The
Temperate Agroforester
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Texas Conference Examines Conservation Buffer Technologies

By Miles Merwin

What technologies are required to make conservation buffers an effective and cost-efficient means to help America meet its national water quality goals?

This question was the focus of the recent National Conservation Buffer Initiative (NCBI) Science and Technology Conference. Over 300 representatives of public agencies, universities, corporations and private groups gathered January 26-27 in San Antonio, Texas to share information on the scientific basis for conservation buffers. The meeting was organized by the Conservation Technology Information Center at Purdue University.

The NCBI is a new partnership between by the US Dept. of Agriculture and over 90 corporations, commodity groups and private organizations. It has set an ambitious goal for its outreach efforts: to encourage rural landowners to voluntarily establish 2 million miles, equivalent to 7 million acres, of conservation buffers nationwide by the year 2002.

In addition to researchers and USDA representatives, conference participants also heard, via videotaped vignettes, five producers in different regions of the US talk about their practical experiences with buffers.

Representatives from some of the NCBI's major

➤ ***Conservation Buffers, p. 9***

First Call for Papers, Posters for 1999 Agroforestry Conference

The 6th Conference on Agroforestry in North America will be held June 12-16, 1999 at the Arlington Resort Hotel in Hot Springs AR. Titled "Sustainable Land-Use Management for the 21st Century," the meeting will be co-hosted by the Dale Bumpers Small Farms Research Center (USDA Agricultural Research Service) and Hill Farm Research Station (Louisiana State University Agricultural Center).

A pre-conference field trip is planned that will include visits to a pecan agroforestry farm and silvopastoral experiments. There will be two full days of plenary and concurrent sessions, plus poster displays, presenting the "state of the art" of temperate agroforestry research and development. Sandwiched between the two indoor days will be a full-day field tour, featuring the LSU Hill Farm Research Station at Homer, LA and a landowner show and tell session.

Anyone involved in research, technology development or implementation of agroforestry practices in North America and other temperate regions is invited to submit titles for proposed presentations to the conference organizers. Submissions should include Title, Agroforestry Category (Alley Cropping, Forest Farming, Riparian Zones, Silvopasture, Windrows, or General), and Subject Area (Management, Biology, Economics, Environmental, Societal, Policy, Modeling or General). Authors are asked to submit title information by October 1, 1998 to Terry R. Clason, Hill Farm Research Station, Rt. 1, Box 10, Homer, LA 71040-9604, email: TCLASON@agctr.lsu.edu.

For additional information about the conference program, contact: Dr. Catalino A. Blanche, Dale Bumpers Small Farms Research Center, 6883 South State Hwy 23, Booneville, AR 72927-9214, email: cblanche@yell.com. Updates on program details and registration information will be announced in future issues of the *Temperate Agroforester* and AFTA's Internet home page. ❒

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Mission Statement

The mission of AFTA is to advance the knowlege and application of agroforestry as an integrated land use approach to simultaneously meet economic, social and environmental needs. AFTA focuses on agroforestry in temperate zones, with an emphasis on North America. AFTA pursues its mission through networking, information exchange, public education, and policy development.

AFTA Membership Dues and Subscriptions

Regular: 1 year $25, 2 years $45, 3 years $60;
Student $10; Sustaining $50; Lifetime $300.
Non-voting: Institutions $50, Nonprofits $25.
Overseas Postage: Canada/Mexico, add $5 per year; All other countries, add $10 per year.
Send your check payable to AFTA in US dollars to:
AFTA, c/o School of Natural Resources,
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The Temperate Agroforester

Editor: Miles Merwin
Contributions related to agroforestry are welcome. Please submit items either on PC-formatted diskette, via e-mail, or typewritten. Deadlines for submissions are the 15th of March, June, September and December. Address all items to: Miles Merwin, The Temperate Agroforester, P.O. Box 266, Lake Oswego, OR 97034, Tel.(503) 697-3370, Fax (503)697-1767,
Email mlm1@teleport.com

President's Corner

AFTA on the Move: Growing and Planning for Growth

By Joe P. Colletti, AFTA President

Well, 1998 is off and running. Much is planned for AFTA this year. The newly established 7-person Regional Council (aka Steering Committee) is in place and will be organizing to provide direction to AFTA concerning all aspects of agroforestry and our organization. Because it is new, I thought it appropriate to list the members of the Regional Council again: Scott Josiah, Midwest; Catalino Blanche, Southeast; Henry Pearson, Southern Great Plains; Andy Gordon, Northeast; Jim Brandle, Northern Great Plains; Steve Sharrow, Northwest; Tim O'Keefe, Southwest. Also, Catalino, Jim and Tim represent the Regional Council as at-large Directors on the Board of Directors. I encourage each AFTA member to contact your regional representative with ideas, opportunities, and concerns and to become active in your region in promoting the science, practice, and education of agroforestry.

The AFTA Board in cooperation with the National Agroforestry Center is engaged in developing a strategic plan for agroforestry in the USA and the temperate region of North America. The strategic planning effort will involve i) input from a diverse set of stakeholders, ii) utilization of existing "think pieces" (aka reports) on agroforestry in North America and interrelationships with public agencies and private organizations, and iii) active involvement of the AFTA membership. In a parallel effort, AFTA is also involved with developing our strategic plan. Between now and next spring look for information on the AFTA strategic planning process in this newsletter.

