



# Small Farm News

VOLUME 11 2000

SMALL FARM CENTER • COOPERATIVE EXTENSION • UNIVERSITY OF CALIFORNIA

## Organic Conference Educates Growers

by Jeannette Warnert, public information representative, University of California

Along with scientific solutions and novel ideas, a sense of hope for the future of organic agriculture was conveyed to farmers at the Organic Farming Conference in the San Joaquin Valley June 29-30 in Reedley, California.

Successful organic farmers, brokers of organic foods and business people who create organic inputs reminded participants that organic farmers serve a market that commercial agriculture cannot satisfy, and that market is growing. "There is a strong future for organic farms," says UC Small Farm Program farm advisor Richard Molinar. "But there are also many challenges to face on the way to producing and marketing organic food."

Helping farmers overcome challenges was Molinar's goal when he set out to create the valley's first organic farming conference. He teamed up with UC Cooperative Extension, California Certified Organic Farmers, the UC Small Farm Center and Reedley College to develop an event that drew more than 100 participants. "Organic farmers are up against a lot," Molinar said. "We wanted to send them back to the farm with concrete information to put to use on their farming operations, and also



Organic apples, shown here at the Davis Food Co-op in Davis, California, are part of the \$3.5 billion organic industry.

## From Cottage Industry to Conglomerates: The Transformation of the U.S. Organic Foods Industry

by Desmond Jolly, extension economist, UC Davis, and director, Small Farm Program

Organic agriculture developed during the 1960s and 1970s as part of the counter-cultural response to the conformist, bland, middle-American culture of the 1950s. In its early incarnations, it was essentially a cottage industry comprised of very small-scale operations. It took some time for the values of organic production to penetrate mainstream consumers, but a recent marketing survey revealed that about a third of U.S. food consumers purchase organics with varying degrees of frequency.

Organic products now represent a \$3.5 billion market, growing at a rate of 15 – 20 percent per year. Clearly, this represents an important economic opportunity that has begun to attract attention from serious business interests that will eventually "mainstream" organic foods while possibly marginalizing the small-scale farmers that nurtured the industry in its infancy and growth. California's organic industry is the most developed among the U.S. states and territories, and the evolution of the structure of farm production is likely predictive of the pattern that will evolve in the U.S. as a whole.

### Structural Trends and Prospects

A survey of California organic growers covering 1992 – 1995 concluded that "...registered organic agriculture was highly concentrated. Two percent of all registered farms, those who grossed over \$500,000 annually, captured over half of the state's total sales. Less than 3 percent of all growers, who grossed between \$250,000 and \$500,000 annually, gained another one-sixth of total revenue. At the low end of the scale, two-thirds of all farms, which grossed under \$10,000 per year, realized less than 5 percent of all sales in the state." *Statistical Review of California's Organic Industry, 1992-1995, University of California Agricultural Issues Center, (1998).*

—CONTINUED ON PAGE 6

—CONTINUED ON PAGE 4

### IN THIS ISSUE

**1** From Cottage Industry to Conglomerates: The Transformation of the U.S. Organic Foods Industry

Organic Conference Educates Growers

**3** Program News

**8** Best Management Practices for Promoting Food Safety in Organic Production: Water Quality

**10** Remembering Kathleen Barsotti

**12** Farm Conference 2000

*From the UC Office of the President*

## Jolly Reappointed UC Small Farm Program Director

By Jeannette Warnert, public information representative, University of California



*Desmond Jolly delivers the dinner keynote presentation at the Second National Small Farm Conference in St. Louis, Missouri, October 1999.*

UC Davis agricultural economist Desmond Jolly has been appointed to a second five-year term as director of the state-funded UC Small Farm Program, which provides research-based information and counsel to California's small-scale farmers.

"Dr. Jolly is an internationally recognized expert on small farm issues, with a deep understanding and appreciation of the many challenges and barriers facing California's small and limited resource growers," said UC Agriculture and Natural Resources Associate Vice President Henry Vaux, who announced the appointment. "I'm pleased that he agreed to serve a second term."

