

# Sustaining the Pacific Northwest

Food, Farm, & Natural Resource Systems

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## Learning to Grow Organic Seed

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The expanding market for organic seed produced by independent farmers has been addressed in recent articles in publications such as *Growing For Market* and *Capital Press*. In 2003, Abundant Life Seed Foundation (ALSF) will offer two trainings in Port Townsend for farmers interested in cultivating seed crops: *Fundamentals of Plant Improvement for Organics*

(March 7-9th) and *Growing Seeds Using Organic Methods* (July 11-13th). The courses evolved from ALSF's *Seed Growers Conference*, where growers and seed companies alike discussed the need for an increase in skills and a sharing of growing techniques. The courses will be taught by ALSF'S Dr. John Navazio, former seed breeder for Alf Christianson Seed. Frank Morton of *Shoulder to Shoulder Farms* in Philomath, Oregon will assist at the July course.

The more advanced *Fundamentals* training is for growers with some experience in seed production, whereas the *Growing Seeds* course is an opportunity for new growers. Both courses teach seed growers the skills necessary for the selection and breeding of seed crops better adapted to organic cropping systems and environmental challenges. When 'farmer selection' is directed towards extremes in climate, crop diseases, and pests, resulting crop varieties will excel under the sustainable techniques utilized by organic growers in a particular region.

Training growers on the basic methods of seed production, as well as the techniques and philosophy of selection for desired attributes, helps to demystify the seed growing process and put it back in the hands of the small

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*World Class. Face to Face.*

## Sustaining the Pacific Northwest

Food, Farm, & Natural Resource Systems

This quarterly newsletter provides a discussion forum for people working towards community-based sustainable food, farm and natural resource systems using interdisciplinary oriented research and practitioner knowledge.

This is a joint newsletter of the WSU [Center for Sustaining Agriculture & Natural Resources](#), the [WSU Food & Farm Connections Team](#), and the [WSU Small Farms Program](#).

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independent farmer. These two courses will emphasize the following areas:

- 1) The nature and history of seed production, its challenges and opportunities, and the intrinsic differences between it and other forms of crop production
- 2) Selection techniques that increase genetic diversity and elasticity of open-pollinated vegetables
- 3) Specific breeding methods to improve the plant's ability to withstand disease and insect attack, as well as drought and cold stress
- 4) Selection strategies for increasing the crop's genetic ability to grow vigorously and retrieve nutrients under cold soil conditions in spring, to compete with weeds during crucial early growth, and to retrieve water under dry conditions in summer
- 5) Selection methods used for self-pollinated vs. cross-pollinated crops and examples of selection and rouging techniques for these different reproductive classes
- 6) Types of selection that can be performed during the vegetative vs. reproductive (seed forming) phases of a plant's development with a strong emphasis on the necessity for improving crops for their reproductive health, fecundity, and seed yielding ability. Various strategies for working with annual vs. biennial crops
- 7) Philosophical concerns and practical steps for increasing the genetic elasticity of crop germplasm

These courses offer farmers opportunities to take control of some of their own seed crops, improve crops for their particular needs, and to learn about the seed business and the expanding potential for seeds as a market crop. If grower response is good, ALSF may offer these courses in Oregon, Califor-

nia, Iowa and New Mexico in 2003 and 2004. Courses run a full three days with one evening session. Each course is limited to 20 participants. The March course costs \$175 and the July course \$200. Organic lunches are included for both. Port Townsend has a wonderful hostel that is less than \$20/night with some private rooms available. Abundant Life can assist in other inexpensive housing options. For more information, or to register for these classes to be held in Port Townsend, Washington, contact [Matthew Dillon](#), P.O. Box 772, Port Townsend, WA 98368. Phone: (360) 385-5660.

## WSU Organic Wheat Breeding Program

[Kevin Murphy](#) & Stephen Jones  
WSU Department of Crop and Soil Sciences, Pullman, WA  
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The *WSU Organic Wheat Breeding Program* grows 163 wheat varieties and evaluates them for traits beneficial to organic farming systems. In addition, the program evaluates crosses of these historical wheats with our modern varieties. The wheat varieties bred will also be of interest to conventional farmers interested in more sustainable practices such as a reduced need for herbicides, fungicides and fertilizers. The program works closely with farmers to test varieties and to evaluate useful traits. The program emphasizes breeding wheat on certified organic farms under the same conditions and systems practiced by the farmer. This research benefits the farmer and the public, and our varieties remain in the public domain.

**Red Fife, Bluestem, Purplestraw, Goldcoin.** These are more than colorful names of historical wheats grown in the Pacific Northwest before

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heavy use of chemicals became the agricultural norm. In their day, these and others were the most productive and widely grown wheat varieties in the PNW. Infused with many useful traits, these old wheats helped the PNW become the wheat-growing region it is today. Many farmers still remember these names and can tell stories, good and bad, of how these old varieties performed. For example, only farmers “who could endure the discomforts during harvest” of a very itchy neck grew **Triplet**, a smut tolerant winter wheat with extremely pubescent awns and chaff.

