

SUSTAINING THE PACIFIC NORTHWEST

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WASHINGTON STATE UNIVERSITY
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Mobile Meat Processing Popular With Communities

[Tom Schultz](#), WSU Extension San Juan County

The Island Grown Farmers Cooperative (IGFC) recently started operating the new USDA Mobile Processing Unit (MPU) owned and developed by the Lopez Community Land Trust. The mobile unit has been extremely busy this past year working at farms in Skagit, Island, Whatcom, and San Juan Counties. After field processing, most carcasses are taken to the IGFC cut and wrap facility in Bow (Skagit County, WA) which employs two full-time and two part-time employees. According to project manager Bruce Dunlop of Lopez Island Farm, current demand will necessitate hiring an additional meat cutter.



MPU lamb processing demonstration at Stevens County Fairgrounds.

In response to the many requests for information and demonstrations from communities that share a similar need for additional options in USDA livestock processing, the MPU traveled to Benton, Stevens, Okanogan, and Jefferson Counties during the past 18

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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 Small Farms Team](#), the [WSU Small Farms Program](#) and the [Water Quality Management Team](#).



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months. Presentations on developing the MPU have been given at four national conferences and another will be given in February at the North American Direct Marketing Association Conference in Sacramento, CA.

Producers, non-profits, and educational institutions from many states have shown interest in the idea of mobile on-farm slaughter under USDA inspection. Since the unit is currently unable to travel to other communities due to its busy processing schedule, interested groups from around the country now come to Washington to view it in action. As a result of these visits, other communities around the country are now developing their own mobile USDA facilities. The Wyoming Business Council recently received a grant for a USDA mobile processing feasibility study, and a group in Monterrey CA is currently building a similar unit for local beef producers. Bruce Dunlop also oversees construction of the Monterrey MPU.



Producer selling local meat products inspected by the MPU at the Friday Harbor Farmer's Market

Another Mobile Poultry Processing unit in Colville, WA was recently approved by the Washington State Department of Agriculture. This new poultry unit could potentially process up to 20,000 birds a year on local farms. Training on using the unit and record keeping will be required in order to use the unit. For further information on the mobile poultry processor, contact [Terry Swaggerty](#) at WSU Extension Stevens County (509-684-2588). For more information on the

Mobile Meat Processing Unit contact [Bruce Dunlop](#) (360-468-4620).

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**The Importance of Direct Markets for Washington Farmers**

[Marcia Ostrom](#), PhD

WSU Small Farms Program Director

**Beyond a Niche**

A recent statewide survey of Washington farmers confirms the increasing importance of direct and local marketing strategies for farms of a variety of sizes, types, and locations. Nearly a fifth of all farmers in the state reported using some type of direct marketing involving direct, personal contact between farmers and consumers, such as farmers' markets, roadside stands, u-pick sales, and community supported agriculture (CSA). Internet, mail order, and restaurant sales were also important. The survey demonstrates a high level of interest in transitioning to direct marketing, with 25% of all farmers and nearly 46% of vegetable farmers stating that they plan to "do more direct marketing to consumers" within the next three years.

Larger farms tended to most commonly use roadside stands, while smaller farms tended to utilize farmers' markets and CSAs. Livestock producers utilize internet and mail order strategies more than other farmers. In general, fruit and vegetable growers and those closest to the state's population centers west of the Cascade mountains are the most likely to direct market using face-to-face methods. In most cases, direct marketing appears to be a supplemental rather than a primary marketing strategy: only 5.3% of farmers sold all they produced through direct marketing. However, 26% of the farms close to Seattle used direct marketing as their primary marketing method.

Local sales of farm products are also important statewide. Over half of all the respondents said they sell at least some of their crops to end consumers in their counties, while 16% sell all of what they produced to in-county consumers. However, these numbers

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**Table 1: Farmer use of Direct Marketing Methods**

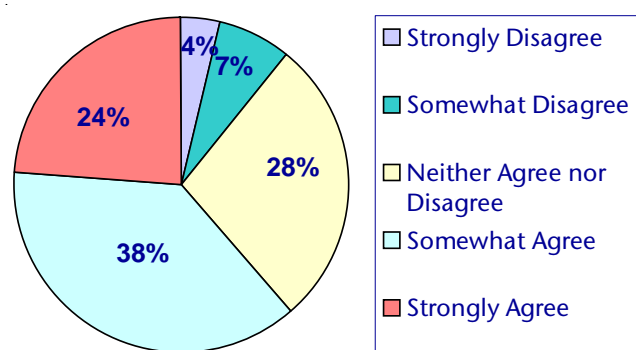
|                                   | Vegetable Growers | Fruit Growers | All Growers |
|-----------------------------------|-------------------|---------------|-------------|
| Roadside Stands                   | 46.3%             | 21.2%         | 12.2%       |
| Farmers' Markets                  | 35.2%             | 15.3%         | 8.2%        |
| U-Pick Sales                      | 23.4%             | 12.9%         | 6.8%        |
| CSA                               | 8.4%              | 2.1%          | 1.7%        |
| Restaurants                       | 7.5%              | 3.8%          | 3.4%        |
| Use any direct marketing method   | 59.3%             | 29.8%         | 19.9%       |
| Plan to increase direct marketing | 45.8%             | 22.6%         | 25.3%       |

reflect a large percentage of hay farmers who sold to other nearby farmers and neighbors.

#### Farmer Views on Marketing and Policy Issues

Farmers appear to favor policies that encourage direct and local market development rather than those promoting free trade. For example, while approximately 77% believe that a "grown in Washington" labeling program would benefit Washington farmers, only 23% believed free trade agreements would help their farms' profitability. With the exception of grain producers, farmers said consumers in their counties should have access to more locally grown foods and that direct marketing strategies present a practical means of improving the economic viability of farms in their area. Additionally, 62% of the farmers felt direct marketing helps keep farms viable in their area.

**Chart 1: Farmers Agreeing Direct Marketing Keeps Farming Viable in Their County**



An important constraint facing Washington farmers is what their farms are capable of producing and their proximity to population centers. While some farmers may have the ability to adapt what they produce to changing market conditions and emerging opportunities, others have very little flexibility. Furthermore, significant infrastructural barriers such as a lack of processing facilities and prohibitive county health codes continue to limit direct market sales of meat, poultry, dairy, and many other value added products. While direct marketing appears to offer a useful vehicle for increasing the numbers of Washington farmers who wish to diversify their marketing mix, many common

types of Washington farms such as cow-calf operations, dairies, apple growers, and wheat growers have seen little benefit.

*This research project was funded by the W.K. Kellogg Foundation and the Washington Farming and the Environment Project in 2002. More details can be found at <http://www.crs.wsu.edu/agsurvey/index.html>.*

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Spring 2003 Sudden Oak Death Detection Survey in Washington State

Daniel Omdal & Melanie Kallas Ricklefs, Washington Department of Natural Resources

Reprinted with permission from the Washington State Department of Natural Resources Forest Health Note newsletter, November 2003.