Mark your calendars for Saturday, July 25, 1998. This is the date for an annual AFTA membership meeting in Columbia, Missouri. Sandra Hodge and Gene Garrett will organize the meeting hosted by the University of Missouri's Center for Agroforestry. The day-long meeting will have a brief membership meeting in the morning, followed by a field tour and ending with a bar-b-que.

While you are looking at your calendar, be sure to get the 1999 (6th) North American Agroforestry Conference marked for June 12 through 16 in Hot Springs, Arkansas. Catalino Blanche, Terry Clason, and company are planning a wonderful biennial conference. Plan to attend and bring your family! ❒

Workshops Will Explore Potential of Agroforestry in Northwest

Two workshops on "Agroforestry: Integrating Conservation, Crops, Livestock, and Trees in the Pacific Northwest" will be held this spring: May 12-13 in Richland, WA and May 14-15 in Portland, OR. The workshops are designed for field professionals from resource conservation agencies and private organizations; interested landowners are also encouraged to attend.

The objectives of these workshops are to: (1) Promote and create awareness of agroforestry's economic and environmental benefits, (2) Develop a network of agroforestry technology, development and transfer, and (3) Describe relevant agroforestry practices for the Interior and Coastal Pacific Northwest.

While the regional workshops will focus on either coastal or interior conditions, the program topics for both workshops are the same, except as noted below. Each major topic will include discussion of the following: what it is; applicability; risks/benefits (ecological, financial); markets; and, examples/case studies.

PROGRAM

- ***Keynote Presentation*: Bruce Wight, National Agroforestry Center**
- ***Forest Farming* (Portland only): Jim Freed, WSU**
- ***Windbreaks* (Richland only): Gary Kuhn, National Agroforestry Center**
- ***Silvopasture*: Linda Hardesty, WSU (Richland); Steve Sharrow, OSU (Portland)**
- ***Riparian Buffers*: Lyn Townsend, NRCS; Frank Gariglio, NRCS (Richland); Rob Miller, Mt. Jefferson Farms (Portland)**
- ***Wastewater Treatment Using Trees*: Jeff Nuss, CH2M Hill**
- ***Regulatory Issues*: Tom Wilson, EPA; Mike Wolf, OR Dept of Ag (Portland)**
- ***Conclusion*: Miles Merwin, AFTA**

Field Tours

The second day of each workshop will be devoted to a full-day field trip to see agroforestry practices "on the ground." The Eastside tour (May 13) includes the following: "Gray's Landing" hybrid poplar wastewater utilization project near Sunnyside, WA; and WSU-Prosser Irrigated Agricultural Research Station to observe the use of hybrid poplar as a bioremediation agent. The Westside tour (May 15) will feature: City of Woodburn, OR - community wastewater reuse with hybrid poplar; Mill Creek Correctional Facility, Salem - dairy operation and hybrid poplar buffers; Mt. Jefferson Farms (near Shelburn) - use of poplars for riparian buffers and bioengineering; Peter Kenagy Farm, Albany - alley cropping & hedgerows in row crops with poplar and black walnut; and, Jim Monroe, Lebanon - silvopasture operation with sheep.

The conference registration deadline is April 30, 1998. The Workshop Registration fee is $30.00 ($40.00 if mailed after April 30) and the field trip registration fee is $23.00 (each) or $30.00 (each) if mailed after April 30. Registration for field trips is limited to 50 per site. Please register early. You may register for both trips, if you wish. Fee includes transportation to and from hotel, box lunch and refreshments.

The workshop will be conducted in two separate locations:

- May 12-13: Shilo Inn, 50 Comstock St., Richland, WA, (509)946-4661
- May 14-15: Shilo Inn Suites, 11707 NE Airport Way, Portland, OR, (503)252-7500

A block of rooms has been reserved at each hotel location. Call the hotel directly to make your own reservation. Please refer to the "College of Forest Resources, Agroforestry Workshop" for the special workshop rate.

Conference co-sponsors include the following organizations: USDA Natural Resources Conservation Service; National Agroforestry Center; Washington State University; CH2M Hill; University of Washington; USDA Forest Service R-6; and the Association for Temperate Agroforestry.

Information Contact

For a registration form or more information, contact: Beverly Gonyea, Registrar, Agroforestry Workshop, University of Washington, Box 354115, Seattle, WA 98195-4115, phone: (206) 543--0867, email: gonyea@u.washington.edu. ❐

Virginia Research Studies Agroforestry Systems for Appalachia

By Eric Bendfeldt, James Burger, Charlie Feldhake, Mou Pu; Virginia Tech University

Agroforestry practices have tremendous potential within the Appalachian region because the steep terrain, acid soils, and high rainfall suggest that sustainable agroecosystems might be best achieved by developing perennial systems that include a tree component. An agroforestry system improves soil physical and chemical properties, maintains organic matter, improves nutrient cycling, reduces soil erosion, and maintains the structural integrity of the soil. Rural communities dependent on both agriculture and forestry may benefit from products and services an agroforestry system offers.

