

# Inside Agroforestry



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Since it was funded in 1988, the USDA's Sustainable Agriculture Research and Education (SARE) program of USDA Cooperative State Research, Education, and Extension Service (CSREES) has sponsored thousands of projects to explore and apply economically profitable, environmentally sound, and socially supporting farming systems. Beginning in 1999, NAC and US Forest Service Cooperative Forestry began partnering with SARE to provide specific agroforestry funding within the SARE Producer Grant Program. These targeted funds allow the four SARE regional offices to solicit and fund proposals for agroforestry demonstration projects. This issue of *Inside Agroforestry* introduces you to SARE and gives you some ideas that might work for landowners in your area.



## Agroforestry: Part of a sustainable future for agriculture

People are motivated to move to a more sustainable agriculture for a variety of reasons. A survey by *The New Farm* magazine indicates that the greatest single motivating factor for a landowner to implement sustainable agricultural practices is cutting production costs, since inputs into sustainable agricultural systems are often lower than inputs into conventional systems. The second greatest motivating factor is concern for family health. Other factors include, concern about livestock health, a strong land stewardship ethic, a desire for independence, and quality of life issues. Peer pressure may also play a significant role in landowner's decisions to implement certain practices or discontinue others.



A gradual transition to sustainable agriculture minimizes profit risks.

Sustainable agriculture is a growing movement that has emerged during the past two

see **SUSTAINABLE FUTURE** on page 11

### Inside

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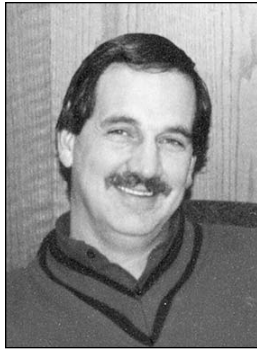
SARE PROJECTS  
ACROSS THE COUNTRY

GET YOUR PAWS ON  
SOME PAWPAW

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1<sup>ST</sup> WORLD CONGRESS  
OF AGROFORESTRY



# NAC Director's Corner

A commentary on the status of agroforestry by NAC Director, Dr. Greg Ruark

## Why SARE?

Agroforestry has long been recognized as a sustainable approach to agriculture in tropical and developing countries and in the past decade it has been gaining in acceptance in our country. However, farmers and ranchers often need to see how a practice works on land that is similar to theirs and with a neighbor who shares many of the same social and economic considerations. Five years ago NAC was looking for a better way to establish agroforestry demonstrations projects across the United States and to insure that they were selected on the basis of merit.

In 1999, the Sustainable Agriculture Research and Education (SARE) Program housed in the USDA Cooperative State Research, Education, and Extension Service (CSREES) became our partner.

One of SARE's grant programs promotes on-farm research trials and demonstrations. This allows new ideas that originate with landowners and natural resource professionals to be tried, evaluated, and shared with others. An added benefit is that in addition to a technical evaluation of a practice, it is better understood how and if a new practice can fit into on-going farm operations. For the past five years, NAC (through the US Forest Service Cooperative Forestry Program) and SARE have partnered 1:1 to provide \$100,000 annually to support Farmer Producer Grants for 63 agroforestry demonstrations in 27 states. These grants are peer reviewed and selected by a panel of farmers and other experts. This issue of *Inside Agroforestry* is devoted to sharing our partnership experience with the SARE Program.



NAC and you

## Completing the technology transfer cycle

Technology transfer assists in translating research into on-the-ground usage of technology. With regard to agroforestry, this means that the USDA National Agroforestry Center and you, a resource professional, are the "in-between" steps.

We believe that one of our jobs is to make your job easier. The agroforesters on staff regularly attend meetings and conferences to keep up-to-date on the latest agroforestry news and technologies. We strive to make this knowledge available to you and provide you with tools to use in educating landowners.

Please visit our web site, [www.unl.edu/nac](http://www.unl.edu/nac), and let us know how we are doing. Are we addressing the issues that are important to you? Send comments to [kstuhbr@fs.fed.us](mailto:kstuhbr@fs.fed.us).



