

SUSTAINABLE AGRICULTURE

Farmworkers in organic agriculture: Toward a broader notion of sustainability

by Aimee Shreck, SAREP postdoctoral researcher; Christy Getz, assistant Cooperative Extension specialist, UC Berkeley; and Gail Feenstra, SAREP food systems analyst

Organic agriculture, one of the fastest growing segments of the food system, is increasingly being identified as an area of opportunity for California's agricultural sector in general, and for struggling small-scale farmers in particular. Much of the attention focuses on the benefits it provides to consumers (chemical-free foods) and to farmers (price premiums). But what about the implications of organic agriculture for the farmworkers who work on these farms? Are there specific benefits for this often overlooked group, and if so, does the boom in organic agriculture represent an opportunity to improve the difficult and dangerous conditions many workers face? Is organic agriculture more "socially sustainable" than conventional agriculture?

While "organic" and "sustainable" are not interchangeable terms, organic is frequently associated with the broader concept of sustainable agriculture, which integrates environmental health, economic profitability, and social and economic equity. Moreover, in the last few years, the organic movement has seriously debated if and how to incorporate social criteria into organic standards and certification requirements. The most ambitious effort is taking place at the international level. In 2003, the In-



Field workers, San Joaquin Valley, (photo by Bill Gillette, courtesy of California Institute for Rural Studies).

ternational Federation of Organic Agriculture Movements (IFOAM) adopted a new chapter on social justice for its Basic Standards (essentially, "standards for standards" that IFOAM-accredited certifiers must comply with). For years, organizations like California Certified Organic Farmers (CCOF) and more recently the California Sustainable Agriculture Working Group have been debating the idea of social standards, but the idea has never been popular enough for social standards to be seriously considered. Today there appears to be stronger interest in making a clear link between social justice and organic agriculture at this international level. In light of these developments, we conducted a study to better understand

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the developments related to social certification and organic agriculture in California.

Central to social certification programs in agriculture are criteria aimed at ensuring the working conditions for hired labor are fair, safe, healthy, and equitable. A review of the literature on sustainable and organic agriculture found that up to now, there has been very little attention given to farmworkers involved in organic agriculture. A common misperception among farmers and consumers is that organic certification already addresses working conditions for farmworkers, and that because organic agriculture rules forbid many toxic pesticides, it is often assumed that organic is “better” for farmworkers than conventional agriculture. However, since national organic standards do not include criteria for workplace conditions, and because there is so much diversity among organic farms that tend to be more labor intensive, we questioned these assumptions. Our research sought to

shed light on the broad question “What are the implications of the boom in organic agriculture for farmworkers in California?”

We began by investigating the perceptions of organic growers about the possible incorporation of social standards into organic criteria. In the spring of 2004, we administered an anonymous mail questionnaire to a random sample of 500 organic farmers in California. The sample was selected from a list of 1,762 organic and “mixed” growers—those with both organic and conventional acreage—that was provided by the California Department of Food and Agriculture. Completed questionnaires were returned by 188 organic farmers. The three-page questionnaire focused primarily on farmers’ thoughts about social sustainability in organic agriculture and included questions about farming activities, hiring and employment practices (when applicable), beliefs regarding sustainability, and basic demographic characteristics.

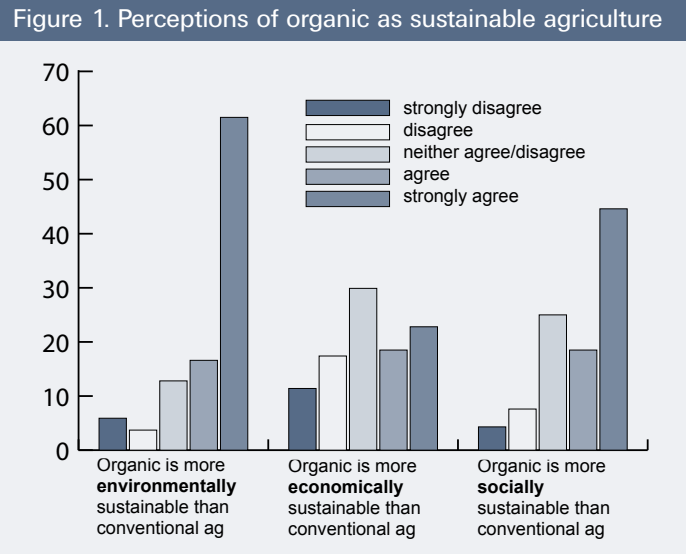
Like most organic farmers in California, the majority of the farmers responding to our survey operate at a small-scale in terms of area farmed and annual sales. Almost three-quarters (73.8 %) of respondents farm 50 acres or less, and 64 % of the farms reported less than \$50,000 in annual sales. A majority (58 %) has all of their cultivated land certified organic. Three-quarters of the farmers market ten or fewer crops, with just over 30 % growing only one crop for marketing purposes. The average (mean) amount of time practicing organic agriculture was 10.7 years and 71.5 % of the respondents were male.