Summary

Phytophthora ramorum, the causal agent of "sudden oak death (SOD)," is responsible for widespread tree mortality in central and northern California. Western Washington is at high risk for SOD due to the presence of known SOD hosts in the natural environment, suitable climatic conditions (extended periods of moist weather and mild temperatures), and the presence of nurseries receiving known SOD host stock. Between June 1, 2003 and July 10, 2003, Washington DNR surveyed 34 nurseries (125 transects) and 5 general forest sites (20 transects). One hundred and three symptomatic foliage samples were collected from known (and potential) SOD hosts including rhododendron, bigleaf maple, Douglas-fir, evergreen huckleberry and Pacific madrone. The samples were tested by the Washington State Department of Agriculture using DAS (Double Antibody Sandwich) ELISA kits. All of the samples tested negative for *P. ramorum*.

Introduction

Phytophthora ramorum, the cause of "sudden oak death (SOD)," is responsible for widespread tree mortality in central and northern California. Since its discovery in 1995 on tanoak in Marin County, California, SOD has spread to 12 counties in California, a small area near the town of Brookings, Oregon, and a nursery in the Puget Sound lowlands of Washington most recently (spring of 2003).

The USDA Forest Service's recently completed risk assessment found western Washington to be at high risk for this disease based on the number of susceptible hosts, climatic conditions and locations of nurseries receiving SOD host stock. The objective for this survey was to gather information on the distribution of SOD in the high-risk zone of Washington.

Sudden Oak Death received its name because of the devastation it has caused on tanoaks, coast live oaks, and other members of the black oak family (*Erythrobalanus*) in California. At this point in time, it is not known to

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affect members of the white oak family (*Lepidobalanus*), such as Oregon white oak, the only native oak in Washington. The currently recognized list of susceptible host species native to western Washington includes rhododendron, Douglas-fir, bigleaf maple, vine maple, Pacific madrone, and evergreen huckleberry, although new host species are being identified as susceptibility trials continue.

Biology

Phytophthora ramorum is a fungus-like organism that can infect a wide range of host species. The organism produces microscopic reproductive, dispersal, and survival structures, making definitive field identification of the disease impossible. Sporangia, the organism's reproductive structure, play a significant role in spreading the disease. Sporangia may germinate and directly infect plants, but more importantly, they produce and release zoospores. These motile spores (spores with two flagella) swim in free water and infect plants through wounds or succulent plant tissue. Sporangia are often found on the foliage of hosts and generally spread by rain splash, or aerially, to new hosts. Chlamydospores are survival structures that can endure months of adverse conditions and germinate when suitable conditions are present. All three structures require free water for germination. Chlamydospores often exist in the soil surrounding infected plants and can be transported in stream water or with soil on shoes, tires, animal paws/hooves, etc. This aids long-range organism dispersal.

Symptoms

P. ramorum caused symptoms vary among host species. *Phytophthora ramorum* primarily infects the leaves of rhododendron, although it can also infect branches and may kill entire plants. Infection causes brown-black (necrotic) lesions on portions of the leaf often where water accumulates. The lesions have a diffuse margin and can mimic drought injury. *Phytophthora ramorum* can cause similar symptoms on Pacific madrone and may also cause leaf spots, necrosis along the midvein of the leaf, leaf death, and branch dieback. Bigleaf maple and vine maple are foliar hosts

of *P. ramorum* and symptoms tend to look like scorch starting at the edge of the leaf and with irregular margins that do not follow the contour of the leaf. Occasional leaf spots have been identified on evergreen huckleberry, but branch dieback is a more common symptom. *Phytophthora ramorum* causes small lesions on twigs or stems of evergreen huckleberry resulting in death of the infected branch or stem beyond the lesion. *Phytophthora ramorum* also causes cankers on small branches of Douglas-fir resulting in tip dieback, which looks very similar to frost damage. It is important to note that abiotic stressors such as drought and frost, as well as other biological agents, can produce symptoms similar to those caused by *P. ramorum* in the above hosts. Only laboratory analysis of symptomatic tissue can confirm the presence of *P. ramorum*.

Methods

This survey utilized a sampling protocol developed by the Forest Health Monitoring group within the USDA Forest Service. In forested areas around nurseries that contained suitable host types, four 100-m long transects were distributed along the nursery perimeter so as to sample all available aspects (Fig. 1). The transects encompassed the edge of the forested area along the nursery perimeter and extended 10 meters into the forested area (Fig. 1).

In high-risk forest environments, not adjacent to nurseries, a plot center was located at least 100-m from a road. Four 100-m transects, each 10-m wide, were installed on cardinal azimuths from the plot center. A Global Positioning System (GPS) was used to iden-

tify starting and ending coordinates for each transect.

Along each transect rhododendron, evergreen huckleberry, bigleaf maple, Douglas-fir, Pacific madrone and other known hosts were examined for symptoms of SOD. Samples of species not currently recognized as hosts were collected if they exhibited symptoms similar to those exhibited by known hosts because of the likelihood that there are unidentified hosts that will be listed as susceptible in the future. Symptomatic leaves were placed in labeled plastic bags and delivered to the laboratory, usually within the same day. The samples were tested by the Washington State Department of Agriculture using DAS (Double Antibody Sandwich) ELISA kits.

Results and Discussion

The forested perimeter of 34 nurseries, including 125 transects with suitable hosts, were surveyed for SOD (Fig. 2). The absence of a suitable forested perimeter limited the number of transects completed on some nurseries. Twenty transects in five forested areas were surveyed for SOD (Fig 2.).

Figure 2. Nursery Perimeter & General Forest SOD Survey Sites Within USDA Forest Service SOD risk polygons

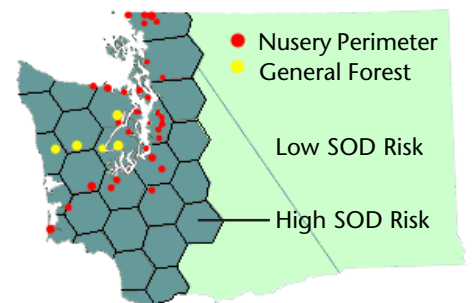
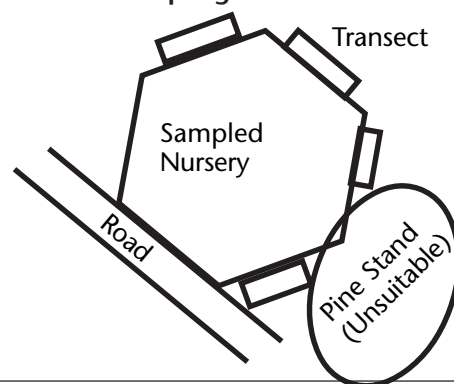


Figure 1: Nursery Perimeter Survey Sampling Protocol



Phytophthora ramorum was not isolated from any of the 103 samples collected (Table 1).

Rhododendrons were the most common species sampled, followed by bigleaf maple and vine maple (Table 1).

A late frost in the Puget Sound caused the wilting of many succulent tips on

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Table 1: Samples Collected & *Phytophthora ramorum* Analysis

Species	No. Samples	<i>P. ramorum</i> +/-
Rhododendron	38	-
Big Leaf Maple	19	-
Vine Maple	14	-
Douglas-fir	10	-
Evergreen		
Huckleberry	10	-
Pacific Madrone	6	-
Northern Red Oak		
Oak	4	-
Tanoak	2	-
Redwood	1	-
Salal	1	-
Magnolia	1	-
Exotic Maple (spp. ?)	1	-
Camellia	1	-

Douglas-fir, which mimicked the symptoms of SOD.