In addition to stories told by farmers, old agricultural journals provide insight into the characteristics of many of these historical wheats. For example, in the Adams Branch (Lind) Experiment Station’s field notes from 1919, we learn about early disease resistances. The club wheat variety, **Coppei**, beat out all other winter club wheat varieties in resistance to stinking smut (*Tilletia tritici*) while the winter variety **Kharkov** showed 100% resistance to stinking smut in 1919. **Kanred** had the lowest stem rust infection between 1914 and 1922 (*USDA Bulletin # 1276, p.38 & USDA Bulletin #1046, p.17*). Baking and milling qualities were also extensively tested. In 1909 in Idaho Home Baking tests, **Defiance** was characterized as: “dough mixes very stiff, rises quickly. Bread yellowish light, flaky and of good texture. Excellent in every way.” The glowing description for **Turkey Red** talked of: “Flour of better quality than any secured before in Moscow” and “Flour best I ever used.” Also, “in the quality of its flour for bread making, **Marquis** excels all other varieties of hard red spring wheat which are now commercially available” (*USDA Bulletin # 1281, p. 9*). We learn about other traits of agronomic interest as well. For example, **Early Baart** was “superior in yielding capacity for spring wheat; its

drought resistant qualities and ability to produce under unfavorable conditions have been the salvation of the district” (*Adams Branch Experiment Station, 1919*).

*Breeding for Organics.* Between 1840 and 1955, at least 163 varieties of wheat grew in the Pacific Northwest. All of these were grown and selected under organic conditions and exhibited various degrees of genetic elasticity. Though none of these varieties could compete with our modern varieties today, they each potentially possess valuable traits that could significantly enhance the disease resistance, weed competitiveness, and productivity of modern varieties. Variation exists in abundance within the gene pool for a number of traits that may be useful within organic production systems. These traits might be highly effective under organic farming conditions, but unimportant in high chemical input systems. Therefore, they could be ignored and/or overlooked within conventional breeding programs.

For the past 50 years, our food crops have been bred and selected under conditions of high chemical inputs. During this time, many traits of interest to the organic community have likely been bred out of our modern varieties as they became increasingly domesticated. For example, if seeds of breeding lines are routinely treated with a fungicide before planting, useful traits such as

tolerance to stinking smut or resistance to the fungus *Pythium*, which causes damping off, may go unnoticed. In addition, certain wheat varieties might reduce weed pressure (conventionally accomplished with herbicides) through increased nutrient use efficiency, allelopathy, horizontal canopy coverage and/or height development rates.

*This article summarizes a poster presented at the Northwest Symposium on Organic and Biologically Intensive Agriculture in Yakima, Washington on November 8, 2002. For a complete version of the poster, contact [Kevin Murphy](#). Funding for Kevin’s research came from the Organic Farming Research Foundation.*

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### **Northwest Symposium on Organic and Biologically Intensive Agriculture: Advances in Research and Education**

[Carol Miles](#) and [David Granatstein](#)

WSU Center for Sustaining Agriculture & Natural Resources  
[Alex Stone](#), Oregon State University Department of Horticulture

The Northwest Symposium on Organic and Biologically Intensive Agriculture took place in Yakima, Washington on November 8, 2002. Washington State University Center for Sustaining Agri-

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#### **What is Biologically Intensive and Organic Agriculture (BIOAg)?**

The need for a more sustainable agriculture will require greater reliance on biological processes that are renewable, non-polluting, and provide multiple benefits to farmers and society; hence the term biologically intensive. Washington State University uses the term Biologically Intensive and Organic Agriculture (BIOAg) to describe these sustainable agricultural systems. Organic farming is one of the most well developed examples of this concept. See the [CSANR](#) web site for details on the WSU CSANR BIOAg initiative.

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culture and Natural Resources (CSANR), Oregon State University, Tilth Producers, and Oregon Tilth organized and sponsored the Symposium. Of the 230 participants, over half were growers, one-quarter were researchers and extension agents, and the remainder were industry and agency representatives.

Leading researchers, educators, and growers presented on topics such as seeds, pest management, soil health, and systems evaluation. Presentations included an overview of farming systems studies by John Reganold, an introduction to a small-farm system by



Henning Sehmsdorf, wheat breeding for organic systems and perennial wheat development by Steve Jones, farmer screening of the USDA germplasm collection by JJ Haapla, tools for farmers to accurately predict soil nitrogen by Chris Koopmans, and weed suppressive soils by Matt Leibermann.

This successful event also facilitated extraordinary interaction between poster authors and growers. Fifty posters (including 20 from WSU faculty or students) highlighted sustainable, organic and biologically intensive production, research, and education in the region. The Symposium Proceedings are available at [CSANR](http://CSANR).

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## **Organic Certification Available for Many Agroforestry Products**

By [Miles Merwin](#)  
*The Temperate Agroforester*  
Vol. 11, No. 1, January 2003

USDA recently finalized national standards that growers, processors and handlers must follow to label their products as organically grown. Organic certification is one way that agroforesters can differentiate, and improve the profitability of the edible and medicinal products they grow. Many products that can be grown using agroforestry practices have been certified organic, and this presents an opportunity for agroforesters to gain access to this expanding market.

All of the primary temperate agroforestry practices utilized in North America can produce edible products that can qualify as organic. Beef cattle and other livestock raised as part of a silvopasture operation could be certified organic. Nut-bearing trees, such as walnut or pecan, in an alley cropping enterprise can be grown organically. Organic fruit, e.g. sea buckthorn or chokecherry, can be harvested from shrubs planted in windbreaks or riparian buffers (if they are bordered by fields where organic methods are used). A wide variety of edible and medicinal crops grown using forest farming techniques, e.g. mushrooms or medicinal herbs, can be certified organic.