Landowners in the Appalachian region typically have some areas with steep slopes that are subject to erosion. Soils have shallow A horizons that are highly leached and thus acidic. Land use in this region is devoted to forests and pasturing of livestock for cow-calf production. Historically, there has been little integration of these two land use systems.

Agroforestry can diversify farm income, reduce off-farm adverse environmental impacts, and contribute to sustainable land use practices. However, to achieve this potential, quantitative data are needed to validate the benefits of integrating trees in a farming system. Furthermore, site specific data are needed to definitively demonstrate how an agroforestry system can increase productivity in present landscapes and the economic viability of a given land use.

The Whitethorne Agroforestry Project was established in 1995 to research and demonstrate the practical and economic feasibility of a multi-faceted agroforestry system within the humid, temperate, Appalachian region. This is a cooperative project between the USDA Agricultural Research Service's Appalachian Soil and Water Conservation Research Laboratory at Beaver, WV, and the Forestry Department of Virginia Tech at Blacksburg, VA.

Objectives

The project is a 10 ha study site located approximately 16km from Virginia Tech's main campus on a 600 ha agricultural experiment station at Whitethorne, VA (Fig. 1).

It was established with the following research and demonstration objectives: (1) to demonstrate the feasibility of a multi-faceted agroforestry system, (2) to determine tree/grass/livestock interactions and how these components might be incorporated in a traditional agricultural or grazing system, (3) to determine the most effective tree establishment techniques in agroforestry systems, and (4) to identify and test the utility of additional potential agroforestry tree species.

Silvopastoral Study

The Appalachian region has great potential for integrated land use systems. In an effort to demonstrate this, a silvopasture study has been implemented to compare the land equivalency and productive capacity of a strictly hay pasture and two pastures in a silvopastoral arrangement. Each pasture will be monitored to determine overall forage biomass and productivity. Secondly, the most cost effective method of establishing agroforestry tree species in existing pastures will be tested.

The study consists of three replicate blocks in a complete randomized design (Fig. 1). The blocks are comprised of three 1 acre plots. Each plot is planted to a cool season grass (orchardgrass *Dactylus glomerata*) and legumes (red clover *Trifolium repens* and ladino clover *T. pratense*). The control plot is strictly forages. On the two remaining plots in the block, black walnut (*Juglans nigra*) and honey locust (*Gleditsia triacanthos*) have been superimposed on the hay pasture to create a silvopastoral system. The trees are planted on 2.5 m x 12.5 m spacing with the expectation that eventual leave trees will be on 12.5 m x 12.5 m spacing. The variables to be tested are biomass production, tree/forage/livestock interactions, forage yield, walnut production, honey locust pod yield, cultivar adaptability, and economic competitiveness of the 3 systems.

Light, water, and nutrients are three resources critical for plant growth. In a silvopastoral system, the objective is to manage the forage and tree crops in a spatial and temporal array so that the allocation of these resources optimizes the system's total productivity. In this study, the goal is to determine the optimum tree density that maximizes total system production.

In this study, black walnut and honey locust trees have been planted in an existing orchardgrass, red clover and ladino clover pasture at different spacing to create a density gradient. A natural moisture gradi-

