

The Temperate Agroforester

The newsletter of the Association For Temperate Agroforestry

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MISSION STATEMENT

The mission of AFTA is to advance the knowledge and application of agroforestry as an integrated land use approach to simultaneously meet economic, social and environmental needs. AFTA focuses on temperate agroforestry, with an emphasis on North America. Agroforestry draws upon, and synthesizes, ideas and techniques from agriculture, forestry, range management, environmental and social sciences. To foster integrated land management, the association intends to bridge existing gaps between these land use disciplines and organizations.

Goal

AFTA's goal is to catalyze technical innovation and adoption of agroforestry in the temperate zone through networking, information exchange, public education, and policy dialogue and development.

Objectives

- * Develop a temperate-zone network of agroforestry practitioners, technical specialists, and researchers, through a newsletter, membership directory, and other information services.
- * Promote applied interdisciplinary research to develop and test new or improved agroforestry technologies.
- * Promote a policy environment conducive to agroforestry adoption.
- * Sponsor a biennial North American conference on temperate agroforestry for practitioners, researchers and policymakers, as well as other meetings on regional and topical issues.
- * Promote public awareness and education about agroforestry.

Editorial

Dr. Michael A. Gold - President, AFTA

Temperate Agroforestry - Long Overdue

The time has come for an association that focuses on agroforestry for temperate regions of North America. Due to high expectations for agroforestry systems, agroforestry, in an infinite variety of forms, has become a buzzword throughout the tropics over the past decade. Meetings have been

convened in every corner of the tropics at every level, from multilateral donors to small nongovernmental organizations, and from global conventions to village gatherings.

The International Center for Research in Agroforestry (ICRAF), located in Nairobi, Kenya, is now a full member of the Consultative Group of International Agricultural Research Centers and now has a global mandate to promote tropical agroforestry. Agroforestry is now recognized by the World's major donor organizations as viable and vital to the current global search for environmental and economic sustainability in our food and fiber production systems.

While ICRAF's mandate does not cover the industrialized countries, activity and interest in temperate agroforestry is growing rapidly. Over the past 15 years there has been an ever increasing interest in agroforestry in New Zealand and Australia. In the U.S. and Canada, active interest in the agroforestry concept is more recent. Within the past five years activities have really taken off in our Universities and at the farm level, with growing interest among federal, state and local government agencies.

While there have been scattered gatherings related to agroforestry in temperate North America throughout the 1980's (a list can be found in this newsletter), it was not until 1989, when the First North American Conference in Agroforestry was convened in Guelph, Ontario, that our activities began to have some organization and focus. The 1989 conference was followed by the Second North American Agroforestry Conference in August 1991 in Missouri (an excellent conference with over 175 in attendance) and will soon be followed with the Third North American Agroforestry Conference in 1993 in Iowa. Many other meetings have also taken place in which agroforestry was discussed including Walnut Council Meetings and Windbreak and Agroforestry Symposia.

There is no shortage of discussion and dialogue at the present time. The intent of AFTA is to help organize, catalyze, and network this dialogue to our collective benefit.

The enthusiasm among already "converted" participants in agroforestry, be they foresters, farmers, ranchers, NGO's, University scientists, government researchers, and others, must be tempered by reality. Constraints to full implementation of temperate agroforestry exist in our government research and extension agencies, U.S. University research and extension systems, and traditional commodity support groups.

In particular, the future is constrained by a climate of limited financial resources, a lack of active

constituencies to support temperate agroforestry, untested and unproven technologies, and the cross disciplinary nature of agroforestry. Many individuals are skeptical of the role of agroforestry in the temperate zone. Agroforestry does not yet fit within our traditional system (way) of doing business.

For those of us with interests in temperate agroforestry, hard questions must be answered. If a student was able to be trained in agroforestry, who is going to hire a student with a degree in agroforestry? Who is willing to fund research in temperate agroforestry? How do we develop the political will to get agroforestry included among traditional systems of land use.

With history as our guide, we have real challenges before us. Dr. Art Jurriaanse (writing more than a decade ago from South Africa), Dr. J. Russell Smith (writing in 1950 in the second edition of his *Tree Crops: A Permanent Agriculture* book), and others became disillusioned with our institutions failure to respond to the potentials and opportunities for temperate agroforestry. The cross disciplinary nature of agroforestry proved an overwhelming impediment to serious, long-term agroforestry research and the subsequent extension of these results. All past efforts have been abruptly terminated for lack of a clear constituency to force continuation of temperate agroforestry research.