Small-scale farms, defined by the U.S. Department of Agriculture (USDA) as farms with annual gross sales between \$1,000 and \$250,000, number nearly 60,000 in California and represent \$2.3 billion in annual production. The UC Small Farm Program includes the UC Small Farm Center based in Davis, which serves as a clearinghouse for small-scale production information. The center's staff responds to the needs of farmers, marketers, farm advisors and government agencies by conducting conferences, publishing materials and maintaining a library of journals, books and scientific reports.

conduct research on fruit and vegetable varieties, pest control methods, cultural practices and irrigation strategies best suited for small-scale farmers in their localities.

**"I would like to have our state's policy makers get a sense of what contributions small, family farms are providing California."  
—Desmond Jolly**

During his five years at the helm, Jolly has maintained the program's role as an important source of technical information and has made additional efforts in the arena of farming issues and public policy.

"We're now more involved with issues like pesticide safety, resource management, food safety, and encouraging and facilitating diversified farm enterprises to include things like agricultural tourism, value-added production and marketing," Jolly said. "We've tried to improve the accessibility of the USDA and the Land Grant system to small farmers. I think we've had some measure of success there."

The UC Small Farm Program also reaches into communities with full-time farm advisors based in Fresno, Tulare, Santa Barbara, San Benito, San Diego, and San Joaquin counties. They develop and implement education programs and

In 1997, U.S. Department of Agriculture Secretary Dan Glickman appointed Jolly to the National Commission on Small Farms. The commission held hearings in farming communities nationwide and submitted a report to Glickman in 1999 titled "A Time to Act," which contains the most significant policy recommendations made to the Clinton Administration on small-scale, family farms.

Jolly now sits on the National Advisory Board for Research, Extension, Economics and Education, the top research and education advisory board for USDA. The board looks at the USDA's range of research and education activities and makes recommendations for policy and funding priorities.

In the coming years, Jolly said he will continue to focus efforts on a diversity of activities. Initiatives promoting food safety, agri-tourism and value-added enterprises will be at the top of the Small Farm Program's agenda. In addition, Jolly said he plans to continue working with public policy makers.

"I would like to have our state's policy makers get a sense of what contributions small, family farms are providing California, and determine how the legislature and local governments can facilitate the sustainability of these farmers," Jolly said. ■

**Visit the Small Farm Center  
web site at  
[www.sfc.ucdavis.edu](http://www.sfc.ucdavis.edu)**

# program news

## Appointments

**Desmond Jolly**, agricultural economist, Department of Agriculture and Resource Economics, UC Davis, has been reappointed director of the UC Small Farm Program. See related story on page 2.

## Visitors

Members of the **Danish Agriculture Extension and Advisory Center** visited with representatives of several UC Davis departments and programs to learn about different areas of agricultural outreach. **Susan McCue**, web manager, Small Farm Center, presented features of the Small Farm Center web site to demonstrate its variety of information technology transfer methods.

**Desmond Jolly** briefed various international visitor delegations on the Small Farm Program. Visitors included a group of farmers, researchers, and members of the legislature from Albania, led by Professor **Velesin Peculi**, rector of the Agricultural University of Tirana.

Jolly also hosted **Darius Bartecki**, advisor to the Minister of Economy, Poland, for an exchange on alternative enterprises for Poland's small scale agriculture.

**Donna Frances**, school principal at Life for Ethiopian Children in rural Ethiopia, visited the Small Farm Center for information about international permaculture and earthen construction for animal shelters.

**Harold Baeten**, retired biology professor, St. Norbert College, Wisconsin, visited the center and spoke with technical assistant **Solomon Teklu** about ways to assist Wisconsin family dairy farmers.

## Awards

**Michael Yang**, field assistant, UC Cooperative Extension, Fresno County, received a Spot Award for his work as a Hmong translator for UC Integrated Pest Management (IPM) Program classes. With two days' notice, Yang stepped in to teach two evening pesticide safety courses a week for six weeks.

The Davis-based DANR Unit Employee Spot Award is given in recognition of a significant one-time contribution to its programs or departments. The award was cosponsored by the Small Farm Program.