Two-thirds of the farmers responding hire workers in addition to their families at least part of the year. Of these employers, half hire just six or fewer farmworkers at the

peak of their season and at least 68.3 % hire the workers directly (as opposed to using farm labor contractors). Respondents were asked if they believed organic agriculture was more environmentally, economically, and socially sustainable than conventional agriculture (see Figure 1). While a fairly large majority of farmers said organic was more environmentally sustainable, less than half think organic is more economically sustainable. Organic is generally seen to be more socially sustainable than conventional.

We found relatively little support from organic farmers for adding social certification standards to the current organic certification requirements. More than half of the respondents are opposed to this proposal.

We also asked about specific criteria that could potentially be adopted by an organic certification body, such as a requirement to provide health insurance or pay living wages. Most respondents felt that such measures were inappropriate for organic certification. Table 1 shows the percentages of respondents who indicated strong agreement or disagreement with some of the hypothetical requirements. In actuality, more than a third of the employers in the sample provide at least one fringe benefit to hired farmworkers. For instance, 26.2 % provide paid vacation while 19 % provide health insurance, 9.5 % provide dental insurance, and 19 % provide paid sick leave.



Profile of Hired Farmworkers in California

- about 800,000 hired in CA each year by 35,000 employers
- average annual earnings: \$7,000-\$8,000
- 82% male
- 95% foreign born
- median age of 32
- > 42% unauthorized to work

Characteristics of Farm Labor on California Farms

- predominantly seasonal work, long hours, high off-season unemployment
- low wages, overtime only after 60 hours/week
- exposure to toxic agrochemicals
- stoop labor, climbing, lifting often leading to musculoskeletal disorders
- high levels of stress, anxiety, depression

Martin, P. and B. Mason. 2003. “Hired Workers on California Farms,” in *California Agriculture: Dimensions and Issues*, edited by J. Siebert. Berkeley: UC Giannini Foundation of Agricultural Economics, Berkeley, pp. 191-214.

Martin, P. and J. E. Taylor. 2000. “For California Farm Workers, Future Holds Little Prospect for Change,” *California Agriculture* 54: 19-25.

Rosenberg, H.R., S.M. Gabbard, E. Alderete, and R. Mines. 1993. “California Findings from the National Agricultural Workers Survey,” U.S. Dept. of Labor.

Table 1.
Perceptions of growers' responsibilities to meet additional certification criteria

Certified growers should be required to provide:										
	collective bargaining rights		a living wage		health insurance		paid sick leave		paid vacation	
	n	%	n	%	n	%	n	%	n	%
strongly disagree	69	40%	42	24%	83	49%	83	49%	83	49%
disagree	11	6%	10	6%	16	10%	20	12%	22	13%
neither agree nor disagree	37	21%	40	23%	26	16%	26	16%	24	14%
agree	23	13%	32	18%	14	8%	14	8%	16	10%
strongly agree	33	19%	51	29%	29	17%	25	15%	23	14%

* Totals may not equal 100 percent due to rounding

It is important to recognize that growers might be philosophically in agreement with these ideas, but disagree that organic certification is the best way to address them. Some informed us that even though they *believe* that organic agriculture should ensure fair and healthy working conditions for farmworkers, it is not economically viable given the realities of the market. Most respondents (67%) felt that the hypothetical criteria would create an *unacceptable* financial burden.

Findings from this study provide insight into the implications of organic agriculture for farmworkers on California's farms. From the data we analyze here and additional interviews we conducted with leaders in the organic community, we found no consensus about whether organic agriculture, as it is currently practiced, is necessarily more socially sustainable for farmworkers than is conventional agriculture. Three phenomena may help explain this finding.

