

# The **Temperate Agroforester**

Volume 7, Number 3

July 1999

## **Gene Garrett Named as Recipient of 1999 Agroforestry Award**

Dr. Harold E. "Gene" Garrett was presented with the 1999 Terry Johnson Agroforestry Award at a ceremony during the Awards Banquet at the Sixth North American Agroforestry Conference in Hot Springs, AR. On hand to present the award were Keith Ticknor, NRCS National Forester, and Greg Ruark, Director of the USDA National Agroforestry Center.

The text of the award citation, accompanied by a wooden plaque, reads as follows:

"In recognition of outstanding accomplishments in the advancement of agroforestry science, adoption, and practice.

Dr. Garrett's interests and accomplishments in agroforestry span virtually his whole career. He is on

the cutting edge of agroforestry innovations and works tirelessly with numerous colleagues to solve new problems and develop new ways of doing things.

He believes it is important to design economically sound agroforestry practices that will benefit farmers as well as provide conservation benefits. His willingness to teach others about the science and practice of agroforestry is reputable. He conducts tours, makes presentations at conferences and workshops, provides one-on-one assistance to others, and most importantly practices

agroforestry on the land. Gene's hardworking nature, outgoing personality, and warm hospitality make a



*Joining Gene Garrett (second from left), winner of the 1999 Terry Johnson Agroforestry Award, at the awards ceremony in Hot Springs are (L-R) Keith Ticknor, Greg Ruark and Sandra Hodge. Photo: Sara Peters.*

► **1999 Agroforestry Award, p.9**

## **Hot Springs Conference Attracts International Audience**

*By Miles Merwin*

Almost 140 delegates from ten nations attended the Sixth North American Agroforestry Conference, June 12-16, in Hot Springs, Arkansas. This marked the first time that AFTA has held its biennial conference in the Southeastern U.S.

The principal organizers of the conference, subtitled "Land Use Management for the Future," were Catalino Blanche of the USDA Agricultural Research Service Dale Bumpers Small Farm Research Center and Terry Clason of the Louisiana State University Hill Farm Research Station. Major sponsors were the ARS Dale Bumpers Small Farm Research Center, USDA National Agroforestry Center, US Dept. of Energy, and Winrock International. Many thanks are

due to the organizers and sponsors for a very successful conference.

Prior to the conference, an Agroforestry Academy was held in Hot Springs, featuring workshops on two topics. Leith Knowles and Phillip Middlemiss of the New Zealand Forest Research Institute presented a workshop on "Evaluating Agroforestry Options" which included the use of computer models to evaluate agroforestry options on a model farm. Robert Hodge, MD, taught a class on "Basic Internet for Agroforestry" and shared useful tips for searching online for agroforestry information.

► **Sixth Agroforestry Conference, p.4**

## ***The Temperate Agroforester***

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### **Association for Temperate Agroforestry Inc.**

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Pete Schaefer, South Dakota State University

*President Elect:*

Miles Merwin, ITCI USA

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Joe Colletti, Iowa State University

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Sandra Hodge, University of Missouri

### **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 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 Center for Agroforestry, 203 ABNR,  
University of Missouri, Columbia, MO 65211.

### ***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, E-mail [m1m1@teleport.com](mailto:m1m1@teleport.com)

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### ***President's Message***

## **Giving Thanks to Members**

*By Pete Schaefer, AFTA President*

I'll begin my first of eight or so columns by thanking several individuals who have stepped forward on behalf of AFTA in recent months.

First, a big thank you to past president, Joe Colletti. Under his direction, AFTA took important steps toward developing a strong base to support continued directed growth and expanded activity. On a personal note, he made my job as president-elect much too easy!

I also extend a thank you to Catalino Blanche, Terry Clason, and their planning committee for the excellent job they did in hosting the 6<sup>th</sup> Conference on Agroforestry in North America. Thanks, too, go to Miles Merwin for his outstanding work with the newsletter, and his heavy involvement in several critical initiatives over the past two years. I am confident that Miles will continue to provide excellent service during his four years as president-elect and president.

Additional thanks go to Sandy Hodge, Mel Baughman, Carl Mize, Sara Peters, Catalino Blanche, Jim Brandle, Richard Hallman and Scott Josiah for agreeing to stand as candidates for office in the recent elections.

I believe that the strength of an organization can largely be determined by the willingness of its members to serve in leadership positions. Many others of you have contributed to the health of AFTA as well, and to all of you I offer my sincere appreciation.