**Jennifer Weber**, program representative, IPM, and a member of the Small Farm Workgroup, also received a Spot Award in recognition of her extraordinary efforts in teaching classes for the same IPM project.



*Michael Yang presents a 30-minute radio broadcast for Hmong farmers.*



SMALL FARM NEWS is published by the Small Farm Center, University of California, One Shields Ave., Davis, CA 95616-8699; phone (530) 752-8136; fax (530) 752-7716; e-mail: [sfcenter@ucdavis.edu](mailto:sfcenter@ucdavis.edu); web site: <http://www.sfc.ucdavis.edu>

Director: Desmond Jolly, [dajolly@ucdavis.edu](mailto:dajolly@ucdavis.edu)  
 Secretary: Birgit Hempel, [sfcenter@ucdavis.edu](mailto:sfcenter@ucdavis.edu)  
 Newsletter Editor: Susan McCue, [semccue@ucdavis.edu](mailto:semccue@ucdavis.edu)  
 Postgraduate Researcher: Janeen Simon, [sfstudents@ucdavis.edu](mailto:sfstudents@ucdavis.edu)  
 Technical Assistant: Solomon Teklu, [steklu@ucdavis.edu](mailto:steklu@ucdavis.edu)  
 Administrative Assistant: Linda Vieira, [lmvieira@ucdavis.edu](mailto:lmvieira@ucdavis.edu)  
 Student Intern: Scott Whittington

The Small Farm Center links those who need information on small-scale farming with those who have the information. The Center produces publications and a newsletter; sponsors conferences and seminars; holds a library of periodicals, reports and books; gives referrals; and answers requests for information.

Readers are encouraged to send us information, express views, and contact us for assistance. Mention of a specific product is intended for the reader's information — not as a recommendation of that specific product.

*From Cottage* —FROM PAGE 1

Table 1 shows the number and percentage of California farms that were certified and registered between 1992 and 1995.

From Table 1, we observe that as the size of the operation increases, the probability that the operation will be certified and registered as organic increases, and there is a high and direct correlation between size of operation and the probability of being certified. If certification becomes a significant marketing element, which it is almost certain to become, then the smallest producers may become increasingly marginalized.

The paradox in the growth and penetration of organics into America's consumption mainstream is that small-scale producers were among its most articulate advocates and supported a national organic standard. But the costs of certification, along with the transaction costs that marketers seek to minimize, means that small-scale producers will not be meaningful players in the organic industry as such.

As mainstreaming continues, the role of health food stores is decreasing and natural food supermarkets are developing, mimicking conventional supermar-

kets in all but their product lines. Two major supermarket chains have evolved, both listed on the stock exchange. A report in the January 1997 issue of *Natural Foods Merchandiser* magazine is indicative of trends in retail and wholesale marketing. According to the article by Matthew Patsky, "Consolidations, mergers, acquisitions and public offerings were common themes among businesses mak-

ers (market capitalization) surpassed \$10 billion for the first time. As a result, industrial money managers met this milestone by including these stocks in the portfolios at most major mutual fund houses. Not surprisingly, some of the best performing funds for 1997 held large positions in this sector."

Patsky's article describes one acquisition by Whole Foods, which acquired Amrion for \$160 million. Further, "...both Whole Foods and Wild Oats continued to acquire well positioned retail operations in target markets such as Chicago and southern Florida." The Hain Food Group acquired Westbrae Natural in Carson, California, and entered the \$100 million sales category.

In the food processing and product fabrication arena, a similar trend towards increased consolidation can be witnessed. For example, Shamrock Holdings, a venture capital company operating with Disney family money, now owns Fantastic Foods and Cascadian Farms, a former independent organic food company. Other venture capital companies own Health Valley Co. and Breadshop's Natural Products. As Patsky notes, "All of these companies are well-positioned to grow rapidly. They

**"But the costs of certification ... means that small-scale producers will not be meaningful players in the organic industry as such."**

ing up what we call the Healthy Living category. On average, these companies, comprised of publicly traded companies in the natural products industry, posted almost 50 percent gains in 1997."