Fortunately, the most important constituency, farmers, ranchers, tree growers, and other stewards of the land, are the bright spot and hope for the future. One such individual, Mr. Hugh Pence, is highlighted in this newsletter. It is clear that individuals such as Mr. Pence are not waiting for our government and academic institutions to provide the information regarding agroforestry. Instead, they are out there tinkering and experimenting, using their sound understanding of the land, concern for sustainability and stewardship of the soil, water and forest resources we value. This stewardship is combined with a hardnosed, practical sense of economics and the marketplace.

The role of our institutions will be to lend support to landowner initiatives (private or corporate, large or small) and to optimize the systems farmers and others are ready and willing to implement. The role of Federal State and Local Government will include provision of financial incentives (parallel to or included within the Conservation Reserve and Forest Stewardship programs). Governments, Universities and commodity groups must provide the research, extension, demonstration and outreach support.

Within the U.S. Government, a recently established Center for SemiArid Agroforestry now exists with a mandate to focus on drier regions of the temperate zone. In addition, Dr. Henry Pearson is now

working for the Agricultural Research Service (ARS) in Booneville, Arkansas promoting silvopastoral agroforestry systems. The Society of American Foresters (SAF) has never had a working group focused on agroforestry. However, that is likely to change. At the 1992 National SAF Convention the Windbreak Technology working group voted to change its name to the Agroforestry, Windbreak and Conservation working group. This would provide formal linkage and representation within the forestry profession for temperate agroforestry.

As we launch the AFTA newsletter there is a sense of growing optimism that temperate agroforestry's time has come and we will all share in its continued development.

AFTA WILL PUSH FOR GOOD AGROFORESTRY POLICY

Dr. Sara J. Scherr,

International Food Policy Research Institute

An important role for AFTA is to focus the attention of national and regional policymakers, public administrators and land managers on key agroforestry policy issues. AFTA members can collaborate together on research projects to develop policy recommendations, and then work through the Association to educate and lobby policymakers to put them into action. By working and speaking out together as a group, our efforts should be much more effective than the current efforts of isolated individuals and programs.

For agroforestry to be more effectively integrated into rural land use in North America, supportive public policy will be critical. Currently, public policies frequently either neglect agroforestry or actually restrict agroforestry adoption and development. Existing opportunities to use agroforestry as a means of addressing public policy objectives (e.g., to improve groundwater quality, protect erodible soils, diversify rural incomes, beautify rural landscapes, improve wildlife habitat) are commonly overlooked by uninformed policymakers.

Supportive public policies can encourage agroforestry development in many ways:

- * Rural investment programs can exploit agroforestry potentials;
- * Loosen land regulations to permit agroforestry on appropriate, currently restricted, lands;
- * Reduce the artificial disincentives for agroforestry caused by market interventions to support existing agricultural crops (e.g., subsidized prices or inputs; eligibility rules);
- * Reduce forest sector regulation and pricing policies creating artificial disincentives for wood products from agroforestry systems;
- * Increasing funding, visibility and institutional support for agroforestry in public land use research, education and extension programs.

AFTA's first move in this area will be to organize a workshop (tentatively scheduled for 1993) to review existing policy problems and opportunities

for agroforestry in North America. The task of workshop participants will be to identify priority public policy issues for the Association to begin tackling. To prepare for the workshop, papers will be commissioned to document current policies and policy constraints related to "Agroforestry and the Rural Economy," "Agroforestry and the Rural Environment," "Agroforestry and Land Use Policy," and "Institutional Development of Agroforestry."

AFTA is seeking funding to support this project; any suggestions about possible funding sources are welcome. If you or your colleagues have any relevant papers or comments on policy issues for agroforestry, send us a copy and we will share them with other AFTA members through this newsletter. If you are carrying out policy studies yourself, we welcome you to take advantage of this Newsletter to solicit help, data or other support. We hope you will all contribute to AFTA's policy dialogue in the coming year.

NEWS FROM THE SOUTH

Doug Henderson, Consultant
(formerly with Winrock International)

Agroforestry is alive in the southern U.S., both in land management practices and in the institutional sector. The potential for agroforestry in the South, however, far exceeds the present reality.

The South's moderate climate, long growing season, and productive soils create a large natural capacity for agroecological productivity. The South's land is also suited to a wider variety of potential economic land uses—forestry, crops, grazing, and human settlement—and management intensities and techniques than that of other regions in the U.S. In contrast to areas where sharp demarcations exist for different "optimal" uses, land in the South often has closely competitive uses within relatively short time frames, and/or significantly different "optimal" uses over longer spans of time. For example, "optimal" economic use of substantial Coastal Plain and upland areas swings between timber and livestock production in response to market conditions. In bottomland areas, row cropping may be economically viable during non-flood periods, but in the long run may be less productive as cropland than forest due to intermittent but inevitable flooding. This land use flexibility and shifting "optimums" makes agroforestry a viable, and in many cases preferable, management strategy in the South.