While SOD has been found in one nursery in the Puget Sound lowlands, there is no evidence that the disease has spread beyond the confines of that nursery. Infected plants within the nursery were destroyed to prevent further spread of the pathogen. The organism was brought to the Washington nursery on plants received from an infected nursery in Oregon. There is no evidence that the organism has spread naturally in the environment to Washington from either California or Oregon.

Current research indicates that there are two strains of *P. ramorum*. The "California strain" found in the forests of California and Brookings, Oregon, has been found to spread naturally in the environment. The "European strain" found in nurseries in northern Oregon, Washington, British Columbia, and Europe has spread from nursery to nursery on infected stock. There is no evidence of natural spread of the "European strain" outside of the nurseries in the United States. However, it is likely that some infected nursery stock had been distributed to the public prior to SOD detection in the nurseries. The distribu-

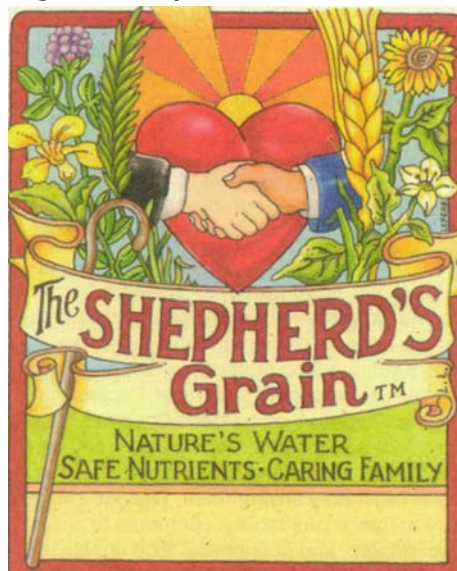
tion of infected plant material to the public gives rise to the potential for the pathogen to become established in the natural environment.

Shepherd's Grain: A Farmer's Strategy for Survival in the Global Marketplace

Karl Kupers, Sales Director, Columbia Plateau Producers (509- 721-0374)

The Columbia Plateau Producers is a small group of progressive family farmers dedicated to sustainable agriculture. Fred Fleming and I founded the group in 2002 to market our custom-milled, high gluten flour under the name Shepherd's Grain™. Using direct-seed cropping systems, we produce grains certified by the Food Alliance, one of the nation's leading certification programs for environmentally friendly and socially responsible agriculture practices. Shepherd's Grain products provide food service providers, bakers, chefs and consumers the opportunity to improve the quality of life in the Pacific Northwest by making environmentally sound farming economically sustainable for farmers. The combination of third party verification, traceable local production and environmentally sound

Figure 1. Shepherd's Grain™ Label



The label includes the grower identity, highlights the production region, and ensures the consistency, quality and supply of the product.

production systems are imminently marketable. When combined with personal commitment to sustainability, the results are very rewarding.

We began producing and marketing Shepherd's Grain to meet a demand for locally produced, healthy food grown in a sustainable fashion. We were convinced that there were bakers, chefs and consumers who were concerned about how their food was produced, where it was produced and who produced it. We envisioned a viable market based on environmental stewardship. Our group changed to direct seeding systems to produce crops in an environmentally sound manner, and we met with bakers and chefs so that we could custom mill our flour to meet their needs. As we changed our farming and marketing practices, we have literally changed from producers of a bulk commodity crop (wheat) into producers of a value-added product (flour). As a wheat farmer who typically saw his crop go into an anonymous bin, it is exciting now to see a food product with origins on my farm.

Direct seed farming systems. All farmers who are a part of the Columbia Plateau Producers use direct seed farming systems. Direct seeding is for the most part another term for no-till planting. That is, we do not till the soil to plant or grow our crop. For more information about direct seeding, visit the web site www.directseed.org. We each strongly believe that the benefits of direct seed farming systems outweigh its challenges. Direct seeding has numerous benefits including:

- Reduced plowing increases soil organic matter, nutrient content, and moisture retention;
- Reduced labor and input costs; Decreased fuel use and reduced emissions due to fewer passes through the field;
- Increased crop residue reduces wind erosion, provides wildlife habitat, and increases worm and microorganism populations in the soil;

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Reduced soil erosion and leaching of crop nutrients and pesticides into water systems;

Increased carbon sequestration as changes in the soil's carbon-nitrogen cycle allow direct-seeded farmlands to act as carbon sinks that can sequester 400-800 pounds of carbon per acre (up to 1.4 tons of carbon dioxide/acre/year). Thus direct seeding can be part of the solution to prevent global warming.

Along with these benefits to direct seed farming systems come risks associated with converting a conventionally plowed farm to direct seeding. While breaking with the psychological security of convention is perhaps the greatest risk of all for most farmers, other practical challenges threaten a farmer's agronomic and economic success. These include:

Reevaluation of every aspect of crop production; scientific research often lags behind the practical application of the farmer pioneers.

New planting equipment must be purchased.

Crop rotations, pest management techniques and the level of inputs must be adjusted for the new system.

Climatic and geographical diversity in the Pacific Northwest makes a "cookie cutter" approach ineffective.

There is a need to rotate wheat with other crops and new markets must be found for these other crops that have not previously been grown in the region.

It often takes years for the benefits of direct seeding to appear. It is for this reason that successful direct seed growers, the research community and the market must work together to support and increase this environmentally beneficial practice.

Direct marketing. Successfully marketing value-added products made from our grains allows us to be economically viable and will enable us

to convert more Pacific Northwest acres to direct seed cropping systems. Russ Zenner, a Columbia Plateau Producer based in Idaho, explains: "The face of agriculture, along with many other things in this world, is changing rapidly. Those who will succeed are the individuals who adapt to the social, economic and regulatory environment. The need for farm cropping systems that simultaneously enhance profitability, contribute to a

Figure 2. Karl & Fred's First Bag of Shepherd's Grain™ Flour.



quality environment, and provide a safe, dependable, and economical food supply is my motivation for adopting direct seed farming systems." Assuring the environmental and economic sustainability of agriculture will benefit everyone's quality of life.

The heart is in the grain. While establishing Shepherd's Grain, Fred and I spent three years testing different wheat varieties to see which would produce the highest quality flour for bread. We are growing hard red spring wheat for our flour and also grow several rotation crops including lentils, garbanzos and red beans. Our next step is to develop markets for these other crops, which we also grow in a direct seed manner and certify through Food Alliance. We will continue to focus on flour as our primary product as wheat is the main crop we grow.

In addition to supporting sustainable agriculture, our products are unique in several other ways. On every bag of Shepherd's Grain we preserve the identity of the farmer who grew the grain, we highlight our production region, and we ensure the consistency

of quality and supply of our product. We are committed to keeping our brand small and local so that you can visit the farmer who grew your ingredients and discuss varieties most suitable to your needs. In short, growers work closely with bakers, chefs and consumers so that Shepherd's Grain adds value to their products.