### **Recognizing Member Contributions**

Recognition of member contributions is something I plan to do in each column, but to do so I will need your help. First, you might drop me a note if you know of someone who is actively demonstrating their commitment to our young organization. But more importantly, think about what you can do to further AFTA's mission and then take action. Alternatively, when the phone rings and the person calling asks for your help on behalf of AFTA, just say YES.

AFTA has steadily become stronger through the unselfish contributions of many individuals since its founding. I am confident that I will have no trouble in recognizing the efforts of many more individuals over the next two years.

► ***President's Message, p.5***

# AFTA Members and Directors Hold Meetings at Hot Springs

During the Sixth North American Agroforestry Conference in Hot Springs, AR, the Annual Meeting of AFTA members, and a regular meeting of the Board of Directors, were held. Brief summaries of these meetings follow.

## Annual Meeting

The 1999 Annual Meeting of AFTA was convened June 13 at the Arlington Hotel in Hot Springs, Arkansas. President Joe Colletti lead the meeting.

Secretary-Treasurer Sandy Hodge read the minutes of the last annual meeting and they were then approved by the members present. She also reported that as of March 31, AFTA had \$14,599.71 in the bank.

Editor Miles Merwin encouraged the members to submit articles for the newsletter and items for posting on the AFTA website. He reported that AFTA was successful in its application to the IRS for 501(c)(3) charitable status. Miles said that despite a temporary setback, the quest continues for a new AFTA logo that will better identify our association.

President-Elect Pete Schaefer announced that the Seventh North American Agroforestry Conference will be held August 16-18, 2001 in Regina, Saskatchewan. It will be subtitled, "Temperate Agroforestry: Adaptive and Mitigative Roles in a Changing Climate."

Henry Pearson discussed the current project to develop a national strategy for agroforestry. The result, he said, should be a policy document that integrates the views of a variety of stakeholder groups toward a shared vision of agroforestry. However, he said that further negotiations are needed regarding funding and specific tasks before the project can proceed.

Joe announced the results of the recent election conducted by mail. The following officers were

elected: President-Elect, Miles Merwin; Secretary, Mel Baughman; Treasurer, Sandy Hodge; Directors at Large, Catalino Blanche, Scott Josiah and Jim Brandle. The proposal to amend Article 6, Section 4 of the Bylaws to collect membership dues on an annual basis was approved.

The members considered a proposed Bylaws amendment to make the Newsletter Editor an ex-officio, non-voting member of the Board. (This action was made necessary by Editor Miles Merwin's election to the post of President-Elect.) Joe explained that

doing so would effectively increase the number of Directors at Large to four in order to keep maintain a total of nine Board members. After some discussion, the members present unanimously approved a motion to amend Article 3, Section 1 of the AFTA Bylaws to effect that change.

Jim Brandle talked briefly about the Regional Council, noting that the strategic planning project would be a good opportunity for the Council to become more active. It was suggested from the floor that Directors at Large could also serve as representatives on the Regional Council. Miles noted that if that were the case, candidates would need to be elected from each region separately. It was suggested to revise the current geographic boundaries of the Regional Council to make them more equal in member-

ship. Joe said that the Board would consider these proposals at a subsequent meeting.

## Board meeting

A regular meeting of the AFTA Board of Directors was held immediately following the Annual Meeting. All directors were present and newly elected officers

### Association for Temperate Agroforestry Inc. Statement of Income and Expense (unaudited) January 1 - December 31, 1998

<b>INCOME</b>	
Grants	10,500.00
Memberships	4,057.90
Meeting registrations	482.00
Publication sales	114.50
Interest	156.17
<b>TOTAL INCOME</b>	<b>15,310.57</b>
<b>EXPENSE</b>	
Administration	500.00
Bank charges	209.69
Contract expenses	1,970.00
Filing fees	515.00
Meeting expenses	296.43
Newsletter postage	538.27
Newsletter printing	1,630.00
Office supplies	68.87
Postage	81.94
Miscellaneous	25.00
<b>TOTAL EXPENSE</b>	<b>5,880.91</b>
Starting balance Jan. 1, 1998	3,490.32
Net increase	9,429.66
Ending balance Dec. 31, 1998	12,919.98

► **Annual and Board Meetings, p.5**

## ► Sixth Agroforestry Conference

About 30 people participated in the pre-conference tour on Sunday, June 13. At the first stop, pecan grower Bob Carruthers described his alley cropping system (see separate article). The tour next visited the headquarters of Winrock International near Morrilton, AR. Forestry program coordinator Mark Powell gave a brief overview of Winrock's programs that are currently underway in 40 countries.