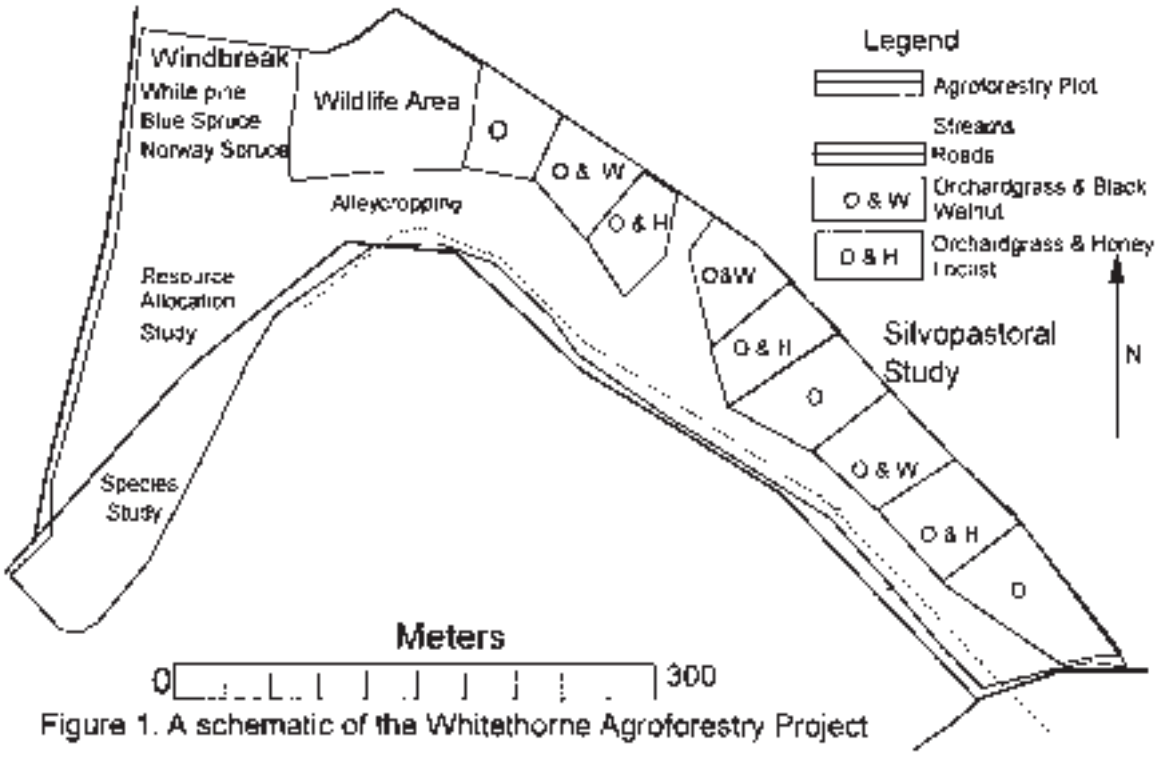


Figure 1. A schematic of the Whitethorne Agroforestry Project

ent is present on the site with the landscape's 20% slope that is perpendicular to the planting density gradient. Light, water, and nutrient availability to trees and forages will be assessed along the slope gradient as a function of tree density. Forage output will be measured to ascertain tree density impacts on spatial and temporal forage production. Mechanisms of compatibility and competition between trees and the forage crops will also be defined.

In the initial stages of tree growth and establishment, resource allocation between tree and forage will be mathematically modeled using the *Silvopast* model. The modeling information will then be compared against the actual field data to validate the model's predictions of tree and forage interactions. Tree density will be evaluated within this study for effects on soil water dynamics, light and nutrient budgeting, forage yield, pod yield, walnut production, tree growth response, and overall economic return.

In J. Russell Smith's 1929 book *Tree Crops: A Permanent Culture*, a variety of trees were proposed for agroforestry use in the temperate zone. Some significant research has been conducted on black walnut, honey locust, and black locust, but more evaluation of fruit and nut tree species is needed for their possible inclusion in temperate agroforestry systems. Research and investigation of prospective trees will facilitate their use by practitioners and enable introduction of various tree species into a variety of land use settings. Current trial species include pawpaw (*Asimina triloba*), hazelnut (*Corylus americana*), American chestnut (*Castanea dentata* var. sweet hart), and black walnut (*Juglans nigra*). Prospective species to be planted are pecan (*Carya illinoensis*), persimmon (*Diospyros virginiana*), and royal paulownia (*Paulownia tomentosa*).

Summary

Agricultural productivity in the Appalachian region could benefit from the integration of agroforestry techniques into the topographically diverse landscape. Rural communities dependent on both agriculture and forestry may benefit from the proposed products and services an agroforestry system offers. The Whitethorne Agroforestry Project, although just established, is an endeavor to provide quantitative data and definitive demonstration of how agroforestry can be implemented within this region and the overall humid, temperate zone as a sustainable and productive land use option.

For more information, contact Eric Bendfeldt at Virginia Tech, Department of Forestry, 228 Cheatham Hall, Blacksburg, VA 26401 or ebendfel@vt.edu. ❐

Oregon Family Farm Mixes Christmas Trees and Black Walnut

By Miles Merwin

Are Joe and Stan Low of Beavercreek, Oregon mainly Christmas trees growers or black walnut growers? The answer is both, but the question seems to be an amicable, on-going debate between father and son. Forestry, agriculture and agroforestry all coexist profitably on their 900 acre Highland Farm in the northern Willamette Valley.

A native of West Virginia, Joe learned the value of black walnut timber during the Depression years. After moving to Oregon in 1943, he began a 30-year career in the sawmilling business, cutting primarily native Douglas fir in the local area. His interest in black walnut remained, prompting him to plant some of the first stands of walnut for timber in Oregon 35 years ago. Starting about 20 years ago, Joe and his son Stan have established 50,000 black walnuts on over 200 acres of black walnut/Christmas tree alley cropping - or vice versa.

Joe Low is growing black walnut for nuts and timber along with Noble Fir for Christmas trees in an alley cropping agroforestry regime. (Photo: M. Merwin)

In Joe's experience, eastern black walnut grows well in the Willamette Valley. The only disease he has encountered is walnut anthracnose, but he says it is less of a problem in Oregon than in the warm humid climates of the Midwest. Weed control is the main cultural practice, Joe said, along with training during the early years of establishment to correct stem form deficiencies.

At Highland Farm, black walnuts are planted on a 15 X 15 ft. spacing (about 200/ac) with either Douglas fir or noble fir as the short-rotation intercrop. About 25 years after planting, Joe plans to thin the walnut to a final crop spacing of 30 X 30 ft. (about 50/ac). His aim is to produce a straight, 4 ft. diameter log in about 75 years that will yield high-value timber or veneer.

Fast-growing and commercially-valuable Douglas fir is co-dominant with walnut and serves as a "crowd tree" to force the walnut to produce tall, straight stems. In stands where Joe has simultaneously planted walnut and Douglas fir at the same initial spacing (200/ac), he will be able to choose at the time of first thinnings whether to leave the walnut or the Doug fir to grow as the final timber crop.