- ◆ It appears that the social dimension of sustainability is interpreted widely. Even though there is a general perception that organic agriculture is more socially sustainable than conventional agriculture, few farmers responding to our questionnaire felt that criteria regarding working conditions should be codified to ensure this was the case in practice. Remarkably, about 40 % of respondents "strongly disagree" with one of the proposed requirements, to "respect farmworkers' right to bargain collectively" even though it is already required by California law (under the Agriculture Labor Relations Act of 1975).

- ◆ The full costs of making organic agriculture socially sustainable are being externalized. Most employers in the study do not (and perceive that they cannot afford to) provide things like living wages and health insurance. Indeed, many small-scale farmers like those who participated in this study do not provide insurance for themselves. This finding is not surprising, as many of these same costs are externalized in the conventional agricultural system as well. Thus, the organic farming system, touted for the higher prices its products capture, is perceived as sustainable even as many costs go unpaid.

- ◆ Our in-depth interviews with organic farmers and others in the organic community confirm that there are a number of important exceptions to the patterns found in this short questionnaire: individuals whose practices are atypical, yet demonstrate that under some circumstances an organic production system can be at once environmentally, economically, and socially sustainable. We are further examining these examples to identify the farmers' motivations, challenges, and strategies.

The organic community in California has, at times, considered the inclusion of social standards for working conditions in organic agriculture. Advocates have suggested addressing the needs of farmworkers through the certification process, but certification groups have never formally adopted specific criteria. The official definition of

organic agriculture under the USDA's National Organic Program also excludes any certification criteria concerning farmworkers' rights or working conditions. However, the broader international organic community, including many U.S. groups, is moving closer to formally addressing the needs and rights of farmworkers and ensuring that organic agriculture is socially as well as environmentally and economically sustainable.

This study suggests that, at best, half-hearted support exists for social certification within organic agriculture in California. Our findings question expectations that organic agriculture systems *necessarily* foster social, or even economic sustainability for most farmers and farmworkers involved. Indeed, many farmers themselves forgo the kinds of employment benefits available to workers in most other sectors. A representative of the California Certified Organic Farmers Foundation summed up the situation as follows: "You go organic and get there and you're still in a system set up for failure. It's failing the farms, and it's failing the farmworkers, and it's failing the farm communities."¹

Our findings are very much in line with this viewpoint, also espoused in the literature (see Allen et al.).² We suggest that to create *production* conditions that are favorable to a broader conception of social justice, change is needed in the entire food system, not just at the point of production. Indeed, to move beyond the silence about labor within the sustainable agriculture and organic communities, we must situate these issues in the context of the entire food chain (production, processing, distribution and consumption). Only then can we hope to envision and create agriculture that is characterized by a truly comprehensive definition of sustainability: ecologically sound, economically viable, and socially responsible.

The authors are grateful for research support from the UC Institute for Labor and Employment.

NOTES

¹ Interview with representative from CCOF, 8/28/04.

² Allen, P., D. Van Dusen, J. Lundy, and S. Gliessman. 1991. "Integrating social, environmental, and economic issues in sustainable agriculture." *American Journal of Alternative Agriculture* 6(1): 34-39.

FROM THE DIRECTOR

Coordinating UC's efforts in sustainable agriculture

As emphasized in comments in this newsletter from our new program leader **Maxwell Norton**, sustainable agriculture is a priority for UC's Division of Agriculture and Natural Resources (UC ANR).

The overall UC ANR effort in sustainable agriculture generally, and organic agriculture in particular, is substantial. The UC Davis campus is moving to create an Agricultural Sustainability Institute and will be seeking to recruit an internationally recognized scientist to lead it. UC SAREP will be closely coordinated with that effort to help extend the benefits around the state.