The group visited a loblolly pine agroforestry trial at the Winrock farm where trees were planted in single, double and quadruple row configurations. ARS scientist Catalino described the results to date, commenting that the potential income from pine straw at \$400-800/ac/yr could exceed the value of the timber harvested at the end of the rotation.

Next stop was the Heifer Project International farm, where Chuck Crimmins described the worldwide activities of this nonprofit, hunger-relief organization. He said that HPI currently provides 30 different species of farm animals to rural communities in 30 countries. The offspring of these animals are passed on to other families in need within those communities. Chuck showed several examples of agroforestry practices at the HPI farm, including honeylocust for livestock fodder, contour raised beds of vegetable and vine crops sheltered by trees, and grazing and straw production in a pine plantation.

All indoor conference sessions were held at the historic Arlington Hotel in downtown Hot Springs. Keynote speaker Greg Ruark of the National Agroforestry Center said that agroforestry is relevant to many issues that citizens care about, not only regarding rural land management, but pertaining to urban and suburban areas as well. We need to do a better job, he said, in communicating with both rural and urban populations about the role of agroforestry in sustainable development. In thirteen concurrent sessions over two days, participants were able to choose from among 46

presentations. (Abstracts of presented papers and posters can be viewed online at <http://www.agctr.lsu.edu/agcenter/research/hillfarm/6th-agroforestry/agendapage.html>).

On Tuesday, June 15, the conference field tour traveled from Hot Springs to the Southwest Arkansas Research and Extension Center near Hope, AR. Among the several stops at SAREC, Paul Francis described an agroforestry trial in which loblolly pine was planted in nine different cluster arrangements

with various species of nurse trees. The trial will include hay production, livestock grazing, and timber harvesting.

The tour traveled south, crossing into Louisiana, and on to the LSU Hill Farm Research Station near Homer where a variety of agroforestry research projects are underway. Jim Robinson described a cooperative trial with NRCS on riparian management to restore stream side vegetation while at the same time allowing controlled, rotational grazing. Phil Cannon showed a

trial on forage crop production between tree rows at different spacings. Potential crops include bermuda grass hay, ryegrass (harvested in round bales), and seed or sprig production, he said.

Terry Clason discussed on-going research on silvo-pastoral systems to improve small farm productivity (see the article in the April 1999 *Temperate Agroforester* for more details). Catalino Blanche showed some small trials to evaluate different specialty crops that could be grown in young silvopastures or under more mature plantations, e.g. shiitake mushrooms, Jalapeño peppers, and medicinal crops such as *Echinacea* and *Hypericum*.

After a full day of inspecting agroforestry trials, the tour participants enjoyed a memorable meal of Louisiana cuisine at the Homer City Hall before the long bus ride back to Hot Springs. □



LSU scientist Terry Clason was on hand to show the many agroforestry trials underway at the Hill Farm Research Station near Homer, LA, during the sixth agroforestry conference tour. Photo: M. Merwin

Web  Extra

## ► **Annual and Board Meetings**

took office at the meeting.

After the minutes of the last meeting were approved, Treasurer Sandy Hodge presented copies of the financial statements from 1998 (see box). It was suggested that an Audit Committee be appointed to review the bookkeeping records and financial statements.

The Directors briefly discussed the current and future agroforestry conferences. Catalino Blanche said that the Hot Springs conference attracted more than 130 participants from ten countries. The directors reviewed some planning aspects for the 2001 conference in Canada. AFTA will provide a small loan of seed money to the conference organizers with the expectation that it will be returned.

Execution of the contract with the National Agroforestry Center to prepare a strategic plan for the future of agroforestry was discussed. Directors felt that the funding provided was inadequate given the scope of the project as originally envisioned. It was agreed to ask for revisions in the contract in consultation with NAC. (Subsequent to the Board meeting, AFTA officers met with representatives of NAC and reached agreement on a blueprint for the completion of a strategic plan for agroforestry which the Board will pursue over the remainder of the year.)

## ► **President's Message**

From top to bottom and side to side, this is an organization of volunteers. As such, AFTA's success is dictated by the energy and commitment of its membership. I hope that you will join me in seriously considering where we can best apply our talents in leading AFTA into the next millennium.

In the interest of space I'm going to save a couple of items for the next newsletter. As I look at our organization, I see that we are at an awkward stage in development. Almost too large with too many important goals to function effectively with a volunteer force, yet our financial situation dictates that we continue to operate in this manner. In the next newsletter I will discuss how your elected leadership plans to address this critical issue.