In other stands, Joe has interplanted the relatively-slower growing but more valuable noble fir, planted on 5 X 5 ft. spacing, with walnut on 15 X 15 ft. centers. Noble fir is ready for harvest as Christmas trees in 8-10 years, compared to about 7 years for Douglas fir Christmas trees.

In all of his plantings at Highland Farm, Joe has planted nuts rather than seedlings. Experience has shown him the importance of direct seeding to develop a strong taproot that will produce hardy trees better able to cope with Oregon's dry summers. Joe has scouted all the best walnut trees in the local area and each year collects nuts for planting from selected trees. He either plants the nuts in the fall or stratifies them during the winter for spring planting.

The alley cropping enterprise at Highland Farms is a good example of the extra management and economic tradeoffs inherent in agroforestry verus monoculture. According to Stan, who manages the Christmas tree operation, there is a economic cost to alley cropping. Labor costs to shear Christmas trees intercropped with black walnut are higher because extra care must be taken to avoid damage to the walnut, which slows the work rate. Weed control during the early years of establishment is also more problematic when firs and walnuts are mixed.

As the walnut trees mature, they compete for light with the Christmas trees. Stan has observed that shade will degrade the needle length and color of the firs compared to open-grown trees, and therefore decreases their quality and potential price as Christmas trees.

Continued ➤

Preparations Continue for Agroforestry Enterprise Conference

By Scott J. Josiah, CINRAM, University of Minnesota

Whether you produce, process, buy, or sell specialty forest products, or work with those that do, this exciting and important conference is for you. The North American Conference on Enterprise Development Through Agroforestry: Farming the Agroforest for Specialty Products will be held October 4-7, 1998 at the DoubleTree Park Place Hotel, Minneapolis, Minnesota. From the keynote address to the closing panel discussions, participants from across North America will enjoy being on the "cutting edge," learning of the many exciting and emerging innovations for "intentionally" growing specialty forest products in sustainable forest and agroforestry systems. This intense learning experience will directly focus on the markets, marketing, production, processing, and farm and woodlot landowner outreach for the range of specialty forest products, including forest-based medicinals and botanicals, food products, and handicraft and floral products.

Over 30 national and regional experts from specialty forest product businesses, research institutions, agencies, extension organizations, and nonprofits will share their extensive knowledge through invigorating and exciting presentations. This major networking opportunity will allow participants to describe their own experiences and gain exciting new knowledge through many posters, practitioner displays and informal presentations, a dozen how-to workshops, informal "forest farming cafes" (informal discussion groups held during every meal), and commercial exhibits by companies that buy and market large volumes of these products. A 2-day post conference tour of specialty forest product production, processing and marketing sites in Minnesota, Wisconsin, and Northeast Iowa also is planned.

This conference brings together some 300 of the top producers, processors, marketers, extensionists, and decision makers of Specialty Forest Products from across North America. As the year's most important event on Specialty Forest Products, businesses and organizations have an unparalleled opportunity to connect to the movers and shakers in this expanding industry. Organizations interested in exhibiting should contact Gene Anderson at 612-625-7084.

Major sponsors currently include the National Agroforestry Center, USFS State and Private Forestry, Minnesota Department of Natural Resources, Minnesota Institute for Sustainable Agriculture, the Association for Temperate Agroforestry, US Environmental Protection Agency. Many other organizations have pledged support. Additional sponsors are being sought; any person or organization interested in participating as a sponsor should contact Jim Chamberlain at 540-231-5876.

The registration fee will be approximately $125, which includes a Sunday evening reception, coffee and rolls Monday through Wednesday prior to the morning sessions, lunches and breaks for all three days, attendance to all events (except the post conference field tour), a proceedings of the conference, and possibly one dinner. Blocked rooms at the DoubleTree Park Place Hotel are available for $89/night, plus 6.5% tax (single or double occupancy). The registration packet will include a list of other nearby hotels, with varying rates.

An interim conference announcement, containing preliminary program information will be released in mid to late April. Final registration packets will be mailed July 1, 1998.

The Center for Integrated Natural Resources and Agricultural Management (CINRAM) at the University of Minnesota is organizing the conference. For more info, contact Scott Josiah at 612-624-7418, FAX 612-625-5212, email josia001@maroon.tc.umn.edu. ❒

He suggests that increasing the initial spacing of the walnuts would help overcome these problems. If the walnuts were planted in every 4th or 5th row instead of every 3rd row, the firs would have more light available to develop into higher quality Christmas trees. Shearing costs would also be reduced, he said, by allowing more space for the firs.

Whatever the ideas for future changes in initial spacing and management, it is obvious that the Lows have a very large resource of valuable hardwood timber slowly maturing to harvest age. Joe anticipates that this resource will create markets for his timber both locally and overseas, especially in Europe. There will also be a substantial nut crop that could be processed on-site or shipped to processors in California. Joe is also thinking about other potential intercrops such as ginseng that could be produced among his walnuts after the Christmas trees are harvested. ❒

AFTA Directors Set Annual Meeting of Members for July 25

By Sandra Hodge, AFTA Secretary

The Board of Directors of AFTA held a regular meeting by telephone conference call on March 18, 1998. Board members participating, constituting a quorum, were Joe Colletti, Jim Brandle, Catalino Blanche, Gene Garrett, Sandra Hodge, Miles Merwin, and Pete Schaeffer. Bruce Wight was also present as an invited guest.