NAC's Technology Transfer Staff. Top row (left - right): Jim Robinson, Greg Ruark (NAC Director), Nancy Hammond, Bruce Wight, Mike Majeski, Gary Wells, Rich Straight, Gary Kuhn. Bottom row (left - right): Kimberly Stuhr, Ryan Dee.

Below are some of the products that are available to you, free of charge:

- *Working Trees* brochures and displays
- Quarterly newsletter, *Inside Agroforestry*
- Technical note series, *Agroforestry Notes*
- Videos and slide shows (loan copies)

Take advantage of NAC's products and take part in completing the agroforestry technology transfer cycle. Together we can make our world more sustainable.





# SARE grants: A brief overview

On-farm research trials involving producer collaboration with agricultural resource professionals have been a component of many SARE-funded projects since the program's inception. Recognizing that producer interest was growing, SARE's North Central Region began directly funding innovative projects from farmers and ranchers in 1992. By 1995, each SARE regional administrative council had picked up the idea, offering grants that typically run between \$1,000 and \$10,000. Producer grants are available annually, with application deadlines varying by region (see map above).

Farmers, ranchers, or tribes can propose projects that examine alternative sustainable crop and livestock systems and marketing methods. A portion of the Producer Grant funds target the establishment of agroforestry practices or

exploring novel ways of integrating trees and shrubs into agricultural systems.

In three SARE regions a variation of the Producer Grants have been added that are directed at agricultural and natural resource professionals. These grants, Partnership Grants (Northeast), On-Farm Research Grants (Southern) and Agricultural Professional & Producer Grants (Western), are coordinated and led by agriculture professionals in close cooperation with an agriculture producer.

According to Ken Schneider, North Central region SARE Producer Grant Program Coordinator, "outreach is a part of the grant agreement. We hope that other producers can benefit from each project and can ultimately help them become more sustainable. Past projects ultimately serve as a demonstration site, a model for other producers to get ideas."

## SARE project funding

**Producer Grants** - This is where NAC's funding is applied. Producers apply for funding of on-farm research or demonstration projects that typically run between \$500 and \$5,000. Although producers must submit the proposal, natural resource professionals may assist.

**Research & Education Grants** - Awarded since 1988, these grants fund projects - generally ranging from \$30,000 to \$200,000 - led by universities or nonprofit organizations in an interdisciplinary approach.

**Professional Development Program Grants** - First funded in 1994, these grants sponsor professional development in sustainable agriculture concepts and practices, using workshops, tours and meetings for the Cooperative Extension Service, the Natural Resource Conservation Service, and other agricultural professionals.

If you are interested in learning more or applying for a SARE grant, visit SARE's web site at [www.sare.org](http://www.sare.org).





#### Fiscal Year 1999

- Iowa. Oak Savanna restoration - diversity in a rotational grazing system
- Iowa. Crop bearing windbreak/shelterbelt project
- Minnesota. Growing various species of Angelica as a forest crop in the Midwest
- Missouri. Brambles and Sassafras agroforestry project
- Missouri. "Scoto Sand" agroforestry demonstration
- South Dakota. Improve grazing profits by marketing cedar

#### Fiscal Year 2000

- Michigan. Building a thermal blast peeler to prepare chestnut for on-farm, value-added processing
- Minnesota. Evaluation of Christmas tree varieties for northern Minnesota
- Missouri. Growing medicinal mushrooms on hardwood stumps and tops
- Missouri. Strategically thinning a pecan orchard and use of the by-product for sustainable management
- Ohio. Best cultivation practices for at-risk medicinal herbs
- Ohio. Increasing production in native stands of Paw Paws
- South Dakota. Kiyaska timber salvage and restoration project

#### Fiscal Year 2001

- Missouri. Increasing farm production by converting fenceline brush to agroforestry
- Missouri. Maximize returns on marginal ground using silvopastoral management practices with Chestnut trees, rare breed sheep, and guard llamas
- Iowa. Potential markets for the prairie's edge sustainable woods cooperative
- Minnesota. Marketing sustainable wood products
- Ohio. Using animals to manage pawpaw patches
- Nebraska. The establishment of nut and timber species with varying cultural methods into crop acres (conversion) production of a viable economy with less chemical inputs