### **Sixth Conference a Hit**

Finally, a few words regarding the "6<sup>th</sup> Conference on Agroforestry in North America" recently held in

Treasurer Sandy Hodge told the Board that she has made contact with a graphic designer in Columbia who may be able to work on a new logo for AFTA. As a backup, Jim Brandle offered to contact a designer in Lincoln.

The directors briefly discussed the suggestion raised during the members Annual Meeting to make the Directors at Large synonymous with the Regional Council. As a first step, the Board asked that a geographic break-down of members be created so that new boundaries for the Regional Council could be drafted.

### **New Committees Created**

A committee was appointed to prepare a conference planning workbook to help guide organizers of future North American Agroforestry Conferences. The following directors were appointed to the committee: Sandy Hodge (chair), Mel Baughman, Jim Brandle, Scott Josiah and Miles Merwin.

The Board discussed a draft proposal to create a Fund Development Committee for AFTA. The FDC's mission is to provide guidance to the development and implementation of AFTA's funding strategy. The Directors revised and approved the document to create the committee, and appointed the following as initial members: Miles Merwin (chair), Jim Chamberlain, Gene Garrett, P.K. Nair and Henry Pearson. □

Hot Springs, Arkansas. If you were unable to attend, you missed an excellent conference. I have had the privilege of attending only the 4<sup>th</sup> and 6<sup>th</sup> conferences, and I found both to be among the best I have ever attended, both in terms of a wonderful group of conference attendees and the variety and quality of papers presented.

As an old "windbreak forester", I am absolutely astounded by the explosion of information achieved through agroforestry research in the last decade. A copy of the proceedings of the 6<sup>th</sup> conference will be a must for anyone interested in agroforestry in North America.

### **When in Northern Louisiana ...**

That's all for this issue. Until next time, keep up your best efforts on behalf of agroforestry, and if you find yourself in northern Louisiana, be sure and use a little insect repellent around your ankles. I discovered they have something called "red bugs" (chiggers) down there. □

# The Cultivation of Medicinal Plants in Agroforestry Systems

By Martin Crawford, Agroforestry Research Trust, UK

Agroforestry systems have the advantage over standard agricultural systems in that there are a wide range of microclimates ranging from near full sun (in the center of wide alleys in alley cropping systems) to partial sun (the edges of alleys, between trees in orchards or forest gardens, on the northern side of clearings in forest gardens forest farms) to full shade (in the understory of forest gardens and farms, or on the north side of a plantation or E-W alley tree line). A specific crop should thus be able to be located in near ideal conditions as close to its natural habitat as possible.

## Planting

On a field scale, planting may present some problems. Sowing of seed is possible for some species (using precision drills used in vegetable production), but leads to almost certain use of undesirable herbicides. For plants propagated by stolons (root cuttings - eg. mints), planting machines must be adapted. The simplest method is to machine plant young plants grown in blocks.

## Weed control

Good weed control for low-growing species is essential to ensure that the harvested product is pure and not contaminated with weeds. Most growers of medicinal plants do not follow organic principles and apply numerous doses of herbicides for weed control. Instead of this we advocate the use of mulches, which is more labor intensive and more expensive, but leads to uncontaminated plants and soils. There is an increasing market for organically-grown herbs with higher returns to offset increased costs.

For trees and shrubs, permanent mulches of leaves, bark or other organic matter are easily used and will maintain optimal soil conditions. For herbaceous perennials, if they are to be cut high enough to be quite clear of any mulch, permanent mulches should also be used. However, if they are notably susceptible to slug and snail damage, then seasonal mulches from late spring to autumn are a better idea.

Low growing perennials are difficult to mulch without the mulch itself contaminating the aerial parts of the plant. It is best not to use high-nitrogen materials for mulching. Other methods of weed control used by organic growers include the use of brush hoes, growing plants through porous polythene mulches, and using

ridges as for potato growing.

## Use of varieties

Several of the more common perennial medicinal plants (eg. mints) have had varieties selected for higher amounts of medicinal compounds or purer ratios of essential oils. Most of the selection has been made by medicinal plant growers themselves and few of them are easily available on the market, but they are worth considering if a source can be found.

## Ecological factors affecting yields

With many agricultural crops, increasing yields through biomass production is the main aim, but this principle does not translate directly to secondary plant products (i.e., medicinal compounds in plants). Increasing the plant biomass per unit area does not necessarily increase the amount of these compounds per unit area. The following factors should be taken into account to understand the ecological influences on medicinal plants:

- The generation of active substances is basically connected to the metabolism of the plant,
- Differences of ecological requirements occur between species and often within species, leading to differences in the active compounds.
- The influence of ecological factors on the generation of active substances is complicated by the fact that the amounts and ratios of active substances change over time during the growing year and the life of the plant.