Treasurer's Report. Joe Colletti said that outgoing Treasurer Deborah Hill reported that AFTA currently has approximately $3000 in the bank, and that approximately $8000 remains receivable from previous contracts with the National Agroforestry Center. Joe said that she is preparing the financial statements needed for an internal audit.

The question was raised as to whether some of the Treasurer's duties should reside at Missouri to have a "home base" for processing memberships, publications requests, etc. After some discussion, the Board unanimously adopted the following resolution:

RESOLVED, that AFTA close its existing checking account in Lexington, KY and establish a new account in Columbia, MO; that Barbara Cliff, Sandra Hodge and Gene Garrett are authorized to sign individually on this account; that AFTA have a checking account in Lake Oswego, OR for expenses related to the newsletter; and that Barbara Cliff and Miles Merwin are authorized to sign individually on this account.

NAC Contracts. Bruce Wight of the National Agroforestry Center (NAC) gave an update on the 3 grant projects which AFTA is working on for NAC.

The first project for $2,000 is to compile a database of US institutions involved in agroforestry teaching, extension, research and overseas activities, and to make the database accessible on the Internet. A second grant of $6,000 will be used to put together a database on current agroforestry research and demonstration projects. The third grant of $10,000 has been set aside to put together a task force to develop a strategic plan for agroforestry in the US.

Strategic Planning. Miles has prepared a draft series of issues related to AFTA's strategic plan. Joe will put the issues in a question format and get them out to all Board members. The goal is to have a proposal for the membership by the biennial meeting in 1999 and for a draft to appear in the newsletter.

Regional Council. Discussion was held regarding the Regional Council and whether a Chair for the council should be appointed or elected. Jim and Pete are on the Council and will work to convene a meeting and address the issue of Chair. They will get back to the Board at the next meeting as to their progress. It was suggested that the Regional Council have an in-person meeting before the June 1999 conference.

New AFTA Logo. Four variations for a new AFTA logos have been posted to the AFTA home page on the Web for comments (www.missouri.edu/~afta/whats_new.html). Other submissions are encouraged and should be sent to Dean Gray at the University of Missouri (d_e_gray@yahoo.com). AFTA is aiming to have the logo finalized by the end of 1998 so that logo items can be sold at the June 1999 conference.

Budget. Joe and Miles will get together with Deborah to prepare a draft 1998 budget for presentation to the Board. Joe estimated that the newsletter expenses would be about $2000 and income from memberships about $4000 annually.

1999 North American Agroforestry Conference. Catalino Blanche reported on the plans for the next biennial meeting to be held June 12-16, 1999 in Hot Springs, Arkansas. He is proposing an "agroforestry academy" be held the day prior to the conference for which participants could accrue Continuing Education Units. The topics are yet to be determined. He is working with the visitor's bureau in Hot Springs and has planned an interesting tour for spouses/significant others.

John Kort of the PFRA in Saskatchewan, Canada also submitted a proposal for the 1999 meeting. Joe will ask him if he would be willing to re-submit that proposal for the 2001 meeting.

National Conservation Buffer Team. Joe will write Max Schnepf of NRCS to let him know that AFTA would like to join the Buffer Team to assist with the National Conservation Buffer Initiative.

Annual Meeting. An annual membership meeting will be held July 25, 1998 in Columbia, Missouri, hosted by the University of Missouri Center for Agroforestry. It will consist of a brief morning meeting, followed by a couple of field tours. A tour will be given of the University of Missouri Horticulture and Agroforestry Research Center, followed by a bodacious Bar-B-Que. All AFTA members are invited to register for the annual meeting. There will be a small fee to cover expenses. ❐

corporate sponsors, which include Monsanto, Cargill and Novartis, also participated as session moderators. Wallie Hardie, North Dakota farmer and chair of the National Corn Growers Association, said that conservation buffers are compatible with modern corn production practices and pledged his association's help in increasing awareness of their potential benefits among corn producers nationwide.

Richard Lowrance, of the USDA Agricultural Research Service in Georgia, said that conservation buffers can provide "goods and services" to benefit both the environment and the landowner. By trapping sediment, absorbing excess nutrients and controlling erosion, he said that practices such as filter strips, grassed waterways and riparian buffer strips can help improve and maintain water quality in streams bordered by crop and pastureland.

Buffer Limitations

While many speakers extolled the virtues of buffers, a few provided a dose of reality by discussing their practical limitations. Theo Dillaha of Virginia Tech University emphasized that buffers to protect water quality must be carefully designed to insure their effectiveness and long service life.

According to Dillaha, the necessary conditions for buffers to be effective in non-point source pollution control are shallow, uniform flow of runoff from fields at a low velocity, long term storage or periodic removal of accumulated nutrients absorbed and sediments trapped by the buffer plants, and regular maintenance after establishment. He recommended specific measures to prevent the concentration of runoff within fields which can locally inundate streamside buffers, and the periodic harvesting of trees and grass within buffers to maintain their vigorous vegetative growth and filtering capacity.