"The largest industry players, including Pittsburgh's General Nutrition; Austin, Texas-based Whole Foods Market; and Wild Oats Markets in Boulder, Colorado; all saw their stock prices more than double during the year. The total equity value of the publicly traded industry play-

**Table 1. Percentage of California Farms Certified and Registered between 1992 and 1995.**

Sales Class	Registered Organic		Certified Organic	Certified/Registered Organic (%)
	1992-93	1994-95	1994-95	1994-95
\$0-10,000	740	907	188	21
\$10,001 – 25,000	142	149	72	48
\$25,001 – 50,000	93	97	66	68
\$50,001 – 100,000	73	90	78	87
\$100,001 – 250,000	56	65	54	83
\$250,001–500,000	32	34	29	85
\$500,001–1,000,000	13	13	13	100
\$1,000,001 and above	8	17	17	100
<b>Total Number of Growers</b>	<b>1,157</b>	<b>1,372</b>	<b>517</b>	<b>38</b>

Source: University of California Agricultural Issues Center, *Statistical Review of California's Organic Agriculture, 1992 – 1995.*

have the financial resources and the commitment of their venture owners; they will continue to acquire other natural products brand name companies. Any brand with more than \$10 million in revenue is a potentially attractive acquisition for any of these four growing companies.”

## Conclusions

To date, the evidence on farm structure of the California organic industry strongly suggests that small-scale family operations will be increasingly marginalized from mainstream organic markets. And based on the trends in the food fabrication and marketing segments of the industry, small health food stores will either be absorbed as parts of national



*The Davis Food Co-op in Davis, California, sells both organic and conventional produce.*

retail chains or themselves be marginalized as small players in the burgeoning natural foods and organic foods industry. As of December 1999, Wild Oats owned 105 stores, having gone on a store-buying binge. Drawing inferences from the performance of the conventional food production and marketing system, we can predict that over time, prices of organic fresh products may decrease somewhat in terms of the differentials from their conventional counterparts.

Additionally, the farm share will decline, while the marketing share will increase. Farmers will supply raw product, and food companies will be responsible for the value-added component. Branding and labeling, promotion, advertising and other selling costs will take on greater and greater significance and present significant barriers to entry. The level of competition will decline as the industry

becomes more characterized by monopolistic competition and eventually, perhaps, oligopoly.

Small scale farmers will need to even more keenly develop relationship marketing systems based on direct exchanges with consumers, grounded in trust and



*Farmers' markets provide organic farmers with direct consumer interactions that can build trust and intimacy.*

intimacy. They may need to develop new mechanisms of product differentiation to compete with larger entities. If they are successful in this direction, many can continue to be viable operations for at least the next couple of decades.

## References

Patsky, Matthew. *Growth, consolidation, 1997 highlights*. Natural Foods Merchandiser, January 1998, 1-4.

University of California Agricultural Issues Center. *Statistical review of California's organic industry, 1992 - 1995*, July 1998.

*This paper was presented at the International Federation of Organic Agriculture Movements (IFOAM) 2000: The World Grows Organic Conference, in Basel, Switzerland, August 25-September 2, 2000. ■*

## Agri-tourism Information Needed

Farmers who want to generate income by inviting visitors to their farms may submit farm information for the UC Small Farm Center online agri-tourism directory, which is now under development.

Information on everything from informal farm stays to well-established agri-tourism enterprises is being cataloged in a web database to give tourists an easy way to search for a farm experience in specific counties or ZIP codes.

Agri-tourism can take many forms. Roadside stands and farmers' markets offer farm-fresh produce and interaction with growers. Ranches may open to the public for wildlife watching and hunting. Ag tours, on-farm bed and breakfasts, and dude ranches give tourists the fresh air, open space and relaxation of country life.

U-pick operations, pumpkin patches, Christmas tree farms, corn mazes, farm-animal petting zoos, wine tasting, ag heritage museums, festivals and fairs all attract visitors.