However, while the opportunities are many and varied, growing organic crops requires a major commitment of time, financial resources, and purpose to become certified and follow the national standards. Organic farming is not, as some wrongly perceive it, a "return to the past" or "farming by neglect." Growers employ sophisticated methods and up-to-date research to manage crops and livestock organically. Both small and large farms can use organic practices.

## Advantages and Disadvantages

The principal advantage for the grower is the ability to sell produce into rapidly expanding national and international markets for organic products. For many products there is still a price premium for organically grown compared to conventionally grown. In the past, organic was viewed as a "niche" market that was open mainly to small or medium size growers due to the greater amount of labor often required. However, as organic becomes more mainstream and even the largest supermarkets carry organic produce, larger corporate farms are also taking advantage of the organic market, at least for part of their operation. While still small compared to the number of conventional growers, there will likely be more growers entering the organic market and this may reduce the price premium paid for organic products.

Greater intensity of labor, and thus higher cost of production, is often cited as the major disadvantage of organic farming. Crop yields may be lower due to restrictions on synthetic fertilizer and pesticide applications, but this may be offset by higher prices. Obtaining and maintaining certification as an organic grower or processor requires extra time, recordkeeping, and tracking to avoid co-mingling with nonorganic products.

## Shared Principles

According to George Kuepper, agriculture specialist with the National Center for Appropriate Technology, six basic principles help distinguish organic agriculture from conventional: biodiversity, diversification and integration of enterprises, sustainability, natural plant nutrition, natural pest control, and integrity. By definition, agroforestry shares at least half of these principles with organic farming. Descriptors used to define agroforestry,

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i.e., “intentional, intensive, interactive and integrated,” could also apply to organic methods.

**Biodiversity:** Organic farmers often practice intercropping, companion planting and crop rotation in order to encourage beneficial organisms for pollination and pest management, and to improve the soil through nutrient cycling and nitrogen fixation. Agroforestry is all about managing the interactions of components in a biologically diverse system, and combining trees with crops and/or livestock.

**Diversification / Integration:** Many organic farms integrate their various farming enterprises under a unified management plan. Growing a variety of crops helps increase and diversify farm income and reduce risk compared with monoculture. Agroforesters likewise manage annual crops, livestock, and long-term timber as an integrated unit, and benefit from the resulting diversification of saleable products.

**Sustainability:** Like those who practice sustainable agriculture, organic farmers strive for sustainability on economic, social, and environmental levels. Agroforesters share this same goal of sustainability, managing their agroforestry enterprises not only for economic return, but in ways that also help protect water quality, enhance wildlife habitat, etc.

### Third Party Certification

While “organic” farming and gardening have been recognized for over 50 years, the new USDA National Organic Program (NOP) was created as part of the Organic Foods Production Act of 1990. National standards are now in place that producers, processors, and handlers must follow in order to label and sell products as organic. NOP oversees a process of third-party certification conducted by state and private agents who certify growers and others who agree to comply with the national standards. The new guidelines, in-

tended to boost consumer confidence in products labeled as organic, may boost the production and marketing of organic food nationally and internationally.

Becoming certified as a grower of organic products requires a commitment to use only those growing methods and inputs approved through the national standards for organic farms. Information on approved methods is available from NOP and the indi-



vidual certifying agencies.

The Organic Materials Review Institute (OMRI) publishes up to date lists of inputs, e.g. fertilizers, pesticides, etc., which are permitted or prohibited in organic production. Prospective growers must also commit to maintaining organic integrity by preventing contamination with prohibited materials (e.g. spray drift) or co-mingling with nonorganic crops.

Before a field can be certified for organic production, a time lapse of at least three years from the last application of synthetic fertilizers and pesticides is required. Physical separation from conventionally farmed areas is also necessary to prevent contamination of organic fields with prohibited chemicals. The national standards require 25 ft. wide buffers, in the form of windbreaks or hedgerows, around fields designated for organic production.

For agroforesters who are not already organic farmers, this would mean

changes in production methods for both tree and crop components. For example, no synthetic fertilizer could be applied to trees growing in a silvopasture if the cattle grazing forages underneath those trees were being raised for certified organic beef. Synthetic chemicals may not be allowed to control weeds in an alley cropping system where the nut crop, e.g. walnut, will be labeled organic. Edible products harvested from plants in a windbreak or riparian buffer may not qualify for organic certification if there is spray drift or chemical runoff from adjacent fields that are not managed organically.

It may thus be easier for farmers who are already producing certified organic crops to add new crops grown using agroforestry practices, e.g. forest farmed mushrooms, than for non-organic agroforesters to become organic. Nevertheless, landowners may certify only a portion of their land for organic production as long as adequate buffers are in place to prevent contamination.

### Steps to Certification

The decision of whether or not to undertake certified organic production of a new crop should be based on a thorough examination of potential markets, soil and microclimatic suitability, labor and energy needs, integration with existing farm or forest enterprises, and other factors. Growers have to do their own research to learn how the crops or livestock they want to grow can be raised using organic methods and inputs. The experience of other farmers is often the best source of information.

The federal NOP allows an exemption from the certification requirement for small producers who market less than \$5,000 worth of organic products annually. However, although they may label their products as organic (if they adhere to organic production stan-

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dards) they cannot use the USDA seal or the seal of any certification agency. Furthermore, their products cannot be used as ingredients in someone else's certified organic product.