Columbia Plateau Producers. In 2003 seven farmers from Washington and Idaho participated in the Columbia Plateau Producers. Our farms are located in Genesee, Idaho, and Colfax, Lacrosse and St. John, Washington. As with any agricultural production and marketing system, you must plan well in advance to have inventory in place to meet marketplace demands. We are planning now for an inventory that will last through 2005. We intend to maintain our production and marketing momentum through controlled growth. To meet our objectives, we are seeking 8-10 new direct seeding farmer partners in the Pacific Northwest for the 2004 production year. We are seeking farmers who also put pride over profit, who want to maintain control of their crop production and quality, and who would like to get to know their customers and feel good about what they do. We want all our farmers and buyers to be as proud of their end product as we are of ours. We would like to include more growers from Idaho and would like to add growers from Oregon. Geographic diversity is critical to maintaining a sound production network that can withstand devastating and uncontrollable environmental occurrences such as drought and flooding. Additionally, geographic diversity enables us to guarantee the protein quality of our flour which impacts baking quality.

There are new opportunities available to us every day, and therefore each day is the beginning of a new story. I am confident that our farmer-based group is here for the long run and hope we can sustain our momentum. Our vision for a viable market based on environmental stewardship has become a reality, and now our

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challenge it to offer this opportunity to other farmers in our region.

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## Research Program on Nematodes & Their Economic Importance in Washington State

[Ekaterini Riga](#) , Nematologist  
WSU Department of Plant Pathology

The Nematode Research Program at WSU helps both conventional and organic growers fight plant parasitic nematodes and enhance beneficial free-living nematodes. This research program focuses on plant parasitic nematodes, entomopathogenic nematodes (pests of insects), and beneficial free-living nematodes. The research program consists of three main projects:

1) Controlling plant parasitic nematodes and enhancing free-living beneficial nematodes utilizes organic amendments, cover crops, green manures, and organic nematicides. These organic approaches are also used in combination with low rates of synthetic nematicides to increase control efficacy on conventional farms. Currently, the main crops in this study are apples, grapes and potatoes.

2) Developing molecular markers to detect and identify plant parasitic nematodes (*Paratrichodorus allius*, a stubby root nematode) accurately and rapidly will save resources compared to existing tests which are slow and inaccurate. Potato is the main crop affected by this nematode in Washington.

3) The third project studies the effectiveness of entomopathogenic nematodes as biological control agents against plant-attacking insects such as carrot rust fly and the Colorado potato beetle. Entomopathogenic nematodes are natural predators of insects.

### Nematode Biology

The name “nematode” originates from the Greek words: *nema*, meaning “thread,” and *toide*, meaning “form.” While usually worm-like, some plant parasitic nematodes are swollen. Nematodes exist almost everywhere,

including in soil, fresh water, salt water, plants, animals, and humans. Grouped according to what they eat, we find fungal feeders, bacterial feeders, predators, animal parasites, algal feeders, omnivores, and plant parasites. Plant parasitic nematodes range in size from 0.08mm to 5mm and can affect many major crop species. Plant parasitic nematodes have been studied extensively due to their impact on agricultural crops, however very little work has been done on the free-living nematodes considered beneficial for soil and plant health. The presence of free-living nematodes indicate a healthy soil.

**Plant parasitic nematodes** pierce plant cell walls with a syringe-like feeding apparatus called a stylet. Each species of plant parasitic nematodes feeds on a particular part of the plant. The majority of plant parasitic nematodes feed on plant roots. While some nematode species feed only on the outer tissue of the root, other species penetrate more deeply, even completely entering the plant root. All nematode activities result in energy being removed from plants to support the nematodes. Some plant-parasitic nematodes cause severe damage that decreases yields, produces unmarketable crops, and sometimes causes total crop failure.

**Entomopathogenic nematodes** form symbiotic associations with bacteria and parasitize insects in soil. The

nematodes and their bacteria live most of their lives inside the insect hosts except when the nematode leaves the insect and travels through the soil in search of a new host. The nematode and its symbiotic bacteria enter the insect, and once inside the insect body, the nematode releases the bacteria. This usually kills the insect host within 48 hours. The nematode then feeds on the bacteria, develop into an adult, and reproduces. The life cycle is complete within a few days and several thousands of new nematodes emerge from the dead insect in search of new insect hosts. Entomopathogenic nematodes are insect specific and not harmful to humans or plants. Under proper conditions, they have the potential to be excellent biological control agents of insects.

**Free-living beneficial nematodes** live in the soil and several thousand may be present in only 250 cc of soil. Most types of soil nematodes do not parasitize plants and are beneficial in the decomposition of organic matter. Called free-living beneficial nematodes, they live either in the thin film of moisture around soil particles or in the rhizosphere around plant roots. Their presence also indicates a healthy soil. Currently, little data exist about the biology and specific functions of free-living beneficial nematodes.

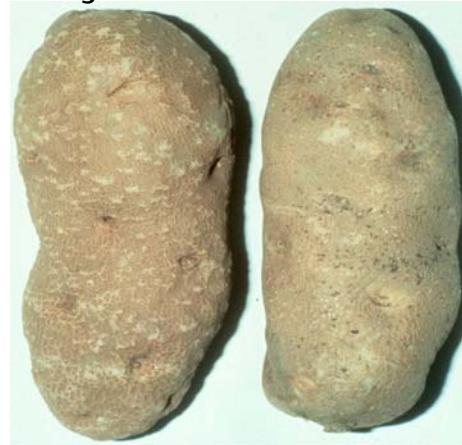
### Economic Importance of Nematodes

Although several plant parasitic nematodes are found in Washington State, the following species cause significant economic damage to major crops:

1) **Root-knot nematodes** (*Meloidogyne* spp.) enter roots, select a site to feed and then swell as they become adults full of eggs. Each root-knot female produces 250-400 eggs which will be released into the soil to start the cycle again. One species common in Washington can have up to 4 life-cycles in one growing season. Roots infested with root-knot nematodes often have visible galls, sometimes exhibit excessive branching, and may appear weak and stunted. Deformed root systems damage underground organs such as potato tubers and make them unmar-

*Continued on next page*

Figure 1. Infected Potatoes



Each bump represents a female root-knot nematode and contains approximately 300 eggs. Bumps are more visible when infected with the *Meloidogyne chitwoodi* (left) than *Meloidogyne hapla*.



ketable (Figure 1). The Washington potato industry could lose close to \$40 million annually if these nematodes were left uncontrolled. The root-knot nematodes infect a wide range of crops (Figure 2).

**Figure 2. Parsnip infected with *Meloidogyne hapla***



Each bump on the parsnip root contains at least 350 eggs.

**Figure 3**



**2) The stubby-root nematode (*Paratrichodorus allius*),** an external feeding parasite, feeds on roots, but can also vector viruses such as the Tobacco Rattle Virus, which causes corky ringspot disease in potato tubers

(Figure 3). Another virus-vectoring nematode in Washington is the **dagger nematode (*Xiphinema* spp.)** which vectors Tomato Ringspot Virus, a disease of many fruit crops.

**3) Root-lesion nematodes (*Pratylenchus* spp.)** make holes in the sides of roots and move inside where they leave brown necrotic regions and eggs. Lesions begin on one side of the root, but may spread, resulting in a weak, shallow root system with dead areas. Lesion nematodes also help fungi invade roots. For example, potato early dying syndrome is caused jointly by the lesion nematode and *Verticillium dahliae*. The lesion nematode infects a wide range of plants.