To submit an agricultural operation to the UC Small Farm Center agri-tourism directory, send the following information:

- Name of operator/owner
- Name of operation
- Type of operation (farm stand, U-pick, cattle ranch, etc.)
- Street address/city/state/zip
- County
- Phone/fax/email/Web address
- Hours of operation
- Products/services/special events
- Directions to the site (major high ways, junctions, etc.)
- Contact name

Mail information to the Small Farm Center, University of California, One Shields Ave., Davis, CA 95616-8699; email [sfcenter@ucdavis.edu](mailto:sfcenter@ucdavis.edu); phone (530) 752-8136; fax (530) 752-7716. ■

## Organic Conference —FROM PAGE 1

the desire to maintain their commitment to natural, sustainable farming practices.”

The farmers' commitment to sustainable production was galvanized by the conference's keynote speaker John Ikerd, professor emeritus of the University of Missouri and an outspoken critic of the trend in America toward large, conventional corporate farming.

Ikerd said corporate farming has served neither the farmer nor the consumer. Corporate farms increase production, which drives down prices for farmers and eliminates the connection between the farmer and the land. The environment suffers, he said, when farming systems characterized by specialization, standardization and mechanization rely on pesticides and chemical fertilizers. Consolidation results in failing rural communities, he said, and leaves consumers with less nutritious, less flavorful foods.

“For farming to be sustainable, farmers must love the land they farm and each farmer can only love so much land,” Ikerd said. The crowd expressed their approval of Ikerd with a spontaneous and sustained standing ovation.

“It was very validating to me to know that I am on track with someone who has done the research,” said Mark McAfee, a Kerman farmer who produces organic apples, almonds, alfalfa and soon, organic milk. “My farm is a good example of sustainable agriculture.”

## Sessions and Tours

Conference participants spent the first afternoon in 25 breakout sessions categorized in five subject areas: vegetables, fruits and vines, soil/compost/nutrition, marketing and general. A diversity of speakers from UC Davis, UC Cooperative Extension, the UC Kearney Agricultural Center, the USDA Agricultural Research Service, Fresno State University and several private companies gave farmers the opportunity to select topics to meet their specific needs.

Three tours were organized for the second day to further tailor the conference to participants' interests. One tour began at the **UC Kearney Agricultural Center**,

where integrated pest management plant pathologist Jim Stapleton and UC Davis entomologist Charlie Summers reviewed research that shows growing tomatoes over reflective mulches is an effective method of enhancing productivity by repelling aphids that transmit plant diseases.



*Carolyn Foxe of C & C Vermiculture discusses her organic vermiculture operation with tour members. Photo by Jeannette Warnert.*

The shade of towering pecan trees welcomed the group to its second stop, **C & C Vermiculture**, a worm composting and consulting business near Visalia. Two years ago, Carolyn Foxe and Charmaine



*This worm separator machine was custom-built for C & C Vermiculture. Photo by Jeannette Warnert.*

Harris began using red worms to compost organic material on the berms between pecan trees at the Harris Ranch. The worms expedite the composting process, transforming such inputs as dairy manure, green waste, grape pomace, gin trash and other materials into a nutrient- and microbe-dense soil amendment.

Tour participants were faced with a stark contrast at **New Era Farms of Visalia**, a 60-acre facility where dairy manure is composted on a much larger scale. Heat waves blurred the horizon and visi-

tors squeezed into a sliver of shade from a parked compost turner as Ralph Jurgens described how his operation creates and mixes custom blends of compost for individual farmers.

Depending on the chemistry of his client's soil, a fraction of limestone, gypsum, potassium or micronutrients might be mixed into the compost after its final turn.

At the **Good Bugs Insectary** east of Visalia, Nick Macris explained how *Aphytis* wasps are reared and marketed to citrus growers for red scale control. Two-foot-long pod shaped squash are inoculated with scale. *Aphytis* that are later sprinkled on sting the scale and lay eggs that will hatch and be harvested for sale to farmers.

Another group of conference participants visited several successful organic farms, including the **T & D Willey Farms** in Madera County, where owner Tom Willey demonstrated equipment he uses to lay plastic for soil solarization and form his vegetable planting beds. The group visited **Sherman Thomas Farm**, where farm manager Mike Braga led a tour of its organic fruit and nut orchards. He also demonstrated a propane weed burner and showed the group an on-farm dehydrator.