The first step to becoming certified is to identify your local or regional organic certification agency. Lists of accredited certifiers are provided by the NOP and the Organic Farming Research Foundation. They include both state departments of agriculture and private organizations.

It would obviously help if the agency was already familiar with agroforestry practices; otherwise, expect to do some education. Fees are charged to the grower for certification services.

The next step is to create an "organic production and handling plan," as required by NOP rules. This plan describes the growing practices and substances to be used, how implementation of the plan will be monitored, record-keeping procedures and how comingling with non-organic crops will be prevented. This plan along with an application form is submitted to the certification agent who reviews it for completeness.

An on-farm inspection is then conducted by a representative of the certifying agency. If the inspection report, organic plan, and application are satisfactory, then the agency can grant approval. Once certified, producers can use the USDA organic seal and the seal of the certifying agency to give consumers confidence their products have been produced according to national standards.

#### Information Sources

[National Organic Program](http://www.ams.usda.gov/nop)(<http://www.ams.usda.gov/nop>): The homepage for the USDA National Organic Program contains all the standards and guidelines for organic certification.

[Organic Materials Review Institute](http://www.omri.org) (<http://www.omri.org>): This non-

profit evaluates materials for use in organic farming and publishes a list of approved substances.

[Organic Farming Research Foundation](http://www.adobe.com/) (<http://www.adobe.com/>): In addition to conducting research and education related to organic agriculture, the website also has a listing of certifying agencies.

[Appropriate Technology Transfer for Rural Areas](http://www.attra.org) (<http://www.attra.org>): You will find lots of useful articles here both on organic farming and general crop and livestock production practices.

[Alternative Farming Systems Information Center](http://www.nal.usda.gov/afsic/)(<http://www.nal.usda.gov/afsic/>): Information resources from the National Agricultural library on sustainable and organic farming.

[Organic Trade Association](http://www.ota.com) (<http://www.ota.com>): Business group representing organic growers, processors, etc. in North America. Search the "Organic Pages Online" for suppliers of organic ingredients.

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### Food & Farm Connection Website Serves Washington

[Charles A. Brun](#), Ph.D.  
Horticulture Crops Advisor  
WSU Extension Clark County

Small farm owners in western Washington will find that they have a wealth of information on farming alternatives when they surf the [Food and Farm Connections Team's](#) web site (FFCT) at <http://foodfarm.wsu.edu/>. Approximately 100 new pages were added in 2002 to this site, bringing the total to 250 pages of information.

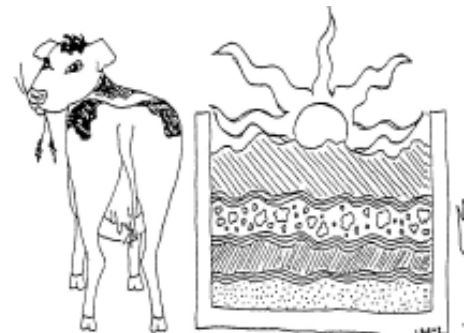
#### Crop Diversity

Over 200 different commercial crops grow in Washington. The 2001 value of agriculture in western Washington

totaled \$5.6 billion. The Washington State Agricultural Statistics Department reports that there are 39,000 farms in the state, approximately the same number as a decade ago. The mild climate of western Washington allows farmers to raise a diversity of different crops and livestock, including some of the more lucrative crops such as nursery and greenhouse products, Christmas trees, berries, fresh cut flowers, and value-added food products. The FFCT website provides in-depth reviews of production and marketing techniques for many of these food and ornamental crops.

#### Market Updates

The best current marketing option for many Washington farmers involves di-



rect selling of farm products, versus wholesale marketing. The highest returns on investment for urban fringe crops stem from direct sales at farmer's markets, roadside stands, choose and cut Christmas tree farms, and retail garden centers. The FFCT web site addresses the current and projected market opportunities for many of the commonly sold horticultural crops. Whether it's fresh, hand picked berries sold at one of the region's numerous farmers' markets, container grown nursery stock sold at an independent garden center, or high quality Noble fir Christmas trees sold at a choose and cut operation, readers will find complete coverage of reported prices, growers' experiences, and links to WSU fac-

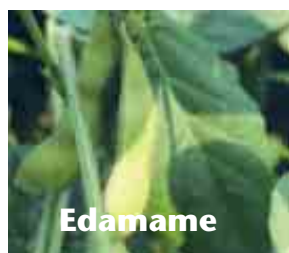
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ulty that can provide further assistance.

### Small Acreage Opportunities

Prospective farmers often ask if 5-10 acres of land will generate sufficient income to make an operation profitable. If the producer selects a crop that has a highly recognized “cus-



Edamame

tommer appeal”, limited acreages can indeed be a source of either primary or supplemental income. Some farmers report horticultural crop returns of more than \$10,000 per acre. The Growth Management Act passed in the mid-90’s provided a framework to preserve farming areas on the urban fringe, thus providing farmers the opportunity to sell agricultural products to nearby urban communities. Traditional wholesale marketing concepts of 25 years ago are now being scrutinized in light of the potential direct farm sales to urban areas. A 20-minute drive from the city to the farm vastly improves the chances for a locally sustainable food and ornamental marketing network.