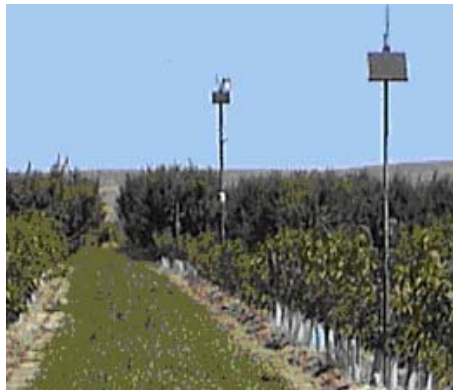
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The Precision Irrigation Development and Demonstration Project

[Dr. Fran Pierce](#), Director, WSU Center for Precision Agricultural Systems & Brian Lieb

Dr.'s Francis Pierce and Art Linton, project managers at the Prosser Irrigated Agriculture Research and Extension Center (IAREC) are collaborating with Dr.'s Robert Stevens, Brian Leib, and Clyde Fraisseon the precision irrigation demonstration project. The project is testing a telemetry soil water monitoring system that involves a radio network including the majority of irrigated area in Eastern Washington. Growers of irrigated crops can now install telemetry soil water monitoring systems that move data through a central computer. Growers can then view and download their soil water monitoring data or graphical plots of soil water content over time at www.agweathernet.com. Soil water monitoring equipment has been installed in grapes, cherries (Figure 1), and potatoes. Real-time monitoring on soil water for irrigated crops can be found at www.cpas.prosser.wsu.edu

Figure 1



Solar panels positioned above the canopy of the WSU WSU-IAREC cheery orchard powers Decagon Echo sensor probes are installed at various depths in the soil.

Over two million acres in the Yakima Valley and Columbia Basin produce \$3.5 billion in farm gate value annually. Producers face challenges of water quantity and quality in terms of farm pollutants discharged to surface and ground waters. Yakima watershed WRIA #37 has TMDL's for total sus-

pended solids, temperature, pesticides, in-stream flow, and pH. This region has also been designated as critical habitat to threatened and endangered aquatic species under the Endangered Species Act.

Most irrigated producers face similar challenges and have converted significant acreage to drip or sprinkler technologies. Technologies that provide producers real-time soil moisture levels will enhance confidence in water-conserving systems and allow for immediate adjustments of water quantity. This potentially prevents farm pollutants from leaving fields due to over application of irrigation. For more details on this program, visit the [project web site](#).

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## 2003 Graziers Conference: Grazing According to Gerrish

[Andy McGuire](#), Lauzier Ag Systems Educator, 509-754-2011 x413

Over 115 people gathered in Ellensburg on October 30, 2003 for the statewide Graziers Conference sponsored by WSU Extension and Solar Dollars, a local group of graziers committed to helping landowners be good stewards. The conference featured Dr. Jim Gerrish, recently retired beef-forage systems researcher for the University of Missouri and now a grazing lands management-intensive grazing, low-stress weaning, and stockpiling of forage. Dr. Gerrish presented the results of many years of research, but concluded that "grazing management is an art, based in science." Dr. Gerrish emphasized five main points:

**Intensified management.** In grazing systems, the management intensifies, not grazing, as cattle "graze intensively by nature." Graziers must first manage stocking rates which affect forage production, quality, and composition, animal performance, and profitability. Balancing gain per acre and individual performance maximizes profit.

**Sward height.** Pasture sward should be maintained between 6 and 10 inches high at grazing with most grass

*Continued on next page*



species. Proper sward height maintains high intake. To increase intake, leave taller residual and reach target residual in less time. Management intensifies since the grazer must put the right number of cattle on the pasture for the right amount of time. Graziers who allow cattle to graze the pasture very low lose gain because intake decreases as utilization increases. Gerrish's data supports the "take half, leave half" maxim.

**Grazing management and pasture quality.** Interseeding with more desirable species, legumes in temperate or irrigated pastures, and improved species in rangeland, can improve productivity. Combined with grazing managed to avoid over and under-grazing, pasture quality can be better maintained. Graziers can achieve this through dividing pastures into paddocks. Additional paddocks provide graziers more flexibility in keeping the quality of the pasture high in both the crucial spring and fall seasons. Graziers should use the general rule of "twice over the farm in the first 30 days" of spring for Irrigated and West-side pastures.



*Intensive Cattle Grazing*

**Pasture weaning.** Gerrish's research shows that pasture weaning can lower the physical, environmental, nutritional, and emotional stress of cattle. Using this method in Missouri, Gerrish weaned 3800 calves in 15 years and only had two sick calves and two mortalities.

**Stockpiling of forage.** Although stockpiling forage for winter grazing works best with a base of tall fescue, it is just one option for winter grazing. Other options might include grazing crop residues and winter annuals.

Research shows feeding hay costs the most so using alternatives will save graziers money on winter feeding costs. In areas of Canada with harsh winters, some farmers use innovative grazing systems to avoid feeding hay. In almost every case researched, "every day spent grazing, [and not feeding hay], is money saved. High winter feed costs are primarily a habit" and not a necessity, even when relatively expensive annual forage crops have been used.

**For more information.** [Download conference handouts](#), or contact [Dr. Gerrish](#) at 660-258-3399.

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Washington State University Campus Sustainability Initiative

[John Glass](#), Chair, WSU Campus Sustainability Initiative

Governor Locke's September 2002 Executive Order provided the impetus to launch the Campus Sustainable Initiative that same year. This order established seven long-term sustainability goals regarding resource consumption, vehicle use, purchase of goods and services, and facility construction, operation and maintenance.

WSU's Sustainability Advisory Group identified sustainable practices at WSU with the objective of establishing a comprehensive, system-wide approach within a common sustainability vision of promoting the institutionalization of good sustainable practices, increasing employee issue awareness, and producing financial gains. These goals have been implemented in various ways:

1) WSU needs to change from a piecemeal approach to one oriented towards the whole system. For example, WSU's Waste Wise Recycling Program put recycling containers at each desk and central collection stations resulting in 52% of the university's waste being diverted from landfills. Cardboard collection sites during student move-in collected 15 tons of cardboard which was sold to commodity buyers. The Environmental Protection Agency's National Environment Performance Track program also ac-

cepted WSU as the first university to participate.

2) It is also critical to raise people's awareness and understanding of the issues. As part of this strategy, students and staff were encouraged to develop long-term strategies to use only renewable or natural resources. Additionally, WSU initiated special events, such as the Zero-Waste Picnic which only generated 53 pounds of waste for 4700 people served. The Nike Reuse-A-Shoe Collection diverted 5,500 pairs of used athletic shoes from landfills to "Nike Grind", a material used to make track and field surfaces.

Educational initiatives, such as the WSU Center for Sustaining Agriculture & Natural Resources and the Environmental Studies Colloquium Group, also help to raise awareness of different of sustainability concepts from several perspectives (application, humanistic, and social sciences).

3) As part of a strategy to minimize energy and water usage to decrease operating costs, WSU:

- Installed lighting controls in parking garages to reduce lighting levels at certain times;

- Began lighting system upgrades for 5 million square feet of building space to both reduce energy use and remove and cleanup PCB ballasts;

- Conducts life cycle cost analyses on buildings to determine the best sustainable systems of heating, ventilation, air conditioning, etc.;

- Installed semi-automated timers on irrigation systems;

- Partnered with the City of Pullman on a proposal to reclaim wastewater to irrigate green space.

4) WSU has started using cleaner energy for facilities and vehicles. The new campus energy power plant will use natural gas, will generate half as much wastewater as the current plant, and will save the university 30 million gallons of water each year.