## Light

The intensity and duration of light available has a pronounced effect on the production of active substances.

In general, for species which are naturally sun-demanding, reduced light intensity (e.g., by being part shaded) or duration (e.g., by cultivating further North than naturally found) reduces yields of active substances and can also alter their relative amounts in the plant. For example, in peppermint, yields of essential oils fall in proportion to the light intensity. Cultivating it in 50% shade conditions will still yield significant quantities of oils but not enough for economic viability. This has important consequences

for agroforestry systems in which medicinal plants are being grown: sun-demanding medicinal plants are best situated either in the upper canopy layer - i.e. tree crops - or should be grown in the sunniest sites, in the center of alleys between trees or in sunny clearings.

For shade-tolerant medicinal plants the situation is quite different. In these, the active substances are produced in conditions of low light intensity and the duration of light is less important. Increasing the light available to these plants may increase the proportion of active substance, but it will also stress the plants and may well reduce biomass production. If so, overall active substance production may not increase and the plant may also be more prone to pests and diseases. It obviously makes sense to site shade-tolerant plants in situations to which they are adapted. These plants, then, can be used more widely in agroforestry systems in the shrub and perennial layers and in shadier sites such as the edge of alleys and the northern edges of clearings.

### Temperature

The influence of temperature is relative, depending on the optimum temperature of a given species. Above or below that temperature, amounts of active substances are likely to fall. The assumption that herbs of Mediterranean origin will only produce high quality essential oils under stressed conditions (i.e., high temperatures, drought, low fertility) is unfounded.

### Water

The connection between active substances and the water supply depends strongly on the species. Deep rooted species like trees and comfrey, and plants of dryland origin like many Mediterranean herbs, do not respond greatly to irrigation. A good site for dryland plants may be a sunny southern edge where tree roots make it a dry location. Other plants, especially those which need a moist site, may require irrigation depending on the climate and season. In continental Europe, most commercial medicinal plant cultivation uses irrigation but in British or other temperate regions it will not be so necessary. Shade-tolerant plants grown in agroforestry systems are unlikely to require irrigation.

### Soil

The soil has a complex influence on plants through its physical, chemical and biological properties. A

healthy soil usually leads to healthy plants and this adage can be applied to medicinal plants too. Soils should be tended to raise and maintain organic matter levels and to be able to supply sufficient nutrients for the plants. Nitrogen applications increase biomass yields, but effects on the essential oil quality and content are much smaller or negligible; the therapeutic strength of many medicinal plants is reduced by feeding.

### Harvesting

Medicinal plants are harvested for use fresh, for drying or for the extraction market - mainly the latter two. Commercial growers need to correctly time harvest to get both abundant and quality crop yields. Different species have specific stages of growth at which they should be harvested, and the content and composition of essential oils and other active ingredients varies during plant development. Oil content is usually highest in the morning, depending on the light and temperature conditions. For most species, peak oil content coincides with flowering. Plant materials for drying should be harvested on dry warm days after any dew has evaporated. Avoid crushing harvested materials.

Foliage is harvested by hand with sickles/scythes or in larger fields with mechanical cutters (e.g., sickle bar mower or disc mower) then raked up. For most species, leaves are harvested before the flowers are fully open; they should be clean and free of pests. When harvesting perennials or small shrubs, it is best to leave some basal leaves to help them recover and enable a further crop later in the season.

Flowers are usually picked by hand or sometimes with a simple hand harvester of the type used for picking berries. They are best harvested when first open fully and placed loosely in an open basket.

Fruits or berries require harvesting when fully ripe but not over-ripe; they should be dry and free from bits of bark or leaf. Seed crops are usually harvested with a combine when ripe. Some species, with seed pods that shatter, must be harvested slightly under-ripe. Roots can be harvested with a hand fork or by using a mechanical digger such as a potato digger. They are usually harvested in the autumn, when the top of the plant is dying down.

If collecting medicinal plants from the wild make sure that you have the landowner's permission, that you have correctly identified the species, and never

**Continued ►**

# Alley Cropping Improves Returns for AR Pecan Grower

By Miles Merwin

Bob Carruthers is showing his neighbors by example that agroforestry can be profitable. By planting alley crops within his pecan orchard, Bob expects to break even on the costs of establishment years earlier than under conventional pecan production.

Participants in the field tour preceding the Sixth North American Agroforestry Conference visited Bob's 80 acre pecan orchard near Morrilton, Arkansas. In 1995, he planted 3000 grafted trees of several different varieties, selected for different ripening times and for cross pollination. The trees were planted in rows 60 ft. apart and 35 ft. apart within the row. Microsprinklers were installed in each row to provide a consistent supply of irrigation to each tree.