The conference wasn't only for small-scale farmers. The final tour visited four large-scale organic operations, where as many as 3,000 acres of cropland are devoted to organic production. On the organic portion of John Diener's **West Side** farm, there were 20 acres of French fillet beans, 50 acres of sweet corn in staggered plantings and a large field of Mexican corn destined for organic tortillas.

“One of the differences we saw at the large farms was that some are farming other fields conventionally as well,” Molinar said. “Organic production on the West Side was on a larger scale, but the principles and practices were virtually the same as with smaller growers.”

Molinar said the conference planning team will reassemble to hold a second organic farming conference at Reedley College in May 2001. ■

## Scholarships for Farmers Available

An estimated 100 scholarships are available to small and limited resource farm operators who would like to attend the Agricultural Marketing Outreach Conference in Modesto, California, October 31-November 2, 2000.

The Small Farm Program is cosponsoring the conference, along with the Cal Poly, San Luis Obispo College of Agriculture, and USDA's Farm Service Agency and Agricultural Marketing Service.

Featuring marketing tools and resources for small-scale farmers, the conference will help participants utilize market information to determine current price trends and to explore alternative crops and enterprises that will help them compete in niche markets.

Farmers who are selected for scholarships will have all conference expenses paid by the sponsors.

To obtain an application form, call Birgit Hempel at the Small Farm Center, (530) 752-8136.



## Workgroup Meeting Proceedings Offered

Plans are under way at the Small Farm Center to develop a proceedings publication from presentations given at the 2000 Small Farm Workgroup Continuing Conference, held this year in Watsonville, California, May 16-18, 2000.

Focusing on field grown cut flowers, the conference included extensive presentations from growers, Cooperative Extension specialists and farm advisors, and UC Davis faculty members.

Topics included cut flower production and marketing, postharvest handling, disease and pest management, and information resources.

The conference also toured several cut flower operations in the Watsonville area, including the UC Santa Cruz Center for Agroecology and Sustainable Food Systems Farm and Garden. ■



## News Notes

■ According to the March 2000 *Kiplinger Agriculture Letter*, two new programs from USDA are designed to help organic farmers. A pilot federal crop insurance program is the beginning of an effort to get full coverage for organic farmers.

The pilot program will be implemented in the areas of the country with existing state or private organic certification systems. The second project is a marketing order program. Similar to marketing order programs for other commodities, organic farmers will receive help in promoting their organic fruits and vegetables from the USDA Agriculture Marketing Service and other project cooperators.

■ UC Cooperative Extension farm advisors across the state are conducting research on potential new crops for small scale farmers. New and ongoing research studies focus on crops including capers, lychees and longhans, blueberries, edamame, chili peppers, and herbs. Learn more about these crops by clicking on the News Tips: New Crops for California link at <http://www.sfc.ucdavis.edu/research/research.html> or call the Small Farm Center at (530) 752-8136.

■ Free seed is available in limited quantities for use in educational, agricultural research, or breeding purposes from the USDA Agriculture Research Service National Plant Germplasm System (NPGS). NPGS is a plant genebank network that collects germplasm (seeds) worldwide to maintain a constant source for scientific study. The NPGS collection is distributed from its web site at <http://www.ars-grin.gov/npgs/>

■ The Organic Farming Research Foundation (OFRF) recently asked certifying agencies how many farmers they were certifying. OFRF found that at the end of 1999, 6,600 U.S. farmers were certified as organic farmers, an increase from 1,300 farmers during the previous two years. The findings were part of an update of the National Organic Certifiers Directory compiled by OFRF. The directory is available on the OFRF website at [http://www.ofrf.org/about\\_organic/certifier.html](http://www.ofrf.org/about_organic/certifier.html).

■ Farmers involved in agri-tourism are invited to submit a free listing in the upcoming Small Farm Center's online agri-tourism directory. For details about submitting your agri-tourism operation information, see the related story on page 5.