UC SAREP recently initiated a survey of ANR personnel working in organic agriculture. Authors include **Chulgoo Kang**, a visiting scholar at UC SAREP and admin-

istrator at the Ministry of Agriculture and Forestry, Republic of Korea; **Jenny Broome**, former SAREP associate director now on academic leave in Scotland; **David Chaney**, UC SAREP education coordinator; and **Sean Swezey**, former UC SAREP director. Their survey identified 77 respondents who estimated they spend an average of 22 % of their time on organic farming research and extension. (The report will be posted on the SAREP Web site.) This is an underestimate of total UC effort in organic agriculture because many people working in that arena have not yet responded to the survey. Still, the survey indicates that at least at least 17 full-time UC staff equivalents are engaged in research that supports organic agriculture.

A key problem in the UC efforts on

sustainable agriculture is the coordination of research and outreach to make sure benefits reach the maximum number of people. State budget cutbacks have severely stretched (and stressed) staff to the limit, leaving little time for additional commitments. My priorities in the next several months include helping organize UC efforts in sustainable agriculture, and promoting more collaboration among those working in that area. In particular, I'm interested in recruiting new leadership for UC efforts in Biologically Integrated Farming Systems (BIFS) and organic agriculture. Strong leadership from our staff, in support of ANR administration, will help ensure our success.

—*Rick Roush, interim director, University of California Sustainable Agriculture Research and Education Program*

Sustainable agriculture – a priority for UC

Helping California agriculture make the transition to more sustainable farming systems is a priority for UC's Division of Agriculture and Natural Resources (ANR), which include Cooperative Extension, the Agricultural Experiment Station, and statewide programs such as UC SAREP. ANR's goals are to:



Maxwell Norton

- ◆ Help growers provide an adequate and dependable farm income
- ◆ Protect and enhance the natural resource base
- ◆ Reduce the use of non renewable resources and other production inputs
- ◆ Promote the economic viability, health and quality of life of local communities

To accomplish these goals, ANR's programs cover the entire spectrum of agricultural production from traditional practices to organic farming, all of which comprise the vibrant mix of industries that make up agriculture today.

Work toward our goals is done by the hundreds of farm advisors, researchers, instructors and program representatives who conduct related research and educational programs all around the state. Learning about projects that are relevant to your interests and needs is easy:

contact your local Cooperative Extension farm advisor. Additionally, there are three statewide programs that address sustainable agriculture:

- ◆ UC Sustainable Agriculture Research and Education (UC SAREP), www.sarep.ucdavis.edu
- ◆ UC Small Farm Program, www.sfc.ucdavis.edu/
- ◆ UC Statewide Integrated Pest Management (IPM) project, www.ipm.ucdavis.edu/

California agriculture continues to undergo tremendous transformation – and so does ANR and its programs. Making the transition to more sustainable and environmentally friendly farming systems is being compelled by new regulations, the state's exploding population and the economic pressures of the world marketplace. ANR is engaged and committed to helping California agriculture make these changes.

Recently ANR awarded almost a million dollars in grant funds as part of the core issues grants program. Many of these grants reflect the fact that sustainable agriculture is a high priority for the Division. A list of these grants can be found at <http://news.ucanr.org/news-storymain.cfm?story=644> and a full list of program priorities and target issues can be found at <http://ucanr.org/internal/planningi.shtml>.

—*Maxwell Norton, UC ANR Program Leader-Agricultural Productivity and farm advisor, UC Cooperative Extension, Merced*

Monterey County hires entomologist for lettuce aphid control research

Hugh Smith has joined UC Cooperative Extension, Monterey County to coordinate research and outreach on the UC SAREP project “Enhancing Biologically Integrated Farming Systems (BIFS) for lettuce on the Central Coast of California.”

Smith will work with farm advisor **Bill Chaney** on the U.S. Environmental Protection Agency Region 9-funded project to boost biological control for lettuce pests. The project was approved in May 2004, and will receive \$196,000 for two years (See “SAREP receives US-EPA grant for biological control of lettuce pests,” Sustainable Agriculture Summer 2004, Vol. 16, No. 1-2, www.sarep.ucdavis.edu/newsltr/v16n1/sa-1.htm.) Project leaders plan to seek additional funding from US-EPA to extend the work an additional two years. Smith received a Ph.D. in entomology from the University of Florida working on crop diversity and whitefly management. After graduation, he did research on insectary crops on organic and conventional farms before working on integrated pest management in the Northern



Hugh Smith

Mariana Islands and Hawaii. Most recently Smith taught and worked with farmers in Guatemala. He co-authored a review article entitled “Intercropping and Pest Management” for *American Entomologist* in 2000, and has published several papers related to crop diversity and pest management. His research interests include enhancing natural biological control in conventional and organic farming systems, and participatory methods of farmer training.