#### Fiscal Year 2002

- Ohio. Agroforestry practices of ginseng and goldenseal in natural stand of hardwood forest trees
- Ohio. Research and development of a small farm maple syrup operation in Jefferson Township, Montgomery County, Ohio
- Kansas. Using agroforestry to winter cattle
- Minnesota. Promoting healthy maple forests
- Minnesota. Utilizing water conservation and infiltration for Black Walnut production

#### Fiscal Year 2003

- Minnesota. Developing a Saskatoon market in the Upper Midwest
- Missouri. Agroforestry application of non-timber forest species - nursery growers cooperative
- South Dakota. Growing native fruits of the North Central region



#### Fiscal Year 1999

- Guam. Evaluation and implementation of nitrogen-fixing species in hedgerow intercropping

#### Fiscal Year 2001

- Northern Marianas. Luta windbreak/agroforestry project
- Washington. Tilth-agroforestry niche demonstration project

#### Fiscal Year 2002

- Colorado. Propagation of Colorado native plants
- Washington. South Whidbey-Tilth forest restoration for sustainable wildcraft production
- Alaska. Propagation of Alaskan native plants for landscape and restoration use
- Native American agroforestry studies initiative

#### Fiscal Year 2003

- Hawaii. Grow your own sustainable barn
- Idaho. Ovine browsing for brush control of forested environments
- Washington. Riparian buffers: function, management, and economic implications for agriculture





### Fiscal Year 1999

- Maryland. Ginseng dead-heading: determining the effects of removing seed-producing flowers from woods-grown ginseng
- New York. Propagation of superior, straight-growing Black Locust through agroforestry
- New York. Creating a demonstration agroforestry field
- West Virginia. Ginseng grown under Paw Paw trees making the farm profitable using agroforestry
- West Virginia. Integrated forest farming: medicinal herb cultivation, mushroom production, and forest restoration
- West Virginia. Making the farm profitable using agroforestry

### Fiscal Year 2000

- Maine. Improving financial returns in an orchard's life through alley cropping
- Massachusetts. Multi-purpose windbreaks for protection of vegetable crops and production of fruit and/or nut crops
- New York. Using straight-growing Black Locust in on-farm agroforestry production
- West Virginia. American chestnut field trials

### Fiscal Year 2001

- New York. Enhancing meat goat production through controlled woodland browsing

### Fiscal Year 2002

- Connecticut. Increasing small farm profits with American Chestnut production and silvopasture
- Maine. Silvopasture
- Maine. Comparing the input costs and economic returns of a planted windbreak in central Maine
- New York. Growing gourmet mushrooms on woodland wastes
- Vermont. pH and calcium requirement in woods-grown organic goldenseal (*Hydrastis Scandensis*)

### Fiscal Year 2003

- Maine. Broadcast planting techniques for large ginseng acreage
- New Hampshire. Reclaiming pastureland for diversified fruit/maple production.
- Massachusetts. Silvopasture in the Northeast
- Pennsylvania. Growing native ginseng for conservation and profit



### Fiscal Year 1999

- North Carolina. Use of low-value hardwoods for shiitake mushroom production
- North Carolina. Oriental persimmons and paw paw: two sustainable crops for the south
- Puerto Rico. Demonstrating the benefits of agroforestry practices on family farms

### Fiscal Year 2000

- Georgia. Cover crops for Christmas Trees and other orchard crops
- Kentucky. Marketing timber after adding value through the use of one-person sawmills and solar kilns

### Fiscal Year 2001

- North Carolina. Ginseng production utilizing Natural Fungicides

### Fiscal Year 2003

- North Carolina. Dairy goat woodland grazing project
- Puerto Rico. Puerto Rico shade grown coffee project
- Florida. Performance of various forage combinations under thinned pine canopies in North Florida



**“Using agroforestry systems to increase the productivity and sustainability of tropical lands will be of increasing importance in the next century.”**