### Team Approach to Outreach

Given the current state of higher education budgets, western Washington agriculture and natural resources faculty recognized the advantages to a team approach for outreach education in the late 90’s. Twenty faculty members serve on the Food and Farm Con-

nections Team, with disciplines encompassing horticulture, soils, animal sciences, entomology, economics, environmental sciences, resource policy, and rural sociology. Successful, modern small farms need to utilize a multidisciplinary approach to both production and marketing. By working together, faculty work yields results that are much larger than the sum of their individual efforts.

### Future Plans

In order to address the needs of the farming community east of the Cascades, in early 2003 the FFCT web site will be joined with the WSU Small Farms program to become the [Small Farms Connection](#) and will take on a wider array of issues. The new site should be up and running by early January.

## UPDATES

### WSU Small Farms Program

[Marcy Ostrom](#)

#### *Farmer Training & Education*

The Small Farms Program offered a new course during Fall 2002: *Principles and Practices of Sustainable Small Acreage Farming*. Eighteen students met weekly on Thursday evenings in Puyallup with instructors, Marcy Ostrom and Dave Muehleisen. Students enrolled in the class came from a variety of backgrounds, including long time farmers, prospective farmers, and community members interested in learning more about farming.

This class comprises part of the *Cultivating Success* course series and certificate program under joint development by WSU, the University of Idaho, and Rural Roots. The program will help those interested in small-scale farming gain the educational foundation to farm profitably and environmentally sustainably. Courses are designed for individuals interested in exploring ecologically-based farming strategies, new farmers, and existing farmers looking for alternative ideas for operating their farm. Aimed to provide a “real life” introduction to what it takes to operate a successful small farm, the course includes guest lectures from local small acreage farmers and WSU faculty experts, as well as visits to local farms. Farm visits and field trips provide students an opportunity to interact one-on-one with farmers and observe a variety of small-scale farming and marketing systems firsthand. Major topics explored in the class are:

- ◆ Evaluating farming goals and lifestyle
- ◆ Whole farm planning
- ◆ Soil fertility management
- ◆ Alternative pest management
- ◆ Production techniques for small fruit, tree fruits, vegetables, and livestock
- ◆ Farm record keeping
- ◆ Marketing options

The Cultivating Success series will include a business-planning course in the spring semester, and summer farm apprenticeships. Classes can be taken either for university credits or continuing education units. For more information on the Puyallup courses, contact [Marcy Ostrom](#), (253) 445-4514 or [Dave Muehleisen](#), (253) 445-4597.

For more information on the Cultivating Success course series offered through WSU and UI in Moscow, Idaho, contact [Theresa Beaver](#), (208)-885-7499.

*Continued on page 9 - see Farms*

## Cuba Sustainable Agriculture Study Tour

WSU CSANR  
Food First  
May 21-30, 2003

The Center for Sustaining Agriculture and Natural Resources is well on its way in planning a Sustainable Agriculture Study Tour to Cuba. At this time they have filled the 30 positions available but are taking names for a wait list. If you would like to be on the waitlist contact [Cindy Murray-Armstrong](#) at (253) 445-4626.



### Background

Over the past decade, Cuba has increased domestic food production by dramatically restructuring agricultural production, distribution and marketing systems within an environmentally and socially sustainable framework. Prior to 1989, Cuban agriculture was based on large-scale, capital-intensive monoculture systems and more than 90 percent of fertilizers and pesticides were imported from abroad. When trade relations with the socialist bloc collapsed, pesticides and fertilizers virtually disappeared, and the availability of petroleum for agriculture dropped by half. Food imports also fell by more than a half. This crisis catalyzed a shift away from production systems based on imported inputs of fuel, fertilizers, pesticides and high-tech equipment towards organic, low-

capital, self-reliant farming systems. Today, Cuba is moving towards food self-sufficiency, due in part to a thriving small-scale farm sector, widespread community and household gardens, and direct marketing networks. Cuban agricultural policy promotes ecologically sustainable production through soil conservation, organic soil inputs, biological pest control, and the reincorporation of rural populations into agriculture.

Cuba appears to have broken the policy barriers that have inhibited the widespread adoption of organic and

biologically intensive farming and has undergone a comprehensive conversion to sustainable and organic farming. The Cuban Association for Organic Farming, a non-governmental organization, maintains that Cuba offers the very first large-scale test of sustainable agricultural production alternatives in action. The CSANR-sponsored *Sustainable Agriculture Tour* will provide a good opportunity to observe what has worked and what has not worked in regards to a wholesale conversion to sustainable agriculture practices.

A delegation of WSU faculty members is being organized and led by the CSANR to study and learn about Cuban innovations in sustainable, organic and urban agriculture. The study tour of Cuban agriculture will be scheduled to coincide with the 5<sup>th</sup> Conference on Organic Agriculture so that delegates may take advantage of the opportunity to attend this internationally recognized conference.

### Goals and Objectives

1) Learn about recent innovations in ecologically based and energy efficient farming systems. Evaluate the results and extent of the conversion from conventional, industrial agricultural models to bio-intensive production systems at the farm, regional and national level. Learn how sustainability is being evaluated and what key components of success can be applied to other regions and countries.

2) Observe the dynamics of thriving sustainable and organic large-scale, small-scale and urban agricultural systems firsthand. Food production, processing, and marketing strategies are of interest.

3) Observe the infrastructure for on-farm production of biological control organisms and gain an understanding of the support for these facilities. Learn how well bio-control programs are succeeding on small and large scales, and what other changes (e.g. grower and industry education and cooperation) have been necessary for these successes.