In Salinas, Smith will be focusing on the role of different hoverfly larvae in controlling the lettuce aphid, one of the crop’s most important pests. He will be cooperating with key organic growers, the Community Alliance with Family Farmers, and the Agriculture and Land-Based Training Association. The project will be a combination of field research and outreach activities. Smith can be reached at (831) 759-7364 or by email at hasmith@ucdavis.edu.

Organic farming compliance handbook available online

With organic produce now the fastest growing segment of agriculture, farmers and advisors are looking for accurate information about production and marketing. A new source of information is an online organic compliance handbook posted to the UC SAREP Web site.

Organic Farming Compliance Handbook: A Resource Guide for Western Region Agricultural Professionals is available at www.sarep.ucdavis.edu/organic/complianceguide/. It was written and compiled by **Brian Baker, Sean L. Swezey, David Granatstein, Steve Guldán** and **David Chaney**.

“Growers and advisors want the most up-to-date information about organic farming,” said Chaney, education coordinator for UC SAREP and federal Western Region Sustainable Agriculture Research and Education (SARE) program representative. The online handbook, funded by Western SARE, is aimed at agricultural professionals in the West.

“We’re being asked more questions about practices and

the standards organic farmers have to meet,” said **Mark Gaskell**, UC Cooperative Extension farm advisor in Santa Barbara County. “This online guide will be a valuable resource in providing assistance to those farmers and ranchers.”

The online handbook is organized in seven sections, including the principles of organic agriculture, national organic standards, setting up organic production plans, materials, marketing and economics, and resources and organizations.

Project cooperators are UC SAREP, Organic Materials Review Institute (OMRI), Washington State University Center for Sustaining Agriculture and Natural Resources, and New Mexico State University. Editors include personnel from OMRI, UC SAREP, Oregon State University, Washington State University and UC Santa Cruz.

For more information, contact Chaney at (530) 754-8551,

dechaney@ucdavis.edu.

ORGANIC NEWS

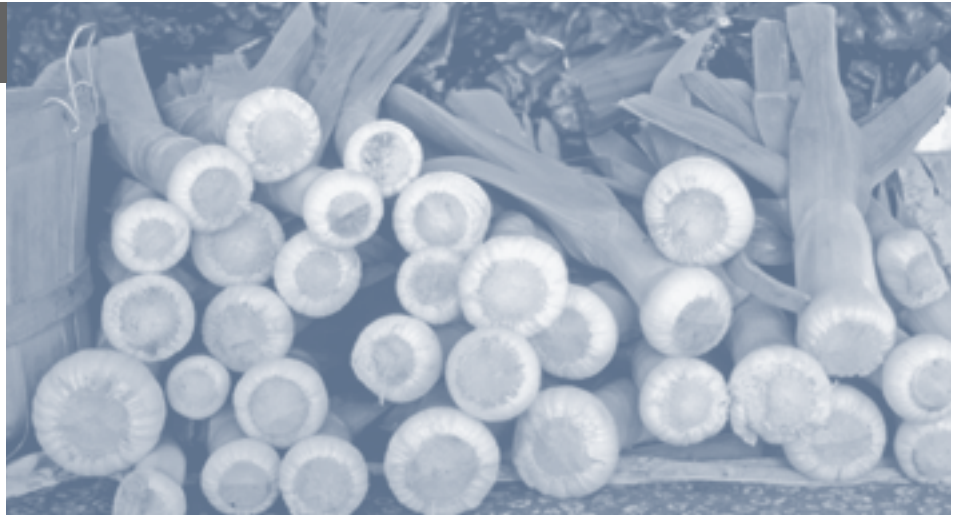
UC sustainable ag, organic farming summer course

The University of California, Davis is offering an eight-week summer course *Sustainable Agriculture and Organic Farming: Principles and Practices* June 27 to Aug. 18, 2005. Thirteen hours of field activities per week are combined with lectures, discussions and field trips to provide an in-depth introduction to sustainable agriculture and organic farming practices, with a focus on annual crop production. Field activities focus on developing a broad range of practical skills and knowledge used in commercial organic crop production, including crop, soil, water, and pest management, composting, tractor and equipment operations, and harvesting and marketing crops. Lectures and discussions focus on the scientific principles of sustainable agriculture and organic practices and explore broader issues related to agricultural sustainability.