5) WSU is increasing the use of recycled and remanufactured materials in purchasing and construction

through design standards that require recycled materials, using recycled copier paper, purchasing contamination free hay and straw, and using low-toxicity pesticides (such as growth regulators and pheromones).

6) WSU also helps expand the market for environmentally preferable products and services. For example, WSU offers remanufactured toner cartridges to encourage usage while used toner cartridges are collected and sold to vendors that produce remanufactured toner cartridges.

7) WSU also reduces waste, such as distilling laboratory solvents, composting nitrate, sulfate and carbonate salts, and reclaiming oil and hydraulic fluids.

WSU has made significant progress towards a sustainable future, but it would be simplistic to expect results too quickly. WSU must continue to develop the necessary infrastructure, expertise, processes and procedures to achieve measurable results. Finally and perhaps most importantly, the state-wide WSU community must be included in decisions on policy and processes in order to assure their buy-in and ownership of the changes necessary to achieve a sustainable future.

For a more detailed look at what WSU is doing, view their [web site](#).

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## HIGHLIGHTS

### USDA/CSREES Fellowship

[Dr. David P. Muehleisen](#), Extension Coordinator with the WSU Small Farms Program, spent the summer on a fellowship at USDA/CSREES working under the mentorship of Dr. Jill Auburn and Dr. Fen Hunt of Economic and Community Services (ECS) and Dr. Mary Ann Rozum of Plant and Animal services (PAS). He explored possible outreach strategies to get small scale, minority, and limited resource farmers greater access to the federal conservation programs in Washington State and the Pacific Northwest, such as the Conservation Security Program (CSP), Environmental Quality Innovation Program

(EQIP), and other relevant Natural Resource Conservation Service (NRCS) and Farm Service Agency (FSA) programs. David developed critical contacts with the NRCS staff and Community Based Organizations (CBO) for the CSP program based in Washington, DC. David also studied the relationship between NRCS practices and the conservation practices of certified organic farms. Presently, NRCS views certified organic as a marketing strategy and not a set of sustainable conservation practices. David believes that "the commonalities and differences between these two views must be defined."

### Grant to Aid Farmers in Reducing Greenhouse Gas

Coug News, November 14, 2003

"Helping farmers ease global climate change by reducing farm-produced greenhouse gas emissions is the goal of a \$3.75-million research grant from the Paul G. Allen Charitable Foundation to Washington State University's Center for Sustaining Agriculture and Natural Resources. The Allen Foundation's support will fund a five-year project in which WSU and U.S. Department of Agriculture researchers will assess three farming systems. Dairy, irrigated crop, and dryland grain farming systems will be evaluated to better understand how each contributes to global warming. The interdisciplinary team will study alternative farming approaches for their ability to reduce emissions and increase carbon storage, while also monitoring economic and environmental impacts." For more detail, see <http://cahenews.wsu.edu/RELEASES/2003/03052.htm>

### 7th Annual National Food Security Conference

[Sylvia Kantor](#), WSU Extension King County & Andy Fisher, Executive Director, Community Food Security Coalition (310) 822-5410

Over 550 participants at the national Community Food Security Conference (CFSC) in Boston, MA, discussed issues related to strengthening local and regional economies by connecting farmers to regional markets. Topics included national food and farm policy, nutri-

tion and obesity, saving farms and farmland, the lack of supermarkets in urban and rural regions, city food production, and connecting chefs to local farms.

"Interest in community food security is soaring, as a solution to rising obesity levels in our country, the increase in hunger and food insecurity and the continued challenges facing America's family farms," said Community Food Security Coalition Executive Director, Andy Fisher.

Participating organizations included food banks, farmers' markets, community farms, sustainable agriculture groups, food co-ops, anti-hunger advocates, social justice and public health organizations. Keynote speaker Wilbur Bullock represented the youth delegation from Building Local Agricultural Systems Today (BLAST) and The Food Project in Massachusetts, and emphasized the important role of, and growing interest among the nation's young people in the future of food and agriculture. Some 50 youth from all over the nation attended the conference this year. The youth presence at the conference was notable and really added a vital element and voice to concerns about food security as well as infectious enthusiasm for taking action.

Organizing support for healthy school meals was also part of the four-day annual CFSC conference. "When kids connect the source of their food with the person who grew it, like a vine ripened tomato and 'Phil the farmer,' they are much more likely to eat fresh fruits and vegetables," said Marion Kalb, national Farm to School Program Director. The CCFSC called upon Congress to act decisively to counteract obesity and improve nutrition in schools by authorizing funding for grants to school districts to buy local food from regional farms. Such grants could connect students to agriculture through visits to farms and farmers' markets, farmers in the classroom and other hands-on farm to school activities. This legislation would provide children access to farm-fresh seasonal fruits and vegetables, and help farmers increase their in-

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comes and become more involved in their communities.

Newly elected President of CFSC, Sharon Thornberry, Director of the Oregon Food Bank, stated: "It is important that we stop talking about ending hunger and we start talking about building food security for the disenfranchised. Everyone from seniors to children, and inner city to rural residents need access to an adequate and nutritious food supply. This includes the average person who lives on fast food. The role of the CFSC is to empower people at the grassroots to reclaim their food systems."

### **University of Wisconsin Goes Organic**

Kirsten Saylor notes that the University of Wisconsin at Madison "became the first major public university in the U.S. to commit to putting organic foods and foods grown on local farms on the regular menu at their dorm dining centers. This fall, organic hamburgers replaced all conventional burgers in all University student cafeterias, which serve 15,000 meals a day. This action was taken in response to the University Housing Food Service's desire to offer fresh, quality food and to student demands for more organic food in the cafeterias." View complete article at the [Badger Herald web site](#).

### **[Organic Farming Helps Sequester Global Warming Gases](#)**

The Rodale Institute announced findings based on the world's longest running study of organic farming which documents that organic soils capture atmospheric carbon dioxide and convert it into soil material. This is the first study to differentiate organic farming techniques from conventional agricultural practices for their ability to serve as carbon "sinks."

### **National Association of State Departments of Agriculture Supports Organic Farming**

Olympia, WA. "Leaders of the state departments of agriculture adopted a policy statement expressing broad support for organic farming at the annual meeting of the National Association of State Departments of Agriculture

(NASDA). The policy statement supports:

Full and consistent implementation and enforcement of the National Organic Program and its organic production and handling standards;

Cooperation between the National Organic Program and experienced public and private certifying agencies;

Efforts to increase the economic growth of the organic industry with marketing assistance;

Increasing activity in organic research and education; and,

Collecting statistics on organic production and market growth in order to provide reliable information about the industry to farmers, marketers, and elected officials."

The full text of NASDA's policy statement is on [their web site](#).

## **Events**

### **[Oregon Better Process Control School \(BPCS\)](#)**

The OSU Department of Food Science & Technology Extension Service announces the *Better Process Control School (BPCS)*, a four-day course addressing operations of retorts, processing systems, aseptic processing and packaging systems and container closure inspection. Each processor of low-acid or acidified foods must have a certified supervisor on hand at all times during processing. Intended for supervisors of thermal food processing operations, acidified food processing operations, and food container closure operations, this school provides the necessary certification for supervisors of such processors.