As the trees mature, Bob will train and prune them to facilitate mechanical harvesting, removing one-third to one-half of the live crown. At age 22, he plans to thin the trees within the rows, leaving a final spacing of 60 by 70 ft.

Bob farms alley crops between the tree rows using no-til methods and alternates between wheat and soybeans. Although at current prices wheat provides better returns, the bean crop helps improve soil nitrogen and maintain cash flow, he said. As the trees mature

gather all the specimens of the species in a given locality - leave enough to ensure its continued survival in the area.

## References

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and cast more shade, the soybeans will be phased out, he said, in favor of wheat which can be grown longer in the rotation. The straw residue remaining after grain harvest is raked around the trees for mulch and to improve soil texture.



Bob Carruthers (L) describes the alley cropping system in his pecan orchard near Morrilton, Arkansas to ARS scientist Catalino Blanche and other participants in the pre-conference tour. Photo: M. Merwin.

Alley crops grown under his pecans are producing about 17% less than in full sun, according to Bob. However, he said that his irrigation costs are about 43% lower than conventional orchard spacing.

At current prices, he said that pecans wholesale for \$0.60-\$1.00 per pound in shell and retail in shell for \$1.50 per pound. Bob said that he plans to purchase a mechanical sheller to add value to his pecan crop and improve his return. He expects to achieve full production of 100-150 pounds of nuts in

shell per tree at age 15-17 years.

While Bob originally foresaw breaking even on all his establishment costs after 13 years, he said that he is now on track to achieve that goal two to three years earlier. The cash flow generated by the wheat and soybeans exceeds his annual costs and helps recover the initial investment in orchard establishment earlier than without alley crops.

"Sustainable agriculture must be profitable," Bob said. "We can grow many different crops (under the

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### **Agroforestry Conference Proceedings**

The proceedings of the 5<sup>th</sup> North American Agroforestry Conference, held at Cornell University in 1997, are in press and will soon be available. Everyone who registered for the conference at Cornell will receive one copy of the proceedings by mail; if you have moved within the last two years you may wish to update your address with the conference organizers. Copies of the proceedings will also be available for purchase. For more information, consult the AFTA web site or contact Dr. Louise Buck, Natural Resources Dept., Fernow Hall, Cornell University, Ithaca, NY 14853, Tel. 607-255-5994, Email: leb3@cornell.edu.

### **Temperate Bamboo Quarterly**

This quarterly journal, published by AFTA members Adam and Sue Turtle, is an excellent source of practical information on growing and using bamboo in temperate climates. Some of the topics covered include bamboo farming, siting and confinement, insects and diseases, management and nutrition, bamboo identification, relative cold hardiness, research, and utilization. Each issue has a calendar of events related to bamboo growing, a literature review and reader's forum. Subscription prices start at \$28 annually.

For information, contact Adam and Sue Turtle, Temperate Bamboo Quarterly, 30 Myers Rd., Summertown, TN 38483-7323.

### **► 1999 Agroforestry Award**

lasting impression on those who meet him.

Dr. Garrett has worked successfully to make agroforestry visible to legislators and policy makers resulting in the first state legislation recognizing agroforestry. His efforts led to funding for a large floodplain initiative focusing on riparian buffers, which has resulted in new partnerships with agencies and institutions. He also played a leadership role in establishing the Center for Agroforestry at the University of Missouri which now has over 30 interdisciplinary faculty conducting biophysical and social research in agroforestry. And, he was instrumental in the establishment of the National Agroforestry Center partnership in Lincoln, Nebraska.

### **Southern Agroforestry Conference**

The proceedings of the Southern Agroforestry Conference, held October 19-21, 1998 at Huntsville, Alabama are available for purchase. Contact Dr. Phil Cannon, Alabama A&M University, P.O. Box 1208, Normal, AL 35762.

### **Practical Guide to Growing Ginseng**

This 63-page book, authored by Robert Beyfuss of Cornell University Cooperative Extension, focuses on growing ginseng in a naturally forested environments, rather than under artificial shade. Topics include seed production and conditioning, pests and diseases, drying the roots, seed source lists, and equipment.

To order, send a check \$6.00 (postpaid) to Robert Beyfuss, R.R. 1, Box 126 N, Freehold, NY 12431.

### **Paulownia in Australia**

Paulownia is a fast-growing tree that has potential to produce harvestable timber in six to eight years. This report brings together current knowledge and experience in growing paulownia, including the timber's properties, market situation, and production and processing issues. It also provides useful information on the costs of establishment, maintenance and harvesting, and likely returns.