Many landowners in the South practice various forms of 'incipient' agroforestry—such as running cattle in forests, sheep in pecan groves, co-managing adjacent farm and forest lands, and shifting the use of sites between agriculture and forest over time. There is, however, little formal agroforestry in which the tree and agricultural components are intentionally managed to benefit each other. The obstacles include a lack of information on agroforestry techniques—due to insufficient research—and institutions that reinforce the conventional separation of crops, livestock,

horticulture, and forestry.

Grazing goats in forests is receiving research attention in a number of places. The Ouachita National Forest has a cooperative research project with Langston University for using goats to control undesirable vegetation; a similar project is under consideration by the Ozark-St. Francis National Forests and the University of Arkansas-Pine Bluff. The Alabama Cooperative Extension Service and Tuskegee University are working with minority landowners on a goats-in-forests agroforestry system.

There are also a number of active efforts in the South aimed at catalyzing agroforestry awareness and development. Winrock International convened a regional conference on Agroforestry Practices and Policies for the Mid-South in November 1990. With the cooperation of a number of other public and private organizations and partial funding support from the USDA LISA program, the conference brought together nearly 60 farmers, advisory personnel, and researchers from 10 states. A proceedings is available. For a copy, write to Winrock International (Rt 3, Morrilton AR 72110).

Winrock also did a survey during 1990-91 to identify landowners, technical assistance personnel, and researchers in the Mid-South who are engaged or interested in agroforestry. The survey found a substantial interest in agroforestry and uncovered quite a variety of plants and animals considered by respondents to have potential for agroforestry. When published in mid-1993, the survey will provide the best information currently assembled on the status of agroforestry in the Mid-South, and will provide a directory of survey respondents. The information is stored in a database which will allow expansion and updating. Anyone in the Mid-South (AL, AR, KY, LA, MS, MO, OK, TN, and TX) not contacted but wishing to be included in the survey and listed in the directory, please write to Winrock International.

One final note. The USDA Southern Region Sustainable Agriculture Research and Education Program (previously called Low Input Sustainable Agriculture, or LISA) included agroforestry as a specific topic under each category in the 1992 request for proposals. Only one agroforestry proposal—for silvopastoral research on marginal lands—made it to the final screening, but it was not selected for funding. Winrock International, joined by 15 farmers in 4 states and 15 technical specialists from different organizations, developed and submitted a pre-proposal for establishing a Southern On-farm Agroforestry Research Network. The preproposal was not selected for submission of a full proposal. There is a clear message here: technical members of the sustainable agriculture (SA) community in the South recognize the potential of agroforestry for addressing sustainable agriculture objectives, but farmers in this community do not share the perception. If agroforestry is to receive the support of the SA community (and probably those not in the SA community), strong efforts must be made to gain the attention and interest of farmers in this region.

THE PENCE WALNUT PLANTATION

Tippecanoe County, Indiana
Hugh and Judith Pence

The Pence Walnut Plantation, owned by Hugh and Judith Pence, has been in operation since March 31, 1989. Hugh got interested in walnuts in the mid-1980's after attending conferences, talking and visiting with other walnut growers and joining the Walnut Council. He devised the idea that walnut trees should be grown as other agricultural crops, i.e., with proper site selection, proper fertilization, chemical applications, trace minerals, etc. With encouragement and wisdom from fellow walnut growers, he set forth to find the right farm for his own plantation. Hugh looked for and found a farm that was already growing good walnut trees, but also had the right soils to turn tillable ground into additional land for growing walnut trees. The farm purchased has 180 acres, 55 acres in woods and 124 now planted in corn and walnut trees. The soils on the farm were rated to produce 125 bu/acre corn at the time of purchase.

The Pences chose seedlings grown from nuts collected from Indiana trees since they are best suited for the soils and climate of the areas. To lay out the walnut rows, they used the corn rows from the previous year's crop; it simplified the job for the planter not having to get out the tripod and mark the rows. The walnut tree rows are 22½ feet apart, and the trees are spread every 5 feet in the row. The seedlings were purchased from the Vallonia State Nursery in southern Indiana. 44,000 seedlings were planted on March 31, 1989 using a mechanized tree planter. The Pences will keep only about 8,000 of the very best trees, thinning and selecting for growth, straightness, trunk diameter, etc. over the next 5-20 years.