The BPCS is FDA approved and follows the prescribed course of instruction for certification. Examinations are given for each section and are standardized by the Food Processors Institute with the approval of the FDA. Participants who pass receive a certificate issued by Oregon State University.

Registration Fees: \$550/person before January 5, 2004, \$600/person after January 5. The conference will be held Janu-

ary 26-29, 2004 at the Salbaugeon Suites, 1730 NW 9th Street, Corvallis, OR.

### **Organic Agriculture Principles and Practices & Ecological & Organic Weed Management Workshops**

February 24-25, 2004, Namaste Conference Center, Wilsonville, Oregon

These workshops are designed for extension and NRCS workers, agricultural consultants, and growers. Continuing Education Units (CEUs) for Certified Crop Advisors (CCA) have been applied for.

The Organic Agriculture workshop on February 24 will include: organic farming under the new standards, the current status of PNW organic farming, National Organic Standards, materials for organic production, organic certification, information resources, and case studies. Participants will receive a copy of the Organic Farming Resource Notebook.

The Ecological & Organic Weed workshop on February 25 will feature: organic weed control challenges, weed ecology, crop competition, systems approach, grower panel and video, current research and future trends, a poster session, and an equipment show.

Registration cost for each workshop is \$35 including lunch. For more information, visit our [website](#) or contact [David Granatstein](#) at (509) 663-8181 x 222, or [Alex Stone](#), OSU, at (541)-737-5461.

**Call For Posters.** Researchers, extension agents, industry and agency representatives, grower groups and farmers are encouraged to present a poster. Deadline for submission of poster summaries is February 5. See [web](#) for details.

**Funding for WSU Faculty to attend Workshops.** The WSU Center for Sustaining Agriculture and Natural Resources (CSANR), will fund the travel expenses for three Extension personnel to attend the Organic Ag Workshops scheduled for Wilsonville OR, Feb 24-25, 2004. To apply, email [Andy McGuire](#) with the following informa-

tion by Jan. 23: name; position, geographic area and responsibilities; year you were hired by WSU; why you think this training would be valuable to you and your clientele; and how you plan to use the information gained.

### SMALL FARM COURSES

Identify and profit from trends in the marketplace. Develop a business plan for a new farm or to take an existing operation in a new direction. The *NX Level Tilling the Soil of Opportunity: Agricultural Entrepreneurship* will be offered in the spring at Moscow, ID and Port Hadlock, Port Orchard, and Puyallup (WA) through Cultivating Success (WSU and UI). See [website](#) for details.

### Agriculture to Culture: The Social Transformation of Food

Announcing the Joint 2004 Annual Meetings of the Association for the Study of Food & Society (ASFS) and the Agriculture, Food, and Human Values Society (AFHVS) on June 10 - 13, 2004 at the Culinary Institute of America in Hyde Park, NY. Their joint annual meeting will bring together two multidisciplinary professional and scholarly societies for the purpose of discussing contemporary issues relating to food, cooking, eating, and nutritional behaviors; agricultural practices; and public policies toward food and agriculture. Papers and panels are sought on any topic related to agriculture, food, and society. See details and the Call for Papers at <http://www.clas.ufl.edu/users/rhaynes/afhvs/NextMeeting.htm>.

### 4th Annual Harvesting Clean Energy Conference!

The Harvesting Clean Energy Conference will explore opportunities and building partnerships to advance clean energy production in the rural Northwest. Sessions will provide insight into the nuts-and-bolts of how agricultural producers can profitably diversify into clean energy production and other bio-product markets, including wind power, biofuels, energy efficiency, on-farm renewable energy, and biogas digesters. There will also be a session on efficiency opportunities for food producer-processors.

January 20-21, Oregon Convention Center, Portland, OR. [Register on line](#) or call 1-800-942-4978.

### Water for a Sustainable and Secure Future

The National Council for Science and the Environment (NCSE) invites you to participate in a [unique conference](#) to develop science-based strategies for achieving water sustainability. NCSE's 4th National Conference on Science, Policy and the Environment: Water for a Sustainable and Secure Future will be held on January 29-30, 2004 at the Ronald Reagan Building and International Trade Center in Washington, DC.

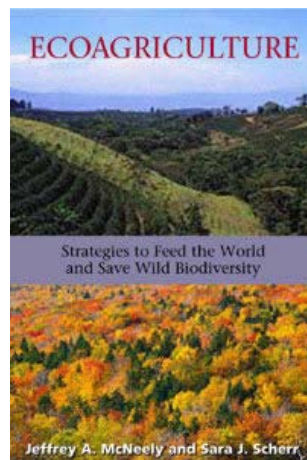
### Books & Reports

#### New Book Promotes "Ecoagriculture" for People and Wildlife

[Miles Merwin](#), President, Association for Temperate Agroforestry

The vision of Ecoagriculture, a new book authored by Jeffrey McNeely and Sara Scherr, is the "management of landscapes for both the production of food and the conservation of ecosystem services, in particular wild biodiversity." It is mainly a book about agricultural development in the tropical, developing world. However, agroforestry features prominently as one way to achieve this balance and the principles in this book can readily be applied to temperate as well as tropical climates.

Industrial agriculture, the authors note, is of critical importance to alle-



vating poverty and feeding the world's growing population. They review some of the impacts of large-scale agriculture on biodiversity, e.g.

land conversion, habitat loss and fragmentation, etc. They then describe what populations of wild species need in order to thrive. Combining these two often-antagonistic goals, they offer some practical suggestions on how "increasing agricultural diversity can enhance wild biodiversity."

The second half of the book focuses on six strategies to promote biodiversity in agricultural landscapes: create biodiversity reserves that benefit local communities; develop habitat networks in non-farmed areas; reduce conversion of wild lands to agriculture by increasing farm productivity; minimize agricultural pollution; modify the management of soil, water and vegetation resources; and modify farming systems to mimic natural ecosystems.

Illustrated by 36 case studies, the authors suggest specific ways to implement these six strategies. Agroforestry practices are cited as examples of how to balance production with conservation, e.g. riparian buffers and windbreaks that create habitat, buffers that reduce pollution by trapping sediments and chemicals, alley cropping and silvopasture that diversify production, and forest farming (and other practices) that mimic natural ecosystems.

However, if wild animal populations are increased in areas near agriculture, conflicts with production goals can result. The authors acknowledge this, and offer some ideas on how farmers and wildlife may coexist. The last few chapters of the book consider how to advance the adoption of ecoagriculture. Chapters on public policy, market incentives and support institutions cite examples of how societies can encourage, or discourage, the conservation aspects of agriculture.

Although indirectly about agroforestry, this book helps to show how it can be used to enhance wildlife diversity while improving the economic livelihood of landowners. It will be of interest to anyone concerned about balanced approaches to reducing the loss of biodiversity while sustaining human populations.

*Ecoagriculture: Strategies to Feed the World and Save Wild Biodiversity.* Jeffrey A.