Bruce Matthews, University of Hawaii

*Editor's Note: Although the focus of this issue of Inside Agroforestry is on SARE Producer Grants, agroforestry projects have also been funded through Professional Development Program (PDP) Grants. A PDP grant, like the Agroforestry Guides described above, can substantially increase the spread of agroforestry information.*

In that vein, the manuals detail how nitrogen-fixing trees and shrubs allow growers to reduce reliance on costly commercial fertilizer imported from the mainland. They explain growing methods for alternative crops such as ginseng and shiitake mushrooms, which thrive in tree stands and bring a premium in the marketplace. They describe

how trees such as coral and monkeypod shelter coffee, tea, pineapple, taro, and kava from too much sun and wind. Finally, the guides recommend native species such as Hawaiian koa, that yield fine timber, although it takes a few decades to grow to maturity.

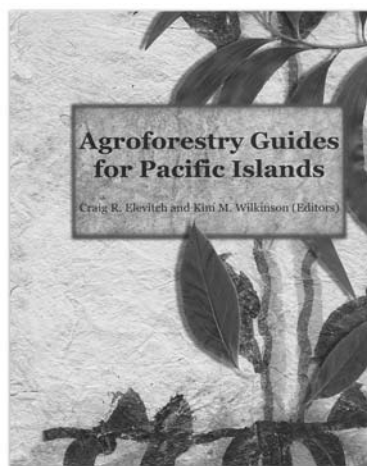
*Agroforestry Guides for the Pacific Islands* were developed by Permanent

## Western Region: Professional Development Program Grant

# Mixing trees with tropical plants offers new revenue

Integrating trees into agricultural operations, particularly in the Tropics, can both lower the cost of production and generate new revenue for farmers. SARE-funded agroforestry experts in Hawaii created a series of eight guides for agricultural educators that explain how to grow valuable timber species, plant profitable niche crops in tree understories, and how to design productive and effective wind-breaks, among other topics.

In 1999, Hawaiian coffee growers earned up to \$1.50 a pound; in 2001 they were getting just .80 cents. The guides are intended to help them and other farmers and ranchers find new, environmentally sound ways to improve profits.



This publication was made possible through a Professional Development Grant from WSARE.

Agriculture Resources, an agroforestry educational organization, and are moving quickly through the island extension system. More than 600 have been distributed, with about 150 being downloaded from [www.agroforestry.net](http://www.agroforestry.net) every month.

“Using agroforestry systems to increase the productivity and sustainability of tropical lands will be of increasing importance in the next century,” said Bruce Matthews, a University of Hawaii professor. The handbooks “will be of immense use as reference materials to our faculty and students.”

For more information go to [www.sare.org/reporting/](http://www.sare.org/reporting/) and search for project EW98-004.





## Western Region

# Alley cropping in Guam; hedgerows benefit crops and soil nitrogen

Hedgerow intercropping is one of the recommended agroforestry farming systems for the Pacific islands, although very little information exists on site-specific implementation techniques. Mari Marutani, Associate Professor of Horticulture for the University of Guam (UOG) teamed up with fellow UOG professors, two USDA NRCS Conservationists, and two producers to experiment with potential hedgerow species. They experimented with seed propagation methods, biomass and seed production evaluation, and susceptibility to and impacts on disease movement. The end result would be the creation of educational materials on plant management of nitrogen-fixing trees for hedgerow intercropping.

Hedgerows are linear plantings of trees and shrubs planted on field borders and across fields to protect crops from damaging winds, which in turn increase crop yields and in some cases crop quality. Hedgerows also create areas of stable, permanent vegetation which help to reduce soil erosion and contamination of surface runoff and groundwater. However, intense storms, increasing land conversion to agricultural production and fires have reduced

the quantity of available tree and shrub seeds and seedlings. Consequently there is a great need to make the most out of all available seed from potential hedgerow species.

In 2001 the evaluation of nitrogen-fixing species for hedgerow intercropping project began at three different sites with distinct soil regimes. The first of three evaluations was to develop a protocol of propagating seed of six potential hedgerow species. The study is completed and the UOG College of Agriculture and personnel from USDA-NRCS in the Pacific Basin are currently evaluating a publication of the results.