The five-unit course meets Monday-Friday from 8 a.m. to 12:30 p.m. (end times may vary) and is graded on a Pass/No Pass basis. For information, contact **Mark Van Horn**, (530) 752-7645, mxvanhorn@ucdavis.edu.



Students at UC Davis Student Experimental Farm summer course learn to use transplanter. (photo by Mark Van Horn, UC Davis Student Experimental Farm)



Organic leeks and strawberry chard from Good Humus Produce at Davis Farmers Market. (photo by Lyra Halprin, SAREP)

Organic vegetable production short course in Salinas

by Lyra Halprin, SAREP

In response to growing demand for organic vegetables and an increasingly competitive market, the University of California Cooperative Extension offered a one-day course in organic vegetable production on January 18, 2005 in Salinas.

“Organic vegetable production has grown into a significant part of the California agriculture industry,” said **Richard Smith**, UC Cooperative Extension farm advisor in Monterey County, one of the program organizers. “We were pleased to be able to offer this short course with presentations by local and statewide experts on all aspects of organic vegetable production, from the costs of production to soil and pest management.”

Santa Cruz County Cooperative Extension Director **Laura Tourte** discussed the costs of producing organic lettuce and broccoli, Smith presented a talk on cover crops in organic crop production, and **Louise Jackson**, UC Davis land, air and water resources professor, presented results of a three-year study on the transition to organic production for cool-season vegetables.

Will Horwath, UC Davis land, air and water resource department professor, talked about the role of soil organic mat-

ter and its impact on crop production. **Mark Gaskell**, UC Cooperative Extension farm advisor in Santa Barbara, added to the discussion on soil management by presenting information on sources of nitrogen fertilizers for organic growers and how they differ in the release of nitrogen.

Other topics included weed management, organic sources of nitrogen, and organic disease management. Researchers and growers also participated in a panel discussion on insectaries and border plantings to control insects in organic vegetable production. All participants received a manual on the topics covered.

“The course emphasized readily usable information for small- and large-scale growers,” said **Milt McGiffen**, Cooperative Extension specialist and plant physiologist at UC Riverside, a program organizer.

Other sponsoring organizations were the UC Sustainable Agriculture and Research and Education Program, the California Department of Food and Agriculture’s “Buy California” Initiative, the Community Alliance with Family Farmers, and the Columbia Foundation. The full agenda for the workshop and PowerPoint presentations by speakers are available on the SAREP Web site at www.sarep.ucdavis.edu/Organic/courses.htm

ORGANIC PROGRAM GRANTS

The USDA's Cooperative State Research, Education and Extension Service (CSREES) is offering grants for its Integrated Organic Program of the USDA. Go to the Agricultural Systems Emphasis Area (www.csrees.usda.gov/nea/ag_systems_ag_systems.html) and click on "Organic Agriculture." Proposals must be received at CSREES headquarters by **May 2, 2005**. The purpose of the Integrated Organic Program is to solve critical agriculture issues, priorities, or problems through the integration of research, education, and extension activities in two program areas: (1) Organic Transitions Program (ORG); and (2) Organic Agriculture Research and Extension Initiative (OREI). ORG funds the development and implementation of research, extension, and higher education programs to improve the competitiveness of organic producers. OREI funds research and extension programs that enhance the ability of producers and processors who have already adopted organic standards to grow and market high quality organic food, feed, and fiber. These two funding opportunities are included in the same Request for Applications.

WESTERN SARE GRANTS PRE-PROPOSALS, PROPOSALS

The USDA's Western Sustainable Agriculture Research and Education (WSARE) program

is releasing calls for proposals in early April. The call for proposals will be available in four categories: Research and Education, Professional Development, Farmer/Rancher, and Ag Professional+ Producer. Calls for pre-proposals and proposals, as well as funded project results, are available at the program's Web site <http://wsare.usu.edu>, or by contacting the Western SARE office at Utah State University at (435) 797-2257 to request an application. Four regional councils implement the national SARE program, which was mandated by Congress in the 1985 and 1990 Farm Bills and extended by the 1995 Farm Bill reauthorization. Western SARE is coordinated by Utah State University soil scientist **V. Philip Rasmussen** and led by an administrative council that represents diverse agricultural, business, producer, and public interests in the West. The Western Region includes Alaska, American Samoa, Arizona, California, Colorado, Guam, Hawaii, Idaho, Micronesia, Montana, Nevada, New Mexico, N. Mariana Islands, Oregon, Utah, Washington, and Wyoming.