4) Gain an understanding of Cuban agricultural and development policies and the linkages that have been created among agricultural, health, community economic development, environmental, and educational interests.

5) Explore the possibilities for developing long-term collaborative relationships between Washington agricultural research and educational institutions and Cuban counterparts.

6) Hear directly from Cuban farmers and consumers about their experiences producing, distributing, and consuming food in Cuba.



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## Farms (from page 7)

### Program Demonstration and Research

#### Puyallup

*Demonstrations Plots.* Cover crop demonstrations were established at WSU Puyallup (adjacent to the Puyallup Master Gardener demonstration garden) in October 2001. Eight individual cover crops and four cover crop combinations were planted on two planting dates (early and mid October), and self-guided signs were developed for the plots. The cover crops varied widely in their ability to cover the soil before the onset of winter rains, with oats and triticale providing the best early cover. None of the cover crops provided good soil protection when planting was delayed until mid-October. The cover crops were tilled into the soil in May 2002.

A riparian demonstration area is currently being installed along Clark's Creek in collaboration with the Watershed Stewards and the Chief Leschi School.

*Research.* Research goals involve evaluating cover crop and compost treatments as tools for improving weed management, soil fertility, soil quality, water quality, pest management, and cost reduction. Data is being collected on crop yield and quality, soil quality (organic matter, bulk density, stability, microbial activity, water holding capacity, nutrient levels, etc.), weed and disease pressure, and water quality protection.

Various legume cover crops (crimson clover, subterranean clover, white clover, hairy vetch, and medic) were undersown into standing carrots and two varieties of sweet corn in early July 2002, to evaluate the effectiveness of early cover crop establishment in different crop canopies. Grass legume mixes were sown into sweet corn following harvest (September) and into

fallow ground to compare effectiveness of establishment. Establishment is currently being evaluated for fall and winter, while biomass, weed pressure, and nitrogen content will be evaluated in the spring. This project will continue with other funding to evaluate long term benefits of underseeded vs. fall established cover crops on soil quality and soil nitrogen status. Both of these have a direct effect on water quality, through the potential loss of nutrients to ground and surface water, and the loss of sediment to surface water. In addition, an IPM project is underway to evaluate alternative treatments for carrot rust fly. Educational signs will be developed for the cover crop treatments for a field day this winter.



#### Vancouver

*Demonstrations Plots.* Carol Miles established irrigation demonstrations for the 2002 growing season, comparing overhead with drip irrigation systems for vegetable crops. Cover crop demonstrations were also developed for the 2001 and 2002 growing seasons for a variety of overseeded cover crops. Cover cropping systems were designed to demonstrate weed control, soil protection, and enhanced nutrient uptake. Riparian zone management plans have also been developed. Field days were held in August of 2001 and August 21, 2002.

*Research.* Comparative research on overhead vs. drip irrigation systems is underway for the 2002 season. Total water output, weed growth, yield and

plant biomass measurements are being evaluated for each irrigation system. Ongoing research on cover cropping systems compare five overseeded cover crops in three different vegetable crops: carrots, beans, and edamame. Seeding rates, timing, and weed control are being measured and evaluated.

#### Marketing Research

Statewide farmer survey results are currently being analyzed. Consumer telephone surveys began in October. Three farmers market assessments were conducted in late summer and early fall: Yakima Farmers' Market, University District Farmers' Market in Seattle, and Port Angeles Farmers' Market.

#### Community Outreach

The Small Farms Program produced educational displays for the Seattle Tilth Harvest Fair, the Pierce County Harvest Festival, the National Small Farms Conference in New Mexico, the Community Food Security Coalition in Seattle, the WSU Provost Tour, and the WSU Extension Conference. Presentations were made at the Community Food Security Coalition Conference, the Agriculture, Food and Human Values Society Conference, the WSU Provost Tour, the All Extension Conference, the Seattle Business Alliance for Local Living Economies, the National Small Farms Conference, and a Farmers' Market Workshop was held in Ellensburg. The Small Farms Program presented five different workshops at the 2002 Washington Tilth Producers Conference.



Lavender Farm - Clallam County

## RESEARCH & EXTENSION HIGHLIGHTS

### 2003 SARE Professional Development Awards

CSANR recently released the names of the recipients of the SARE Professional Development Awards for 2003. Congratulations to the following recipients:

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| Tom Platt - \$400<br>Alfalfa Intensive Training                                      |
| Kevin Murphy - \$400<br>Organic training   |
| Cindy Murray-Armstrong - \$443<br>Design seminar                                     |
| Christine Love - \$400<br>Ag-Energy exchange   |
| Alysia Greco - \$400<br>Tilth conference   |
| Charles Brun - \$400<br>Direct Market tour   |
| Carol Miles - \$200<br>Farm Stay, bamboo   |
| Kevin Murphy - \$200<br>Organic wheat  |
| Dennis Tonks - \$800<br>Wilke Field Day  |
| Debra Inglis - \$800<br>Vegetable disease  |
| Marcy Ostrom<br>Farmers' Market Seminar \$800<br>Statewide Small Farms meeting \$800 |

### Sudden Oak Death

[Gary Chastagner](#), WSU Puyallup Research and Extension Center Puyallup, WA 98371-4998

*Phytophthora ramorum* is a new pathogen that has recently been identified as the cause of sudden oak death. This disease has killed thousands of oak and tanoak trees in California and is only known to occur in 12 counties in California and a small area in Curry County in southwestern Oregon. Douglas fir was recently identified as one of 17 hosts of this pathogen and has been added to the federal quarantine

that prevents the shipment of known hosts out of areas where the pathogen is known to occur unless they are shown to be free of the pathogen. With funding from the Oregon Department of Agriculture and the Washington State Commission on Pesticide Registration, *Everett Hansen* and *Gary Chastagner* have started a joint project to identify fungicides that are effective in protecting Douglas fir seedlings and trees from this pathogen.