The second evaluation was to compare biomass production of eight hedgerow species by taking monthly measurements of production from November 2000 through October 2001. Distinct differences were found between hedgerow species. The study showed that *Leucaena leucocephala* cv. K636 had the highest yield in alkaline soils at two locations. In acidic soil, *Flemingia macrophylla* and *Gliricidia sepium* produced the most biomass.

Monthly observations at the three locations also demonstrated distinct variations of seed production for the eight species of nitrogen-

Hedgerows of *Calliandra calothyrsus* and *Acacia angustissima* enhance production of jackfruit (*Artocarpus heterophyllus*) and create areas of permanent vegetation to protect soil and water resources. (Above, right) One of eight fact sheets on nitrogen-fixing trees for hedgerows. Photograph courtesy Craig Elevitch.

fixing trees. Not surprising, is the correlation between seed production and soil fertility and the plant's adaptability to a particular soil type.

The fourth evaluation was to determine susceptibility of the nitrogen-fixing hedgerow species to insect and disease problems. Although several beetles, mealy bugs and stem diseases were found, none were deemed a serious problem that should discourage further use of hedgerow intercropping.

Two products are being generated from this SARE-funded project. The first comprises the data from the comparison study of nitrogen-fixing trees under different soil regimes. This information was presented at an international conference and as fact sheet for local distribution. The second product is an educational video and pamphlets on managing nitrogen-fixing trees that are being produced for distribution through secondary schools and elsewhere through Guam Cooperative Extension.

For additional information about the project, refer to the Western Region SARE web site: [www.wsare.usu.edu](http://www.wsare.usu.edu)





Native pawpaw stands in Ohio could be a unique way for landowners to diversify and increase their operation profit.

## North Central Region

# Increasing production in *native* stands of pawpaw

Forest Farming can take many forms ranging from the cultivation of ginseng or goldenseal on the forest floor to the intentional management of native forest species like pawpaw in the forest understory. Native pawpaw patches grow wild in Ohio on pasture edges, in riparian zones, and on steep banks in southern Ohio.

In 2000, Chris Chmiel of Integration Acres near Albany, Ohio was selected to receive a North Central Region SARE producer grant. Chris wanted to experiment with increasing pawpaw fruit production in the region by utilizing the existing stands of native pawpaw. Chris says, "One of the best advantages of this system is that it has a relatively low start up cost and has earlier harvest dates. If native stands are available, they may just need to be cleared and paid attention to." Chris has been a certified organic vegetable and fruit producer in this area for several years. Along with fruits and vegetables, Chris produces other non-timber products like shiitake and other cultivated mushrooms, ginseng, goldenseal, and spicebush.

As Chris began networking he discovered that a lot of the research focused on orchard-style fruit production which was different than what he was attempting to do. Eventually Chris formed a group of people who helped with his experiments. He joined the Pawpaw Foundation and met researchers from Kentucky State University. He also met a nurseryman, a GIS Specialist, and a wildlife student who helped with grafting, mapping, and tracking his data.

Once Chris was able to focus on executing his ideas, he selected ten trees as sources for bud or scion wood for grafting onto selected pawpaw rootstock from a nursery, orchard, or other pawpaw patches. Chris observed and kept records throughout the year on growth, pollination, fruit production, taste, weight, color, and size. Chris explains, "I've gained a lot of experience on tagging, collecting data and GIS mapping systems because of this grant. This has all helped to create a strong foundation, and as I continue to gather information over the next few years, I hope to include observations of soil, microclimate, and some other relationships that may increase fruit production."

Next came harvest. Harvesting pawpaw fruit is tricky business since shaking the tree bruises the fruit and won't work if you plan to sell fresh fruit to the public. So, Chris developed a padded pawpaw picker which made the process easier and minimized bruising and he's looking forward to using it during future harvests to make it an even better tool.

As a result of the grant Chris gained a lot of valuable information:

- Over 40 native pawpaw patches were cleared of brush and major competition.
- The scattered patches have been better organized, mapped, and studied.
- Improved pawpaw varieties have been selected and developed through scion wood grafts.
- The patches were seeded with shade tolerant forage to compete with the

invasive vines and shrubs and keep them to a minimum.