Riparian buffer strips alone cannot be counted upon as the sole best management practice for water quality protection, according to Theo Dillaha. They must be combined, he said, with other, in-field conservation practices, for example, no-til and contour grass strips, that help reduce the sediment and nutrient load before runoff reaches streamside buffers.

The effectiveness of riparian buffers in removing excess nutrients such as nitrate is site specific, and depends on how much of the runoff passes through the active root zone of grass and trees in the buffer, according to Art Gold of the University of Rhode Island. Where streambanks are steep and nitrate-laden runoff infiltrates upslope into deep-flowing groundwater, riparian buffers alone will not be able to filter out nutrients unless their roots are deep enough to tap groundwater, he said.

Recognizing that single buffer practices may not be able to do the job alone, speakers emphasized the importance of developing individualized conservation strategies for each farm and employing a combination or "toolkit" of different buffer practices. Other speakers described how, in addition to their environmental benefits, buffers can also help boost crop production and diversify farm income.

Bruce Wight of the National Agroforestry Center described how buffer practices such as windbreaks and living snow fences can increase the yield and quality of sheltered crops. In a video vignette, North Dakota farmer Wayne Carter reported how living snow fences provide an essential addition to soil moisture by distributing snow evenly across his fields.

A few speakers showed examples of how conservation buffers can directly benefit landowners by helping to create new farm business enterprises. Larry Butler of the Natural Resources Conservation Service (NRCS) illustrated how groups of adjacent landowners in Texas have formed wildlife management cooperatives and are planting buffers to attract game birds, which in turn attract hunters willing to pay for their sport. Gene Garrett of the University of Missouri described how farmers in the Midwest are growing black walnut, both for nuts and high-value timber, in combination with shade-tolerant pasture crops (alley cropping agroforestry) for short and long term income diversification.

CRP Funds Available

In following established public policy that rural landowners deserve some financial incentives to adopt conservation practices that will benefit society at large, some new USDA programs provide attractive financial motivations for planting conservation buffers. Parks Shackleford of the Farm Services Agency said that most buffer practices are eligible for the continuous sign-up provisions of the Conservation Reserve Program (CRP) which pays landowners not only an annual rental rate on 10-15 year contracts, but also provides cost-sharing up to 50% for establishment costs, plus an extra 20% incentive for high-priority practices such as riparian buffer strips and windbreaks. ❐

Internet Resources

New and Improved AFTA Web Site

www.missouri.edu/~afta/

Now with a more easy-to-remember address, the AFTA home pages on the World Wide Web have been extensively updated. Webmaster Dean Gray and Editor Miles Merwin have redesigned the appearance and content of the site, which was reloaded on March 1. New items will be added regularly, so AFTA members are invited to visit the site often for the latest info on publications, events, related links, articles on-line and AFTA news.

National Agroforestry Center

www.unl.edu/nac/

The USDA National Agroforestry Center (Kim Issacson, webmaster) has created an excellent web site on agroforestry which is definitely worth a bookmark. There you will find information about agroforestry practices in general and NAC programs in technology transfer, research and international exchange. Visitors will learn about upcoming events, related links and how to obtain NAC publications.

Agroforestry Research Trust

members.aol.com/AgroResTr/homepage.html

The Agroforestry Research Trust (ART), based in Devon, England, has entered the on-line world with a new web site. ART Director Martin Crawford is a prolific writer on temperate agroforestry, and this site contains many of his practical observations on agroforestry practices. A unique feature is an extensive listing of plants and seeds of useful species which can be ordered from ART.

Sustainable Farming Connection

sunsite.unc.edu/farming-connection/index.html

The Sustainable Farming Connection is an excellent site to begin a search for information related to sustainable agriculture. The site is divided into four sections: growing practices (including agroforestry), news and views, marketing, and discussion groups on topics related to sustainable agriculture. Browsers with the right software can view an online video on cover crops. ❒

New in Print

Riparian Buffers in Pennsylvania

Penn State University has produced a new guide for landowners and technical staff who work with landowners about riparian zone buffer strips, particularly in Chesapeake Bay watershed. The 56-page booklet contains useful information on the design, establishment and management of multi-zone riparian buffers, wetlands, and a wide variety of plant materials suitable for planting in that climate zone.

Establishing Vegetative Buffer Strips Along Streams to Improve Water Quality, Penn State University, 1996. Write to Cooperative Extension Publications, Penn State University, University Park, PA 16802.

Sustainable Ag Resources

A recently published book by the Sustainable Agriculture Network, a unit of the USDA Sustainable Agriculture Research and Education program, provides information on over 500 resource materials related to sustainable agriculture. The 136-page book covers print, electronic and video resources. Listings are indexed by state, subject, organization and author.

The Source Book of Sustainable Agriculture, 1997. To order, send a check for $12 to Sustainable Agriculture Publications, 12 Hills Building, Univ. of Vermont, Burlington, VT 05405-0082, Tel. (802) 656-0471.

Specialty Crops Guidebook

For those searching for potential understory crops for forest farming or alley cropping enterprises, this new book will be a valuable resource. Produced by the editors of Herb, Spice and Medicinal Plant Digest, it contains practical guidance to choosing and cultivating specialty crops, as well as an extensive list of information and supply resources for growers.

