). [Resilience of breadfruit agro-ecosystems in Hawai'i during the COVID-19 pandemic](#). *CABI Agric Biosci.*, 3(1), 56.
- Carey, A., Nair, A., & Thoms, A. (2024). [Evaluating the soil block method and growing media in organic vegetable transplant production](#). *HortScience*, 59(4), 542-551.
- Carroll, C., & Noss, R.F. (2021). [Rewilding in the face of climate change](#). *Conservation Biology*, 35(1), 155-167.
- Carver, S., Convery, I., Hawkins, S. et al. (2021). [Guiding principles for rewilding](#). *Conservation Biology*, 35(6), 1882-1893.
- Chalker-Scott, L. (2023). [Excessive use of water and fertilizer by homeowners: Why it happens, how it affects the environment, and how the nursery industry and extension outreach can help](#). *Journal of Environmental Horticulture*, 41(2), 65-73.
- Chatakul, P., & Janpathompang, S. (2022). [Interior plants: Trends, species, and their benefits](#). *Building and Environment*, 222, 109325.
- Chen, J., Sun, Y., Oki, L.R. et al. (2023). [Climate-ready landscape plants: Garden roses trialed at reduced irrigation frequency in Utah, USA](#). *HortTechnology*, 33(5), 477-492.
- Duarte, RDC., Iannetta, PPM., Gomes, AM. et al. (2024). [More than a meat- or synthetic nitrogen fertiliser-substitute: a review of legume phytochemicals as drivers of 'One Health' via their influence on the functional diversity of soil- and gut-microbes](#). *Front Plant Sci.*, 15, 1337653.
- Cvanić, T., Šovljanski, O., Popović, S. et al. (2023). [Progress in fruit and vegetable preservation: Plant-based nanoemulsion coatings and their evolving trends](#). *Coatings*, 13(11), 1835.
- du Toit, J.T., & Pettorelli, N. (2019). [The differences between rewilding and restoring an ecologically degraded landscape](#). *Journal of Applied Ecology*, 56(11), 2467-2471.
- Fetchel, M., & Hall, C. (2022). [An update of the literature supporting the economic benefits of plants: Part 1 – methods of valuing benefits](#). *Journal of Environmental Horticulture* 40(4), 143-148.
- Fetchel, M., & Hall, C. (2023). [An update of the literature supporting the economic benefits of plants: Part 2 – increased property values](#). *Journal of Environmental Horticulture* 41(1), 14-26.

- Fleming, L. (2021). Horticulture for health framework. [ISHS Acta Horticulturae 1330: XV International People Plant Symposium and II International Symposium on Horticultural Therapies: The Role of Horticulture in Human Well-being and Social Development](#).
- Fontaine, S., Abbadie, L., Aubert, M. et al. (2024). Plant-soil synchrony in nutrient cycles: Learning from ecosystems to design sustainable agrosystems. *Glob Chang Biol*, 30(1), 17034.
- Fourie-Basson, W. (2023). New species of medicinal mushroom endemic to Kynsna forest. Stellenbosch University.
- Gaisser, R., Kuehn, K., & Pritts, M. (2024). [Novel low tunnel coverings and plant type affect productivity of day-neutral strawberries](#). *HortTechnology*, 34(3), 381-387.
- Ghannem, A., Ben Aissa, I., & Majdoub, R. (2021). [Effects of regulated deficit irrigation applied at different growth stages of greenhouse grown tomato on substrate moisture, yield, fruit quality, and physiological traits](#). *Environ Sci Pollut Res Int.*, 28(34), 46553-46564.
- Glenn, W., Waliczek, T.M., & Drewery, M.L. (2024). [Market potential for specialty compost produced from wool waste](#). *HortTechnology*, 34(3), 322-330.
- Harris, B.A., Florkowski, W.J., & Pennisi, S.V. (2020). [Horticulture industry adoption of biodegradable containers](#). *Hort Technology*, 30(3).
- Heckman, J.R., Krogmann, U., & Wyenandt, C.A. (2023). [Community shade tree leaves: Beneficial uses for agriculture](#). *HortTechnology*, 32(6), 479-484.
- Held, L. (2022). [New evidence shows pesticides contain PFAS, and the scale of contamination is unknown](#). *Civil Eats*.
- Hunter, C.M., Williamson, D.H.Z., Pearson, M. et al. (2020). [Safe community gardening practices: Focus groups with garden leaders in Atlanta, Georgia](#). *Local Environ*, 25(1), 18-35.
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- Markham, C. (2023). [Horticulture hearing: Peat moss shortage catches Congress' attention](#). *Greenhouse Management*.
- McOmber, C., Kirchoff, C.J., Zhuang, Y. et al. (2023). [Understanding greenhouse growers' willingness to use municipal recycled water on food crops: The need for tailored outreach coupled with deep engagement to increase adoption](#). *HortTechnology*, 33(2), 161-167.
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Examples of horticulture best practices

[Farmers in the Netherlands are growing more food using less resources](#) video

[Interview: Mad Ag on Supporting Farmers to Build a More Regenerative Food Future](#) with Mad Agriculture by Plant Based Foods Institute (2022).

[Plant Health and IPM](#) video from NYSIPM Vegetable Garden Conference with speaker Don Gabel, Director of Plant Health, The New York Botanical Garden.

[Vegetable Resources> Chapter IV: Cultural Practices](#) from *Texas Vegetable Growers Handbook*.

Videos & webinars on horticulture best practices

[Best Practices: Postharvest Water Sample Collection](#) webinar from University of Georgia's Laurel Dunn.

[Denying our understanding of real organic practices robs the world](#) video, interview with Eliot Coleman, Real Organic Project

[Growing Change](#) video shares pesticide challenges to health, focusing on healthy food & healthy workers.

[Nature's Last Hope webinar video](#) by entomologist Doug Tallamy.

[Doug Tallamy: Restoring Nature's Relationships at Home](#). (2021) Living Landscape Speaker Series webinar.

[Planting: Best practices webinar](#) (on trees & shrubs) from Conservation Garden Park.

[United States Food and Drug Administration, Agricultural Biotechnology – “Feed Your Mind” educational initiative](#).

Related organizations

[Permaculture Institute](#)

[Worldwide Permaculture Network](#)

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