- The trees have been organically fertilized using local farm resources.
- Chris's database, data collection, and mapping systems have been greatly advanced.

Chris held a workshop that attracted over 35 landowners from all over southern Ohio and two County Extension agents. It was promoted by local newspapers, radio, and TV stations. The extension agents continue to distribute the brochure Chris developed, *Improving Native Pawpaw Patches*. A volunteer videographer produced several promotional pieces for the pawpaw work that Chris has done and has turned them into a micro-documentary. Chris continues to speak to various groups and has been featured in several publications.

Chris' advice for others: "If you are interested in this type of pawpaw production, I'd say a lot depends on the density of native pawpaw stands in your area. Are there enough native stands to make it worthwhile to cover all the other costs associated with having a business? Are local landowners interested in utilizing edges and 'waste' areas of their farms? It may be an unconventional way of farming, but by utilizing resources that others might not appreciate eliminates the cost of land for you. But, working on other people's land increased my transportation costs and management duties."

For more information, visit Chris' web site at [www.integrationacres.com](http://www.integrationacres.com)





## Northeast Region

# Improving financial returns early in an orchard's life through alley cropping

Along with the Maine Organic Farmers and Gardeners Association (MOFGA), Jack Kertesz, part time tree and shrub grower near Unity, ME, coordinated this SARE grant to evaluate the benefits of managing an orchard as an alley cropping system.

Jack has an acreage but the trial took place on the MOFGA common ground fair site. The group planted a 1.5 acre site with five rows of apple trees on 30-foot center and in rows averaging 230 feet long. Sea Buckthorn, a nitrogen fixing plant that produces berries of commercial value, was planted between the apple trees. Two sea buckthorn shrubs were also planted between each apple tree in the rows, 10 feet from the apple trees and 10 foot between the shrubs. Finally, the long corridors were planted to small grains in year one and to intensively cropped vegetables in year two. For additional protection, Jack planted a filbert windbreak along two sides of the site to reduce winds and direct traffic flow and vantage points. The windbreak is planted on eight-foot centers along 600 feet of the perimeter.

Jack feels that his project “will not only help farmers to diversify farm products but will also enable farmers to evaluate the economics of a similar cropping system

applied elsewhere.” He believes that some of the environmental, social, and economic benefits include:

- Improved crop quality and quantity as a result of enhanced microclimatic conditions
- Reduced excess surface water runoff and erosion
- Improved utilization and recycling of nutrients
- Enhanced aesthetics of the farming operation
- Sequestering carbon: trees are carbon ‘sinks’ and are one viable solution toward protecting our air quality.
- Possible improved pest control as a result of the additional habitat created for beneficial micro organisms
- Enhanced food and habitat cover for wildlife.

Results will be measured by comparing the financial returns for this planting to orchard budgets for newly planted orchards. Establishment and maintenance costs, and early returns will be compared and contrasted in the alley cropped orchard versus the conventionally planted orchard.

For more information, look up project FNE00-328 on SARE's database at [www.sare.org/reporting](http://www.sare.org/reporting)



A fruit orchard alley cropping system may generate additional income earlier than a traditional orchard management system.



## Southern Region

# Ginseng production utilizing natural fungicides

Ginseng can be a very profitable non-timber forest product. However, the harvesting of wild ginseng is regulated to prevent over harvesting. As an alternative, ginseng is frequently grown in beds either in the forest or under shade cloth. These ginseng beds are often planted as monocultures at a high planting density. One of the drawbacks to this approach is the increased incidence of fungal diseases (e.g. *Phytophthora cactorum* - causes leaf blight and root rot) that can result in large plant losses. When commercial fungicides became available for suppressing these fungal diseases, the intensive production of ginseng became possible. The fungicides reduced labor costs and increased profits.