*Paulownia: A Commercial Overview*, 1999. Price A\$19.95 plus shipping. Contact Landlinks Press, P.O. Box 1139, Collingwood, Vic. 3066, Australia, Fax: +61-39-662-7555, Email: sales@publish.csiro.au. □

For many in the forestry and agricultural community, when the word "agroforestry" is mentioned, they automatically think of Gene Garrett. He is a founding member of the Association for Temperate Agroforestry (AFTA) and served the organization in many capacities, from steering committee member to president. He was lead editor on a temperate agroforestry book designed for college students and natural resource professionals. Gene sets the example in educating students, professionals and landowners about the benefits of agroforestry.

For all his efforts in the advancement of agroforestry, we commend Dr. Harold E. "Gene" Garrett by presenting him the 1999 Terry Johnson Agroforestry Award." □

# West Virginians Receive 1998 Johnson Agroforestry Award

Bill and Elsie Slagle of Bruceton Mills, WV were recently recognized for their "outstanding accomplishments in the advancement of agroforestry science, adoption and practice" as recipients of the 1998 Terry Johnson Agroforestry Award. The award, co-sponsored by the National Woodland Owners Association and the USDA Natural Resources Conservation Service, is given annually in memory of the late NRCS forester, Terry Johnson.

Their achievements were given further recognition that year when their farm, Walnut Meadows, was named West Virginia's Tree Farm of the Year, under the American Tree Farm System. The following information from the WV Tree Farm Committee gives an overview of the Slagle's many activities.

Walnut Meadows Farm has been in Bill Slagle's family for over 200 years. The farm was handed down from Bill's great, great, great, great grandfather. Bill's blind father taught him at a young age how to make a living from their woodland. Bill's family harvested floral greenery from the farm for sale in nearby cities.

Walnut Meadows is located in Preston County, West Virginia on the Maryland state line. A multiple-use forest management plan was developed for the property in 1960. A revised Stewardship Plan was developed in 1992. The woodland was certified as a Tree Farm in 1987.

Over the years, fire lanes have been cleared, planting sites prepared, trees and seeds planted, areas thinned, pruned, and harvested. A pond on the property can be used as a source of water during wildfire emergencies. The production of ginseng and Shiitake mushrooms has become an integral part of their tree farm operation in recent years. Special plantings of Black Walnut and Paulownia are also showcased.

Walnut Meadows is home to a wide variety of wildlife species from abundant songbirds to upland game species such as deer, bear, and wild turkey. Improved access has made the tree farm attractive for hunting,

hiking, and other recreational activities. Birdwatching is also a popular pastime. The Slagle's have built and distributed bluebird and screech owl boxes to hundreds of area landowners. Protecting water quality is also a very important tree farm objective because of the forest-based Shiitake mushroom operation.

During their years of forest ownership, the Slagle's have always demonstrated their commitment to sustainable forestry. What began with "looking for a new way of doing things" has grown into a legacy that will be passed down to their children as well as the many young men and women who have received "hands-on" training from Bill and Elsie. The Slagle's continue to open their home to young people from 11 walks of life - giving them a place to come, work hard, and learn something.

To accomplish their forest management objectives, Bill and Elsie have worked with a variety of resource professionals, private consultant foresters, university professors, and Tree Farmers from all over the country.

## Tree Farm Highlights

- Pole sized oak logs removed during thinning and salvage operations are used in the production of Shiitake mushrooms.
- Ginseng is grown under a thinned forest canopy on approximately 7 acres of the Tree Farm.
- Over 10 acres of have been planted to walnut and other valuable hardwoods. These plantings are intensively managed. Bill prunes and thins the stands annually.
- Salvage cuttings have been performed to remove trees killed by repeated gypsy moth infestations.
- Three acres of white pine were planted 50 years ago. Several thinnings have taken place and additional thinning is planned for the future. □

*Thanks to Barbara McWhorter, NRCS, for help with this article.*



*Bill Slagle, co-recipient of the 1998 Terry Johnson Agroforestry Award, inspects roots of ginseng plants cultivated beneath forest trees on his West Virginia tree farm. Photo: NRCS.*



## Internet Resources

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### Job Announcements on AFTA Web

[www.missouri.edu/~afta/](http://www.missouri.edu/~afta/)

As a service to members, AFTA will now post announcements of jobs related to agroforestry on its web site. Look for them under the "What's New" section. AFTA relies on employers to send us job listings, so this is not meant to be a comprehensive compendium. We encourage employers in both the private and public sectors to advertise announcements of job opening on the AFTA website; please inform the personnel department in your institution about this free service. Send job announcements and contact details by email to the Editor ([mlmerwin@teleport.com](mailto:mlmerwin@teleport.com)).