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## EVENTS

The following meetings, workshops and conferences are for growers, extension agents, researchers, and agricultural professionals. All of these events contain production information related to sustainable, biologically intensive and organic agriculture. We encourage you to attend these events and to provide your feedback for future events to the individual organizers. Only through your participation and input will the agendas fulfill your needs.

[Western Vegetable Disease Conference](#), January 14, 2003, Portland, OR

[Western Orchard Pest and Disease Management Conference](#), January 15, 16 & 17, 2003 Portland Oregon.

[Living on the Land: Stewardship for Small Acreages](#), Wednesdays, Jan. 22 - Mar. 26, 6:30 to 9 pm, Renton

[Extension Livestock Advisor Training](#) 2003, Thursdays, Jan. 23 - Mar. 27, 8:45 am - 4 pm, Renton, WA

*Growing Organic Seed Crops Trainings*, Fundamentals of Plant Improvement for Organics, March 7-9<sup>th</sup>, 2003. Cost: \$175. Contact [Matthew Dillon](#), (360) 385-5660.

*Seminar for Market Managers*, Washington State Farmers' Market Association,

March 8-9, 2003, WSU-Puyallup ([www.wafarmersmarkets.com](http://www.wafarmersmarkets.com))

Agricultural Entrepreneurship Course, Jan. 23 — April 24, 2003, WSU Small Farms Program, Puyallup 253-445-4514 ([mrostrom@wsu.edu](mailto:mrostrom@wsu.edu))

*Growing Seeds Using Organic Methods*, July 11-13<sup>th</sup>, 2003. Cost: \$200. Contact [Matthew Dillon](#), (360) 385-5660.

Check out the *Food and Farm Connections calendar* for more extensive listings.

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## RESOURCES

### Sustainable Forestry and Biodiversity: 2003 Request for Proposals

The National Commission for Science on Sustainable Forestry (NCSSF) is soliciting Letters of Intent (due January 31, 2003) for their competitive awards process. NCSSF will fund six specific projects in 2003 on forest management and biodiversity related to: the impacts of land use history on biodiversity; calibrating conservation theory and practice; evaluating economic drivers and global tradeoffs from changes in ownership and management intensity; and developing risk management tools.

Based on the Letters of Intent, three candidates for each project will be invited to submit proposals for external review. Final awards are expected by June 2003 and will range from \$45,000 to \$150,000 each depending on the project. Further information, project descriptions and instructions are available at: <http://www.ncssf.org>

NCSSF's mission is to improve the scientific basis for the design, conduct and evaluation of sustainable forestry practices in the U.S. NCSSF work

*Continued on next page*

must be of the highest technical quality and directly relevant to the needs of forest managers, policymakers and practitioners.

NCSSF is a program of the National Council on Science and the Environment (NCSE), an independent not-for-profit NGO, dedicated to improving the scientific basis for environmental decision-making.

### **US National Organic Program Standards: Implications for Researchers**

On October 21, 2002 the National Organic Program Standards (NOPS) were fully implemented by the USDA, outlining the criteria that must be met to label agricultural products as "organic". For the whole story go to <http://www.apsnet.org/>

### **New Viticulture Center**

The new Northwest Viticulture Center, expected to be completed in May 2003, will help support Oregon's growing wine industry. The Center, located in West Salem, will comprise a 12,600 square foot facility for classrooms and winemaking, along with 18 acres of wine grapes. This facility is sponsored by Chemeketa Community College. For additional information, contact the College's agricultural programs at 503-399-5139.

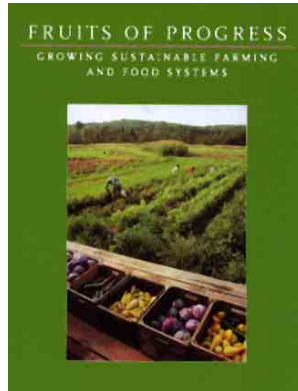
### **Wild Harvest: Farming for Wildlife and Profitability**

This publication discusses the economic benefits of wildlife conservation and outlines policy strategies to maximize resources and habitat on private land, while increasing farming profitability. [Download](#) for free. Visit the [web site](#).

### **Fruits of Progress**

*Fruits of Progress: Growing Sustainable Farming and Food Systems* examines

economic and ecological benefits of sustainable agriculture, reviews current practices, and identifies motivations and challenges to sustainability through the use of case studies. US\$20, 96 pages, [World Resources Institute](#), 202-729-7600, [mvaleriev@wri.org](mailto:mvaleriev@wri.org).



### **[American Journal of Alternative Agriculture](#)**

This quarterly, peer-reviewed journal addresses land management and energy use practices of alternative agriculture worldwide, including topics such as organic farming, reforesting flood zones, greenhouse gas emissions, carbon sinks and soil quality related to crop productivity. US\$44 for individuals, 800-528-4841, [cabi-nao@cabi.org](mailto:cabi-nao@cabi.org).