Breaking Ground: A Resource Guide, 1997. Send $15, payable to Univ. of Massachusetts, to HSMP Press, 12A Stockbridge, Amherst, MA 01003. ❒

Nominations Invited for Terry Johnson Agroforestry Award

Nominations are invited for the 1998 Terry Johnson Agroforestry Award, sponsored by the National Woodland Owners Association, and USDA Natural Resources Conservation Service and Forest Service. The deadline for nominations is July 1, 1998.

The purpose of the Terry Johnson Agroforestry Award is to enhance agroforestry identity among agricultural professionals and practitioners in the United States. The award will be granted to a professional, landowner, or individual who has provided sustained quality, innovative applications, renowned research, outstanding technology transfer, exemplary education, or other notable actions which contribute to the advancement and/or adoption of the science of agroforestry.

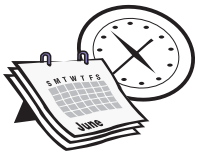
Any professional, landowner or individual who has made a significant contribution to the advancement and/or adoption of agroforestry in the United States may be nominated for the award. Previous recipients of the award are ineligible for nomination.

Nominations will be evaluated based on the following activities which directly contribute to the advancement of agroforestry in the US: 1) evidence that contributions to agroforestry have been sustained over time and have involved interaction with others to enhance agroforestry recognition; (2) applying innovative agroforestry systems that are integrated into the operation of the farming enterprise; (3) enhancing the agroforestry research knowledge base, educational program content, and/or action program implementation; (4) gaining regional or national attention to agroforestry problems and potentials; (5) dDeveloping improved cooperation and coordinated action between agencies, organizations and individuals concerned with agroforestry; and (6) stimulation of national, state, and local initiatives on the use of agroforestry to solve agricultural problems.

Nominations of professionals, landowners, or individuals should be sent to: Keith Ticknor, USDA - NRCS, ECS Div., P.O. Box 2890, Washington, DC 20013. Fax 202-720-1814. E-mail keith.ticknor@ usda.gov. **Nominations are due by July 1, 1998**.

The nomination must include the individual's name, address, phone number and a short description of the noteworthy agroforestry accomplishments that can be directly associated with the nominee. Also include the name, address, and phone number of the person submitting the nomination.

The award will consist of a plaque and a letter of commendation. It will be presented at a function, appropriate for the occasion, considering the recipients interests, travel, and schedule and the opportunity to bring recognition to agroforestry. ❒



Mark Your Calendar

Agroforestry: Integrating Conservation, Crops, Livestock and Trees in the Pacific Northwest, May 12-13, 1998, Richland, WA and May 14-15, 1998, Portland, OR. For information, contact Gary Kuhn, NRCS, Tel. (206) 616-7166, E-mail kuhn@geology.washington.edu.

Balancing Resource Issues: Land, Water and People, July 5-9, San Diego, CA. Annual meeting of the Soil and Water Conservation Society. For information, contact SWCS, 7515 NE Ankeny Rd., Ankeny, IA 50021, Tel. (515) 289-2331.

AFTA Members' Annual Meeting, July 25, Columbia, MO. Hosted by the University of Missouri Agroforestry Research Center, the meeting will feature a field tour and barbecue. To register, contact Sandra Hodge, SNR, 1-30 Agriculture Bldg., Columbia, MO 65211, Tel. (573) 884-6729, e-mail Sandra_Hodge@mucc-mail.missouri.edu.

North American Conference on Enterprise Development Through Agroforestry: Farming the Agroforest for Specialty Products, October 4-7, Minneapolis, MN. For more info, contact Scott Josiah at 612-624-7418, FAX 612-625-5212, e-mail josia001@maroon.tc.umn.edu.

Sixth North American Agroforestry Conference, June 12-16, 1999, Hot Springs, AR. For information, contact Dr. Catalino A. Blanche, Dale Bumpers Small Farms Research Center, 6883 South State Hwy 23, Booneville, AR 72927-9214, e-mail: cblanche@yell.com. ❒

Association for Temperate Agroforestry Inc.
The Temperate Agroforester
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AFTA Memberships and Newsletter Subscriptions

Membership in the Association for Temperate Agroforestry includes a subscription to our quarterly newsletter, discounts on AFTA publications, and reduced registration fees for meetings sponsored by AFTA.

Annual Membership Dues: Individuals and Families: 1 year $25, 2 years $45, 3 years $60; Student $10; Sustaining $50; Lifetime $300.

Annual Newsletter Subscriptions: Businesses, agencies & institutions, $50; Nonprofits and libraries, $25.

Overseas Postage: For all addresses outside the US, add the following amounts to the above membership/subscription rates: Canada/Mexico, $5 per year; All Other Countries $10 per year.

Check one: ❑ **New** ❑ **Renewal**

Name (Please print) _____
Address _____
_____
Telephone _____ **Fax** _____ **E-mail** _____
Main Agroforestry Interests _____
Recruited by (new members): _____

Please make your check (U.S. dollars) payable to AFTA, and send along with your application and dues to AFTA, c/o School of Natural Resources, 1-30 Agriculture Bldg., University of Missouri, Columbia, MO 65211.