The chemicals used in producing corn are also very good for walnut trees. When the farm tenant who leases the tillable acres on a 50-50 basis plants the corn, he sets his chemical applicator to lap over the tree rows giving them the same weed control as the corn. This makes for clean rows, no competition for weeds or grass, thus giving the trees a chance for optimal growth. Another plus for the young walnut trees is the protection the corn is giving the trees. By being nestled down between tall rows of corn, they are out of the wind and get the benefit of the heat contained in the corn rows, making for excellent early growth, straight central leaders (up to 2 ft. the first year, and up to 4 ft. the second year) and little wind damage. This system eliminates a need for establishing trees inside of tree tubes or shelters. In 1992, the trees grew another 3 to 6 feet, and most are now between 10 and 12 feet tall. The corn also benefits in this system. Since each group of 6 rows of corn has 2 outside rows, 33% of the rows are outside rows which, according to conventional wisdom, are always higher producing. Thus the loss of one-third of the farm to trees is partially compensated for by increased corn yields from the higher yielding outside rows. Corn yields in 1989 were 117 bu./acre from the overall acreage, or 162 bu./acre from the area planted to corn. Because of the extreme drought in 1991 (the worst since 1936), the

corn production was extremely low throughout the region including the Pence's farm which was also low (40 bu/ac) but comparable to corn yields in the area. However, all the trees survived. The only drought effect on the trees was an early terminal bud set in late August.

Of course, planting walnut trees on your farm provides for a lot of work; get the farm in shape to begin with, mowing the end rows, spot spraying with chemicals for trouble weeds, hand pruning trees after deer grazing (15,000 of them in the second year!), then selecting, thinning and pruning the trees they save.

Why grow trees in the corn? If you want to grow trees in an old pasture or in an open area in the woods, the land is not producing much anyway, and one can wait 40 years for some return on the investment in the land. However, with land worth \$1200-1400/acre, one cannot afford not having a cash flow for 40 years, thus the idea of growing crops in the interim. As the trees will eventually provide too much shade for the corn to produce well, the Pences plan to switch to soybeans until they are also light limited, and then put the land in some forage crop to make hay. An additional benefit of the trees comes from Uncle Sam; tree farming is one of the last remaining investments that still get a few tax breaks in the way of Investment Credit and capital gains.

Despite the success the Pences have with their plantation to date, they say you must be nuts to grow walnut trees for yourself - walnuts take 40-60 years to mature, and most farmers are not interested, do not have the expertise nor the capital to put out a plantation until they are in mid life.... The Pences do it for their children and grandchildren, in the hope that they will like trees and walnuts!!



The Pence Walnut Plantation, late June 1992

NETWORKING

New Name for Windbreak Technology Working Group

At the October, 1992 National meeting of Society of American Foresters, the Windbreak Technology Working Group met and proposed the formation of a more inclusive Working Group entitled, Agroforestry, Windbreaks and Conservation. Assuming this name change is adopted, temperate agroforesters will, for the first time, have a formal "home" within the Society of American Foresters. For details contact: Dr. Peter R. Schaefer; Dept. of Horticulture, Forestry, Landscape and Parks; Box 2207-C; South Dakota State University, Brookings, S.D. 57007

Center for Semiarid Agroforestry USDA Forest Service, Lincoln, NE

CSA Mission: The CSA integrates the activities of the Research, State and Private Forestry, and International Forestry branches of the USDA Forest Service. The Center's programs focus on the needs of conservation forestry in agroecosystems. The CSA's purpose is to conduct research, develop technologies, establish demonstrations, and transfer technologies and information to natural resource professionals for improving agricultural productivity and sustainability, mitigating the environmental impacts of agriculture, and enhancing environments for people and wildlife. The Center works through cooperation and partnerships with federal and state agencies, universities, and conservation organizations. Partnerships provide an avenue for cooperative ventures between agencies and organizations to share resources and expertise to attain common goals.

Inside Agroforestry

A new source of information published by the Center for Semiarid Agroforestry. To receive this publication write to:
Center for Semiarid Agroforestry
c/o Inside Agroforestry
UN-L East Campus
Lincoln, NE 68583-0822
Phone 402 437-5178
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Agroforestry News

A newsletter produced by the Agroforestry Extension Sub-committee of the Department of Conservation and Environment.
To receive Agroforestry News write: Arthur Lyons, Editor, Dept. of Conservation and Environment, PO Box 41, East Melbourne 3002, Australia Phone (03) 651 1112.