Robert Eidus of Eagle Feather Farm near Marshall, North Carolina is concerned that the ginseng grown using the commercial fungicides has changed the end product and is not a sustainable practice. He is also concerned about the long-term effects of continued use of these chemicals on the individual site and its surrounding area. The goal of Robert's SARE producer grant was to determine the efficacy of possible alternatives to the chemical fungicides. He was aware of prior research that showed goldenseal is able to grow in areas that previously produced diseased ginseng. He theorized that applying a goldenseal tea mixture to a ginseng bed might reduce the unwanted fungal activity. Since other farming practices use horsetail (*Equisetum, spp.*) which is extremely high in silica, as an anti-fungal, Robert decided to include it in the study.

The site for the replicated study consisted of thirty beds in three rows on a north facing wooded slope. The site was protected by a deer fence. Each plot was 2.5 feet by 3 feet with 3 feet by 3 feet over-spray area between the plots. Nine hundred ginseng rootlets were planted in the fall with 30 roots per plot arranged in five rows with six plants per row. The following April the leaf mulch was removed, a plant count taken (674 plants survived) and replants made. The plots were then sprayed with one of the following treatments: 1) goldenseal tea, 2) horsetail tea, 3) micronized compost tea, 4) Oxidate (commercial fungicide), or 5) water (as a control). Each application was scheduled to be sprayed on a weekly cycle. During the establishment period in 2001, the study site was in a drought.

In mid-trial, the plots were vandalized and many of the roots were stolen. Robert would have continued the study for seven years, the usual growing period prior to harvest. However, with only one year of data the results were still promising. The compost tea and commercial Oxidate kept the foliage alive a little longer than the goldenseal sprays, but were similar. The horsetail tea spray was only marginally more effective than the Oxidate and compost tea sprays. For more information, go to [www.sare.org/reporting/](http://www.sare.org/reporting/) and search for project FS01-132, or visit the Eagle Feather Farm web site, [www.ncgoldenseal.com](http://www.ncgoldenseal.com).

**Jeanine Davis, Extension Specialist with North Carolina State University, who assisted Robert with the project, indicated that these initial results warranted further study.**



Shown above, intensively cultivated ginseng under tree canopy shade. Ginseng can be a profitable agroforestry product.





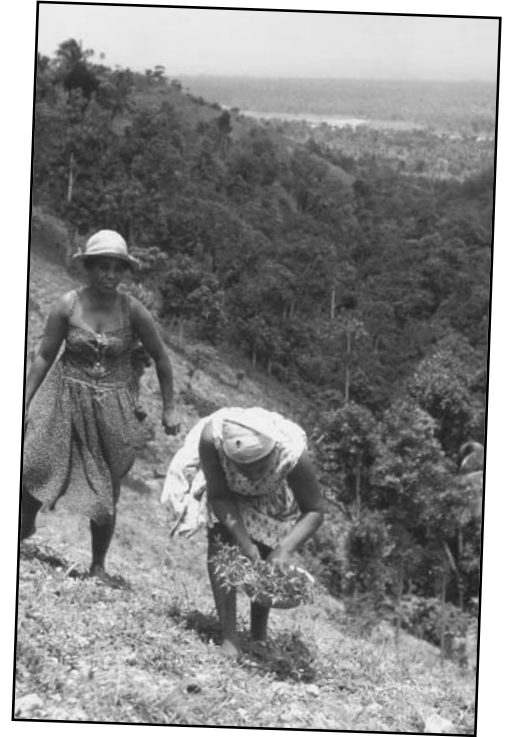
# 1<sup>st</sup> World Congress of Agroforestry

**Working Together for  
Sustainable Land-Use Systems**

**June 27 - July 2, 2004: Orlando, Florida U.S.A.**

Agroforestry attained prominence in the 1970s when the scientific community realized its potential in the tropics. During the 1990s, industrialized countries in the temperate zone began to recognize agroforestry's relevance to solve different environmental and economic problems in the agricultural sector. The first ever Congress will provide a global forum for agroforestry experts from tropical and temperate regions to compare experiences and ideas. Participants will plan future strategies in agroforestry research, education and training, and development.