### Non-Wood Forest Products

[www.fao.org/waicent/faoinfo/forestry/nwfp/non-wood.htm](http://www.fao.org/waicent/faoinfo/forestry/nwfp/non-wood.htm)

Non-Wood Forest Products (NWFP) is a program of the United Nations FAO Forestry Department which aims at enhancing the sustainable utilization of NWFP in order to contribute to the wise management of the world's forests and the conservation of their biodiversity, and to improve food security for rural people. Visitors to this site will find a newsletter, publications list, project descriptions and current activities. The Non-Wood Forest Products Information System, avail-

able on this site, contains data on organizations and individuals working in the field of NWFP worldwide.

### Landlinks Press

[www.landlinks.csiro.au](http://www.landlinks.csiro.au)

Landlinks Press is the publishing arm of Australia's CSIRO for information on rural resource management. In addition to books on a variety of farming topics, Landlinks has a growing list of titles on agroforestry in Australia. Although geared to an Australian audience, these books will also be of interest to land managers in Mediterranean and dry temperate climates. Examples of current titles include "Alley Farming in Australia," "Design Principles for Farm Forestry," and "Tree Performance Databases and Selection Systems."

### Permaculture Home Page

[www.permaculture.net](http://www.permaculture.net)

Anyone interested in permaculture will find information here on organizations, resources, volunteer opportunities, training courses, internships, resource bin, volunteer opportunities, and classes. You'll also discover how to order copies of the American Permaculture Directory which details current activities of permaculture societies in the US.



## Mark Your Calendar

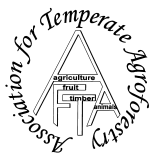
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**Soil and Water Conservation Society**, August 8-11, 1999, Biloxi, Mississippi. "Walk on the Wild Side," theme of this year's annual conference, will feature presentations related to three topics: soils, environmental quality, and wildlife and wetlands. Contact SWCS, 7515 NE Ankeny Rd., Ankeny, IA 50021, Tel. (515) 289-2331, Fax (515) 289-1227, Web [www.swcs.org](http://www.swcs.org).

**Society of American Foresters National Convention**, Sept. 11-15, 1999, Portland, Oregon. For information, contact SAF: Tel. 301-897-8720, Fax 301-897-3690, Email [safweb@safnet.org](mailto:safweb@safnet.org), Web [www.safnet.org/calendar/natcon.htm](http://www.safnet.org/calendar/natcon.htm).

**FAO International Poplar Commission**, 21<sup>st</sup> session, Sept. 24-30, 2000, Portland, Oregon. "Poplar and willow culture: meeting the needs of society and the environment." For information, contact Jud Isebrands, USFS Forestry Sciences Lab, 5985 Hwy. K, Rhinelander, WI 54501, Tel. 715-362-1116, Fax 715-362-1166, email [jisebran@newnorth.net](mailto:jisebran@newnorth.net).

**Seventh Conference on Agroforestry in North America**, August 16-18, 2001, Regina, Saskatchewan, Canada. Watch for more information on the AFTA website and in the newsletter.



Association for Temperate Agroforestry Inc.  
The Temperate Agroforester  
P.O. Box 266  
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## *The Seventh Conference on Agroforestry in North America and The Annual Conference of The PPFA*

A combined conference for the  
Association For Temperate Agroforestry (AFTA) and  
the Prairie and Plains Forestry Association (PPFA)

Conference Theme: "Temperate Agroforestry: Adaptive  
and Mitigative Roles in a Changing Climate"

August 16 -18, 2001 Regina, Saskatchewan, Canada



Plan now to attend. Conference will include a tour of Agriculture and Agri-Food Canada's PFRA Shelterbelt Centre at Indian Head, Saskatchewan, and visits to wildlife plantings, shelterbelts, riparian areas, SRWC, and other agroforestry sites in the region.

Sponsor: PFRA Shelterbelt Centre, Indian Head, Saskatchewan, Canada SOG 2K0, Tel.: (306) 695-2284, Fax: (306) 695-2568. Contact: John Kort, Email: Kortj@em.agr.ca

- AFTA website: [www.missouri.edu/~afta/afta-home.html](http://www.missouri.edu/~afta/afta-home.html)
- PFRA Shelterbelt Centre website: [www.agr.ca/pfra/shbgene.htm](http://www.agr.ca/pfra/shbgene.htm)