UPCOMING EVENTS

Agroforestry Action '93: By farmers, for farmers on farms. A series of field days and seminars featuring Victoria's leading agroforesters.
March 30 - April 8, 1993
Contact: Greg King
Victoria Farmers Federation
24-26 Collins Street
Melbourne
Victoria, Australia 3000
Phone (03) 650 9261
Fax (03) 650 4428

Fourth International Symposium Windbreaks and Agroforestry, July 26-30, 1993.
Danish Land Development Service
P.O.Box 110
Klostermarken 12
DK-8800 Viborg, Denmark, July 26-30, 1993

Third North American Agroforestry Conference.
August 15-18, 1993
For further information contact:
Dr. Richard C. Schultz
Conference Coordinator
251 Bessey Hall
Department of Forestry
Iowa State University
Ames, IA 50011-1021
Phone 515 294-7602
Fax 515 294 1337

FURTHER READING

Garrett, H.E. (ed). 1991. Proceedings of The Second Conference on Agroforestry in North America. Springfield, Missouri, August 18-21, 1991.
For more information contact:
The School of Natural Resources
University of Missouri
Columbia, Missouri 65211

Henderson, D.R. (ed). 1991. Proceedings of the Mid-South Conference on Agroforestry Practices and Policies. West Memphis, Arkansas, Nov. 28-29, 1990. Winrock International.
For more information contact:
Winrock International
Route 3, Box 376
Morrilton, Arkansas 72110-9537

Williams, P. (ed). 1991. Proceedings of the First Conference on Agroforestry in North America. Guelph, Ontario, Aug. 13-16, 1989. University of Guelph.
For more information contact:
Peter Williams
Department of Environmental Biology
University of Guelph
Guelph, Ontario N1G 2W1

Finch, S. and C.S. Baldwin (co-chairs). 1991. The Third International Windbreaks and Agroforestry Symposium Proceedings. Ridgeway College, Ontario, June, 1991.
For more information contact:
Sherman J. Finch
National Windbreak Forester
USDA Soil Conservation Service (Retired)
3407 Laguna Ave.
Davis, CA. 95616

Nair, P.K.R., H.L. Gholz and M.L. Duryea (eds). 1990. Proceedings of the International Workshop on Professional Education and Training in Agroforestry. Gainesville, Florida, Dec. 5-8, 1988. Kluwer Academic Publishers, Dordrecht, The Netherlands.
For more information contact:
Kluwer Academic Publishers
101 Philip Drive
Norwell, MA 02061

Brandle, J.R., D.L. Hintz and J.W. Sturrock (eds). 1988. Proceedings of an International Symposium on Windbreak Technology. Lincoln, Nebraska, June 23-27, 1986.
For more information:
Proceedings are reprinted in the journal Agriculture, Ecosystems and Environment Volumes 22-23 1988 (Elsevier)

Hannaway, D.B. (ed). 1983. Foothills for Food and Forests. Corvallis, Oregon, April, 1983. Oregon State University College of Agricultural Sciences Symposium Series No. 2. Timber Press, Beaverton, Oregon. For more information contact:
Timber Press
P.O. Box 1631
Beaverton, Oregon 97075

Parker, H.W. (ed). 1982. Proceedings of the Symposium on Mesquite Utilization. Lubbock, Texas, Oct 29-30, 1982.
For more information contact:
College of Agricultural Sciences
Texas Tech University
Lubbock, Texas 79409

S.E.R.I. 1980. Tree Crops for Energy Co-Production on Farms. Estes Park, Colorado, Nov.

12-14, 1980. U.S. Department of Energy. SERI/CP-622-1086. Distribution Category UC-61A, Conf. No. 801172.

For more information contact:
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161

HELP !!!

Slides Wanted

AFTA is seeking slides on temperate agroforestry practices in order to develop a slide set on this topic. The slide set (or sets) will be sold for use as teaching and promotional aids of temperate agroforestry practices in classrooms, extension programs, conferences, fairs etc. Donators/photographers will be acknowledged for their contributions. Please send duplicates (return of slides is not guaranteed) with a brief description of the practice depicted, location, year, and any other relevant information to:

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Department of Forestry
Michigan State University
126 Natural Resources
East Lansing, MI 48824-1222
U.S.A.

Logo

As you may have noticed, the heading of this newsletter is rather bare. We would like future issues to be distinguishable from other newsletters you may be getting, and one way we are thinking about doing this is having a logo to go along with the title. Since we suspect that some of the readers of this Newsletter are more creative than we are, we invite you to send us your logo ideas. Ideas for the logo may be sent to:
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