VALUE-ADDED AGRICULTURE GRANTS

The USDA is offering \$14.3 million in grants that will support the development of value-added agriculture business ventures and the development of alternative sources of renewable energy. The grants are aimed at providing

farmers and ranchers with investment funds to expand their role in developing and marketing value-added products. Examples include making grain into bread products or ethanol, growing organic or heirloom vegetables, or generating electricity from farm-based dairy lagoons. Priority consideration will be given to those grant applications that have at least 51% of project costs dedicated to activities for a bio-energy project. Grants are available to independent producers, agricultural producer groups, farmer or rancher cooperatives, and majority-controlled producer-based business ventures. Applications must be received no later than **May 6, 2005**. For more information, see the USDA Rural Development Web site at www.rurdev.usda.gov/ca or see the PDF file at <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/pdf/05-4310.pdf>.

ORGANIC RESEARCH GRANTS

The Organic Farming Research Foundation is offering research grants of up to \$15,000 for organic farming research and related topics. Deadlines for proposal consideration are **July 15** for the fall funding cycle and **December 15** for the spring funding cycle. For more information see OFRF's Web site (www.ofrf.org), call 831-426-6606 or email research@ofrf.org.

IPM FOR GARDENERS

IPM for Gardeners: A Guide to Integrated Pest Management, by **Raymond A. Cloyd, Philip L. Nixon and Nancy R. Pataky**, September 2004. Timber Press, Inc. 252 pages, 149 color photos. \$24.95. To order, go to www.timberpress.com, or call (800) 327-5680.

LINKING FARMS WITH SCHOOLS

Linking Farms with Schools: A Guide to Understanding Farm-to-School Programs for Schools, Farmers and Organizers, by **Marion Kalb, Kristen Markley and Sara Tedeschi**, 2004. Community Food Security Coalition (CFSC), 2004. Details the benefits, challenges and strategies for success for building successful farm-to-school projects; includes case studies of innovative projects and an extensive resource list (\$10 + shipping). To order, contact CFSC,

P.O. Box 209 Venice, CA 90294; (310) 822-5410, fax: (310) 822-1440, or go to www.foodsecurity.org/pubs.html#linking.

MICRO FARMS

Micro Eco-farming: Prospering from Backyard to Small Acreage in Partnership with the Earth, by **Barbara Best Adams**, 2004. New World Publishing. This guidebook describes what can be grown in backyard or small acreages, detailing innovative farming methods and creative marketing. Includes many real-life examples, resource listings (\$20.95 includes shipping/handling). To order, contact New World Publishing, 11543 Quartz Dr. #1, Auburn, CA 95602; (888) 281-5170 or www.nwpub.net.

RESOURCES

CALENDAR

* SAREP WEB CALENDAR AND ONLINE COURSE

SAREP offers a regularly updated sustainable agriculture calendar on our World Wide Web site at: www.sarep.ucdavis.edu (click "Calendar" on top menu bar). Please feel free to add sustainable agriculture events. In addition, we offer an online course for pest control advisors and others titled Ecological Pest Management in Grapes. Up to 11 CE credits for California PCAs. See www.sarep.ucdavis.edu/courses/grapes/

* NATIONAL/INTERNATIONAL CALENDAR

The National Agricultural Library maintains a calendar as part of AgNIC at www.agnic.org. It links to more than 1,200 major national and international agricultural conferences.