### **Across-Government Science Site Highlights ARS Research Information**

A new government online source of information about science and technology from across federal government organizations carries multiple links to Agricultural Research Service science sites.

Fourteen scientific and technical information organizations from 10 major science agencies have collaborated to create [www.science.gov](http://www.science.gov), the "FirstGov for

Science" web site. From science.gov, users can find more than 1,000 government information resources about science, including several hundred ARS sites.

For example, clicking on the "Agriculture and Food" subhead brings up links to the ARS National Agricultural Library's [AGRICOLA](#) bibliographic database, the [ARS Dale Bumpers Small Farms Research Center](#), the ARS [Jamie Whitten Delta States Research Center](#), the ARS [Technology Transfer Automated Retrieval System](#), and much more.

The new web site also links to ARS National Research Programs, as well as many other science sites across government. The resources at these sites include technical reports, journal citations, databases, federal web sites, and fact sheets.

The information is all free and no registration is required. *Science.gov* is intended for the educational and library communities, as well as for business people, entrepreneurs, agency researchers and anyone with an interest in science. Support for building the science.gov gateway came

from "CENDI," an interagency committee of senior managers of federal science and technology information programs.

The federal organizations participating in science.gov are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, and Interior, along with the Environmental Protection Agency, National Aeronautics and Space Administration, and National Science Foundation. NAL is part of ARS, the U.S. Department of Agriculture's chief

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scientific research agency. The [NAL](#) web site is its electronic gateway to a wealth of agricultural information resources. [Len Carey](#), (301)504-5564

### Private Forestland Management Discussion Group at [ConserveOnline.org](#)

This group is intended for those interested in the issues, needs, and concerns of private forest landowners. The discussion group is for exchanging information, asking questions, offering advice, and announcing events, training courses, and other opportunities. Discussion groups on 19 other conservation related topics are also available. View downloadable resources on [forest management](#) or visit <http://www.privateforest.org/> for more information.

ConserveOnline is a “one-stop” online, conservation tool box, created and maintained by The Nature Conservancy in partnership with other conservation organizations. The library makes conservation tools, techniques, and experience available to a broad community of conservation practitioners. This site is intended to foster learning and collaboration, and provide information and support to anyone making conservation-related decisions, from the staff of conservation organizations to land managers at government agencies to local land trusts and private landowners.

ConserveOnline is an open forum for sharing successes and failures, and for connecting scientific research with field-based conservation practice. We welcome anyone with documents, data, maps, or images relevant to the science and practice of conservation to make these resources publicly available through ConserveOnline, and to share their expertise through the discussion groups.

To access discussion groups, browse [ConserveOnline](#), click on *discussion groups* under communities and follow prompts. Contact [Cindy Burke](#), 703-841-4178.

### Working Forest Conservation Easement

Potlatch Corporation (NYSE: PCH - News) and the Trust for Public Land (TPL) have signed an agreement to pursue a working-forest conservation easement on substantial portions of Potlatch’s 670,000 acres of Idaho forestlands For more information: [http://biz.yahoo.com/prnews/021113/sfw079\\_1.html](http://biz.yahoo.com/prnews/021113/sfw079_1.html)

### Non Timber Forest Products in the United States

[Rebecca J. McLain](#) and [Eric T. Jones](#)

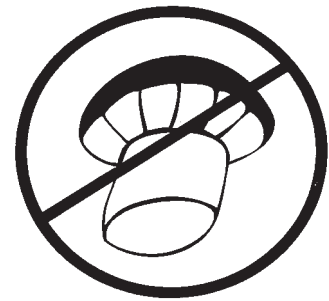
This book, funded by the Turner Foundation, USFS State and Private Forestry, and the North American Fund for Environmental Cooperation, looks at the scientific research on non timber forest products in the United States. Fragmented and underfunded, there are few scholars with expertise in NTFP issues. This book provides a cohesive and vital picture of the current and potential role of NTFPs by bringing together research from multiple scientific disciplines and analytical perspectives.

The book also illustrates the many different ways in which NTFPs are important to society and sustainable forest management, to whom they are important, and the steps that different individuals and interest groups are taking or have taken to ensure that they have access to NTFPs now and in the future.

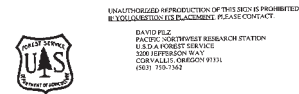


The book describes the importance of NTFPs in the U.S., including their socio-cultural, economic, and eco-

logical values. The last three sections focus on NTFP-related tenure conflicts, including tensions over who has a **NO MUSHROOM PICKING**



**BEYOND THIS SIGN**



voice in policy and management decisions that affect NTFPs and NTFP harvesters, buyers, and processors.

Providing managers and researchers with deeper understandings of the complexities of social, ecological, and economic aspects of NTFPs, the book contributes toward the development of more sophisticated forest policy and management frameworks. This publication is useful to a broad audience, ranging from NTFP harvesters and buyers, environmentalist organizations, rural development groups, Native American tribal members, scientists, and public and private forest land managers.

For other related projects, visit the website for the [Institute for Culture and Ecology](#) (IFCAE).

**Submitting articles:** Submit articles electronically to [Doug Stienbarger](#) in MS Word or RTF formats. Photos and graphics are encouraged.

**Views:** The views expressed in this newsletter reflect those of the author(s) and not necessarily those of the sponsoring institutions.

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