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McNeely & Sara J. Scheer, Island Press, 2003. US \$27.50 plus \$5.00 for postage and handling within the US, or \$7.00 for shipment to Canada payable to AFTA. AFTA Books, PO Box 2307, Portland, OR 97208, USA

**The Essential Agrarian Reader:  
The Future of Culture,  
Community, and the Land**

**The Agrarian Standard**

By Wendell Berry

**Agrarians of the World, Unite!**

**The New Agrarian**

**Farmer/Educator Survey: Govt. Policy Major Barrier to Adopting Sustainable Ag Techniques**

A two-state team led by Land Stewardship Project "conducted the surveys of 1,600 sustainable farmers, farm lenders and agricultural educators in 2002. The surveys focused on credit-related practices as well as the perceptions each group holds about banks, sustainable farming and each other. There were 567 respondents, some of whom participated in follow-up round-table discussions this past spring to review and react to the findings." visit <http://www.landstewardshipproject.org/pdf/edsurvey.pdf> for the results.

**Resources**

**All Federal Grants On-Line**

The Office of Federal Financial Management recently issued a policy directive requiring that Federal grant opportunities be posted online. The website can be found at <http://www.grants.gov>.

**Beyond the Pale Green by Michelle Nijhuis**

An [article in Grist Magazine](#) explores how small-scale farmers are going "beyond organic" to extol local foods. As organic becomes mainstream, concerns about sustainability arise similar to issues surrounding other more conventional corporate farming. This article looks at a loose network of farmers, consumers, and other groups pushing agriculture towards an emphasis on

local production and marketing.

**Building a Sustainable Business**

"[Building a Sustainable Business: A Guide to Developing a Business Plan for Farms and Rural Businesses](#)" talks about business planning process to assist alternative and sustainable agriculture entrepreneurs transform farm-grown inspiration into profitable enterprises. This includes sample worksheets on goal-setting, determining potential markets and financing options, and help developing business plans.

**Center for Rural Affairs**

**Strategies to Revitalize Rural America**

**Concentration Within the Food System**

[This report](#) by Bill Vorley (of IIED) details the impact of buyer power on the food chain, notably detailing its impact on farmers and farm workers. The report rigorously explores how the terms of trade for primary producers have declined and the gap between producer prices and retail prices has grown, accompanied by problems of access to markets for many of the world's farmers.

The report examines the impact of the growing concentration of those companies who trade, process, manufacture and sell agricultural goods and the impact on the following commodity chains - cereals and oil seeds, sugar, coffee and cocoa, bananas, dairy, poultry, pork, fruit and vegetables and clearly illustrates where the buying power bottlenecks are.

The report also points to policies that can ensure more equitable trading relationships and provides options for re-balancing the markets - to producers, national governments, businesses, ethical investment and civil society organizations and donor agencies which can restore equity and justice to agricultural markets.

**Fast Food World: Perils and Promises of the Global Food Chain**

Listen to this [2-hour webcast](#) recorded November 24th with Wendell Berry,

Michael Pollan, Eric Schlosser, Vandana Shiva, and Carlo Petrini (requires [RealPlayer](#)).

The Knight Program in Science and Environmental Journalism at UC Berkeley's Graduate School of Journalism presented this panel discussion.

**Bringing Local Food to Local People: A Resource Guide**

Intended for Farm-to-School and Farm-to-Institution Programs, [this new publication](#) provides farmers, school administrators, and institutional food-service planners with contact information and descriptions of existing programs that have made these connections between local farmers and local school lunchrooms, college dining halls, or cafeterias in other institutions. To help communities initiate similar programs, this publication includes: resource lists of publications on how to initiate and manage local food programs, funding and technical assistance sources, and provisions of the 2002 Farm Bill that support farm-to-school and other community food programs.

**Report Examines Impacts of University-Industry Relationships ("UIRs") on Academic Research in Agricultural Biotechnology**

The Pew Initiative on Food and Biotechnology and Portland State University issued the *University-Industry Relationships: Framing the Issues for Academic Research in Agricultural Biotechnology* report that looks at the advantages and disadvantages to universities and academic scientists who engage in relationships with industry. It specifically outlines the need for information regarding influences on academic scientists' research agendas, the intellectual property rights and technology innovations involved in the relationships, as well as the unique role universities have in developing valuable technologies with little commercial promise. This report is co-authored by professor David Ervin of Portland State University.

**National Organic Program Question & Answer**

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## The [November Issue](#) of the Agricultural Marketing Resource Center

AgMRC is a national, USDA-funded center dedicated to assisting producers involved in value-added agriculture.

### [Alternatives Journal](#)

Debra Lippoldt says, "Alternatives is Canada's foremost journal of the environment. Four times a year, we serve up provocative features, current news updates, analytical commentary and topical book reviews. Look to Alternatives for cutting-edge analysis of a broad range of environmental issues from across Canada and around the world."

### Organic Trade Association

Check out the OTA [web site](#) and [newsletter](#).

### [Oregon State University Sustainability Project](#)

### Comparison of Antibiotic Susceptibility Patterns in Organic and Conventional Dairy Herds

See [the article](#) in the Organic Farming Research Foundation's winter newsletter.

## FORESTRY

### Information Request - Non-Timber Forest Products

Kate Giese, Benton County OSU Extension Service, is working on the *Woodland Assistance Guide* to provide a directory of forestry assistance, markets, etc. for small woodland owners in several Oregon counties. She currently has a short list of buyers, including companies/individuals that buy holiday greens, salal, cones, etc., but would like to expand this list to include mushrooms, and other Non-Timber Forest Products. If you have information, contact [Kate](#) at (541) 766-6750.

### OSU Puts Log Buyer Database On-Line

The database may be viewed at <http://www.cof.orst.edu/cof/extended/>

[extserv/log.php](#)

### Agroforestry Resource Center

Cornell Cooperative Extension in Greene County opened a new and unique educational facility in September. The *Agroforestry Resource Center* will focus on education targeting rural landowners, farmers with forested land, small business owners and decision makers to enhance and protect forest resources through the introduction of sustainable practices that also enhance economic benefits for forest owners and managers. The Center provides incentives to retain forested land to provide benefits to the surrounding human population as well as to provide economic development opportunities to the landowner. Economic opportunities include selective timber harvests and growing and selling native herbs, ginseng, mushrooms and shade tolerant crops. The Center will provide education and research in agroforestry and will help to create markets for these products with the goal of maintaining and enhancing the forested land of the rural Northern Catskills region while also creating opportunities for financially stressed landowners to remain on the land.

### Agroforestry (AFT) Database

The World Agroforestry Centre announces this [species reference and selection guide](#) for agroforestry trees. In the context of the database, agroforestry trees are those that are deliberately grown or kept in integrated land-use systems and are often managed for more than one output. They are expected to make a significant economic or ecological impact, or both.



The main objective of the database is to provide detailed information on a number of species to field workers and researchers who are engaged in activities involving trees suitable for

agroforestry systems and technologies. It is designed to help them make rational decisions regarding the choice of candidate species for defined purposes. Information for each species covers species identity, ecology and distribution, propagation and management, functional uses, pests and diseases and a bibliography.

### SARE Agroforestry Projects

See the [Inside Agroforestry](#) newsletter.

### Trees Against the Wind

[Pacific NW Extension publication](#) about the planning, establishment and maintenance of windbreaks, shelterbelts, and living snow fences.

### Balancing Ecosystem Values: Innovative Experiments for Sustainable Forestry

Scheduled for August 15 - 20, 2004 in Portland Oregon, this workshop represents a significant step in identifying themes for the IUFRO Congress of 2005. It will also be valuable for scientists and land managers. For details and important upcoming dates, please visit <http://outreach.cof.orst.edu/ecosystem/>



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

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