For schedule, travel information, accommodations, financial assistance, exhibitor information, presentation abstract submission, registration, and Orlando area information refer to: [www.conference.ifas.ufl.edu/wca/](http://www.conference.ifas.ufl.edu/wca/)



## Sustainable Future continued from page one

decades. This movement continues to garner increasing support and acceptance within mainstream agriculture. Not only does sustainable agriculture address many environmental and social concerns, but it offers innovative and economically viable opportunities for growers, laborers, consumers, policy makers, and many others in the entire food system.

Agroforestry helps to further the growth of sustainable agriculture by assisting an agricultural production and distribution system to optimize the management and use of on-farm resources. While reducing the use of non-renewable resources and purchased production inputs, agroforestry assists minimizing adverse impacts on health, safety, wildlife, water quality, and the environment.

Furthermore, agroforestry helps supply an added income and it also promotes family farms and farm communities.

Innovative and sustainable practices continue to come from the sustainable agriculture community. While university research, better commodity programs, and other institutional measure are vital to underpin these efforts, the key to the transformation to an environmentally conscious agriculture is environmentally conscious agriculture is environmentally conscious landowners.



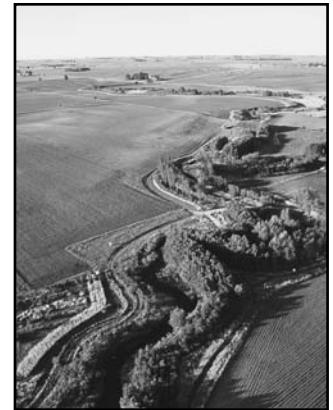
## Riparian ecosystems and buffers: Multi-scale structure, function, and management

American Water Resources Association

Summer Specialty Conference

June 28-30, 2004

The Resort at Squaw Creek, Olympic Valley, CA



A refereed proceedings will be published and distributed at the conference. We invite presentations (both oral and poster) on a wide range of subjects that tie riparian areas and buffers to water resource issues. The breadth and interdisciplinary nature of riparian areas and buffer technology will encompass presentations in these areas:

- Hydrological, geophysical/chemical, biological processes that control and influence riparian ecosystem and buffers development and dynamics
- Riparian and buffer functions related to both water and habitat
- Methods to assess, evaluate and predict status of riparian and buffer processes and functions
- Design approaches to improve or enhance desired functions of riparian systems and buffers
- Economic and social aspects of riparian management
- Case studies of riparian restoration and management

Call for Papers in November, 2003. Papers due January 30, 2004. For more information, go to [www.awra.org](http://www.awra.org)



## Upcoming Events

### October 26-29, 2003

Agroforestry Technical Session: Society of American Foresters. Buffalo, NY .  
[www.safnet.org/convention/index.cfm](http://www.safnet.org/convention/index.cfm)

### November 2-6, 2003

Annual Meetings: American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA). Denver, CO.  
<http://www.asa-cssa-sssa.org/anmeet/>

### March 27, 2004

Tri-State Forest Stewardship Conference. Keokuk, IA. Contact: Hank Stelzer, University of Missouri, [stelzerH@missouri.edu](mailto:stelzerH@missouri.edu)

### June 27 - July 02, 2004

1st World Congress of Agroforestry. Orlando, FL.  
<http://conference.ifas.ufl.edu/WCA/>

## Editor's Notes

All articles were adapted from SARE Producer Grant Summary Reports.

This is a special Summer / Fall double issue of *Inside Agroforestry*. The 2003-2004 Winter issue will focus on how agroforestry creates and connects wildlife habitat. Look for this, as well as a newly revised *Working Trees for Agriculture* brochure, in your mailbox or on our web site soon.

*Inside Agroforestry* is published quarterly by the USDA National Agroforestry Center.  
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## Mission



The USDA National Agroforestry Center (NAC) is a partnership of the Forest Service, Research & Development (Rocky Mountain Research Station) and State & Private Forestry and the Natural Resources Conservation Service. NAC's purpose is to accelerate the development and application of agroforestry technologies to attain more economically, environmentally, and socially sustainable land-use systems. To accomplish its mission, NAC interacts with a national network of partners and cooperators to conduct research, develop technologies and tools, establish demonstrations, and provide useful information to natural resource professionals.

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# Inside Agroforestry | Summer / Fall 2003

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