Training Manual
for Applied Agroforestry Practices
2018 Edition

The Center for Agroforestry
University of Missouri
A Global Center for Agroforestry, Entrepreneurship and the Environment

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Any opinions, findings, conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the USDA.

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Acknowledgements

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User's Guide to the Training Manual

Farmer's and other landowners drawing sustenance from the land strive continually to produce goods through methods that are economical, conservation-minded and socially acceptable.

Agroforestry practices are unique and through their proper application each objective of economy, conservation of resources and social acceptance can be met. Agroforestry practices are designed to fit specific niches within the farm to meet specific landowner objectives. When properly designed, agroforestry practices can achieve a balance between diverse, and often seemingly opposed, objectives.

This manual will help explain each of the agroforestry practices and their application. Additionally, the manual is designed to assist in the decision process so that, when established or managed, the agroforestry practice is most effective at achieving the desired objectives.

About this Manual

This training manual is designed to provide easy-to-use information about agroforestry. The intended audience includes forest and agricultural landowners, resource professionals and other educators; yet, anyone interested in establishing or managing trees for multiple functions on the landscape can use the agroforestry guidelines to assist in achieving success.

This updated edition of the training manual is not intended to function as the comprehensive source of information on agroforestry. Agroforestry is both an art and a science. Therefore, do not use this training manual as your only resource of information on agroforestry practices. Rather, it is designed to be used as a tool to assist in the decision-making process. There are countless ways for trees to meet conservation, economic and societal goals, and we are learning more and more each day about effective designs that better ensure agroforestry will meet one or more specific goals.

How this Manual is Organized

This manual is divided into specific chapters explaining agroforestry practices and management. Chapter 2 is intended to assist you in implementing your knowledge of agroforestry into your operation in a step-by-step process. The appendices contain information about the economics and taxation involved with agroforestry, as well as crop sheets for selecting the appropriate trees, shrubs, grasses, forbs and crops for your agroforestry practice. You may pull out chapters and appendices and use them independently as needed.

Let's Begin

From specific land management practices designed to conserve limited resources to the marketing of specialty, non-commodity products, the ideas in this manual can improve the likelihood of your success. We hope it is both a useful tool and a source of inspiration for additional management practices that utilize trees or shrubs on the farm for multiple benefits.

Land management practices that integrate trees and shrubs with agriculture can provide benefits to the farm and the surrounding land-scape. We hope that the ideas and practices put forth in this manual inspire and assist in making decisions related to managing land resources that involve trees and shrubs. It is our desire to help farm managers and land owners achieve long-term satisfaction from working harmoniously with the soil, water, air, forests and wildlife resources of this Earth.
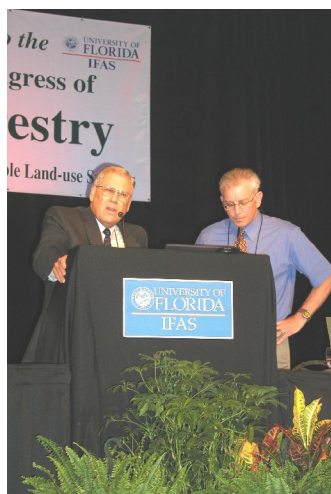
Gene Garrett, left, former director of the Center for Agroforestry, and Michael Gold, right, interim director, speak about the opportunities agroforestry provides at the First World Congress of Agroforestry, 2004, Orlando, Fla.

About the University of Missouri Center for Agroforestry (UMCA)

Agroforestry practices help landowners diversify products, markets and farm income; improve soil and water quality; and reduce erosion, non-point source pollution and flood damage. The integrated practices of agroforestry enhance land and aquatic habitats for fish and wildlife and improve biodiversity while sustaining land resources for generations to come.

UMCA is one of the world's leading centers contributing to the science underlying agroforestry. UMCA, established in 1998, has been supported by significant collaborative funding from the USDA-ARS. Interdisciplinary research conducted by faculty, re-search specialists, graduate and undergraduate students, provides sound science that uncovers new environmental and economic benefits from agroforestry practices and solves production challenges.

Linked to the Center's solid science and research programs are several key partnerships with landowners, natural resource professionals, federal and state agencies and non-profit organizations. Through these critical partner- ships, UMCA and its partners are producing an expanding list of positive outcomes for land- owners, the natural environment and society as a whole.

UMCA Philosophy:
"A farm can be regarded as a food factory and the criterion for its success is saleable products. Or, it can be regarded as a place to live, and the criterion for its success is harmonious balance between plants, animals and people; between the domestic and the wild; and between utility and beauty." – Aldo Leopold

UMCA Mission:
To initiate, coordinate and enhance agroforestry activities to meet the environmental, social and economic needs of land management within the state of Missouri, North America and the temperate zone worldwide.

To accomplish our mission, UMCA:
- Conducts, coordinates and promotes interactive research on agroforestry practices to improve the productive and protective functions of agricultural and forest lands.
- Conducts, coordinates and promotes interdisciplinary research on the social, economic and market dimensions of agroforestry.
- Conducts an active outreach program that increases the awareness and adoption of agroforestry practices.
- Conducts, coordinates and promotes interdisciplinary research on the policy dimensions of agroforestry.
- Provides opportunities for formal education via a series of online courses. Both a graduate certificate and/or master's degree in agroforestry are available through MizzouOnline at the University of Missouri.
- Develops and carries out a collaborative international agroforestry program in the areas of instruction, research and outreach.