* MONTHLY MEETINGS

Lighthouse Farm Network The Community Alliance with Family Farmers (CAFF) sponsors informal monthly meetings for growers to discuss issues related to pesticide use reduction. Contact: Molly Johnson, (530) 756-8518, ext. 30, molly@caff.org; or Liv Nevin, (831) 761-8507, buylocal@calcentral.com; www.caff.org

MARCH

29 California Nematology Workshop, UC Davis. A specialized program on nematode problems/solutions for pest management professionals, growers, nursery employees, arborists, landscapers, municipal/state employees, parks/recreation personnel, educators & consultants. Fee: \$25. 7 hours PCA credit pending. Information/enrollment: Contact Howard Ferris, (530) 752-8432 or go to <http://ucdnema.ucdavis.edu>

APRIL

22-24 Marin Environmental Film Festival, Smith Rafael Film Center, 1118 4th St, San Rafael. Films, panel discussions on environmental issues, + Sustainable Food Tasting Event to inspire community support for the farmers, producers & chefs working to promote a healthy, sustainable food system in Northern California. Sponsor: Environmental Forum of Marin. Information: www.marinenvironmentalfilmfestival.org

MAY

7 - 20 Permaculture Design Certification Course, Garberville, Calif. Island Mountain Institute. Permaculture refers to land use systems that promote stability in society, use resources in a sustainable way, preserve wildlife habitat, & promote the genetic diversity of plants & animals. Lecture, discussion, observation, field study,

hands-on activities, for design/implementation of natural systems. A cob building course follows. Tuition: \$500 plus accommodations. Information: see www.imisa.org/prod01.htm

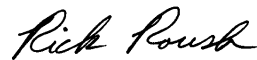
27 Organic Olive Oil Production Shortcourse, Santa Rosa Junior College Shone Farm. Agroecology of olive orchards, soil and orchard nutrition, site selection/varieties, certification, pest control. Contact: Paul Vossen, pmvossen@ucdavis.edu, 707-565-2621.

JUNE

9-12 Visualizing Food and Farm, Agriculture, Food & Human Values Society annual meeting, Portland, Ore. Information: see www.clas.ufl.edu/users/rhaynes/afhvs/ or contact Debra Lippoldt, deb@growing-gardens.org.

14 2nd Annual Regional Integrated Pest Management Conference, Oakland City Center Marriott Hotel, Oakland. Educational/technical materials, program support, access to extensive network of IPM knowledge/expertise. Focus is on meeting the needs of local public agencies working to incorporate IPM in internal operations. Information on IPM principles + examples of applications. Contact Naresh Duggal, 408-299-5105 or Barbara Silva, 510-494-4575, bsilva@ci.fremont.ca.us.

SUSTAINABLE AGRICULTURE is a publication of the UC Sustainable Agriculture Research and Education Program (SAREP). SAREP provides leadership and support for scientific research and education to encourage farmers, farmworkers, and consumers in California to produce, distribute, process and consume food and fiber in a manner that is economically viable, sustains natural resources and biodiversity, and enhances the quality of life in the state's diverse communities for present and future generations. SUSTAINABLE AGRICULTURE is published three times yearly by SAREP staff from its UC Davis offices, with assistance from ReproGraphics, UC Davis. Mailing address is: UC Sustainable Agriculture Research & Education Program, University of California, One Shields Ave., Davis, CA 95616-8716. Internet: www.sarep.ucdavis.edu Email: sarep@ucdavis.edu Telephone: (530) 752-7556, Fax: (530) 754-8550. Material in this publication may be reprinted with credit, except articles that have been reprinted from other publications.



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Editor/Public Information Representative: Lyra Halprin lhprin@ucdavis.edu
Education Coordinator: David Chaney dechaney@ucdavis.edu
Agricultural Ecology Analyst: Robert L. Bugg rbugg@ucdavis.edu
Food Systems Analyst: Gail Feenstra gwfeenstra@ucdavis.edu
Program Assistant*: Jeri Ohmart johmart@ucdavis.edu
BIFS Coordinator: Bev Ransom baransom@ucdavis.edu
Computer Resource Specialist (shared position): James Cannon jhcannon@ucdavis.edu
Financial Manager: Joanna Luna jluna@ucdavis.edu
Office Manager: Linda Fugitt lfugitt@ucdavis.edu
Student Assistant: John Farrar jdfarrar@ucdavis.edu
Interim Director: Rick Roush rtroush@ucdavis.edu
On leave: Jenny Broome jcbroome@ucdavis.edu
*grant-supported



SUSTAINABLE AGRICULTURE

UC Sustainable Agriculture Research & Education Program
One Shields Avenue
University of California
Davis, CA 95616-8716

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