A group of California farmers looking for a way to cooperatively advertise their CSA projects has created a new web site called Local Harvest. The site provides consumers with a national database to locate CSAs, farmers' markets, farm stands, and U-pick operations in their areas. Farmers also can create, for free, an extensive listing about their farms. Visit the web site at [www.Localharvest.com](http://www.Localharvest.com).

■ The Organic Materials Review Institute has released its Brand Name Product List, which provides the OMRI recommendation on the acceptability of certain products used for organic production, processing, and handling. The Brand Name Product List is available on the Internet at <http://www.omri.org>.

## Best Practices for Promoting Food Safety in Organic Production: Water Quality

With the introduction of the President's 1997 Food Safety Initiative, the national "From Farm to Table" program was instituted. This program drew attention to the ways growers can help manage food safety risks on their farms.

As organically-grown fruits and vegetables become more successful in the marketplace, organic farmers should continue to give attention to the issue of microbial food safety. The following guidelines on water use can help organic farmers manage and reduce microbial risks.

- Be sure that high-quality water is used for all operations where the water comes into contact with the edible portion of the plant.
- As the possibility increases for water to make direct contact with fruit, it becomes easier for water contamination to be transferred. Some growers find it useful to divide farm operations into agricultural and postharvest operations. This helps to divert the highest-quality water to the later stages of food production.
- Be sure irrigation water does not contaminate produce. While no comprehensive microbial standards for agricultural water have been established, state regulations require that reclaimed water used for irrigation does not exceed 2.2 total coliforms per 100 mL. World Health Organization (WHO) guidelines specify less than 1,000 fecal coliforms per 100 mL of water as acceptable. We recommend that these limits be used as guides until more definitive data is available.
- Contact between irrigation water and edible plant parts should be minimized. This may include favoring drip or furrow irrigation instead of spray irrigation. If overhead irrigation must be used, the grower should use water with less than 2.2 *E. coli* per 100 mL water. Minimizing contact between plants and water when contact isn't necessary acts as a safety barrier to cross-contamination between irrigation water (which is often reclaimed water or surface water) and produce.
- Protect the water source. Factors such as run-off, flooding and animal waste may cause contamination in the water supply. Diversion berms and buffer areas may help protect the water source from contaminants brought in by run-off and flooding. Nearby animal production may pose risks to water quality due to high volumes of animal waste production. Water contamination from animal waste has been shown to be involved in outbreaks of *E. coli* O157:H7. The use of fences or gates may help keep animals out.
- Maintain and repair wells regularly. This includes having well casings inspected regularly and repaired as needed. Growers who rely on wells for their water source should have wells inspected and their water tested annually by a water quality expert.
- The grower should be aware of his/her certifying agency's guidelines for water disinfectants. Organic operations may not permit the same levels of chlorine for sanitiz-



*Best management practices help organic farmers reduce microbial risks on crops like these organic apricots at the Davis Food Co-op in Davis, California.*

ing irrigation equipment or for water disinfection that conventional growers use. California Certified Organic Farmers allow a maximum of 50 parts per million of chlorine to come into initial contact with edible produce. They also stipulate that the flush water from irrigation equipment may not contain more than 4 parts per million of chlorine, the maximum for drinking water. Each organic certifying agency has its own guidelines; consult with your agency for specifics. ■

*Written by Shantana Goerge, postgraduate researcher, from materials developed by Trevor Suslow, Extension specialist, Department of Vegetable Crops, UC Davis.*

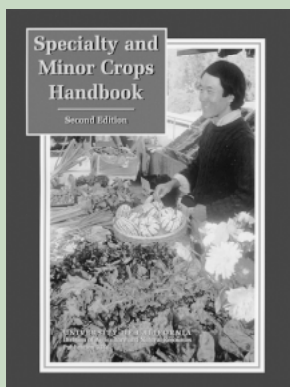
<p>NATIONAL <b>Food Safety</b> <i>education</i> MONTH SEPTEMBER</p>	<p>September is National Food Safety Education Month. The Small Farm</p>
<p>Center is cooperating with USDA and the U.S. Food and Drug Administration at both farm and consumer levels to promote safe food handling and preparation practices. For more information, visit the Small Farm Center web site at <a href="http://www.sfc.ucdavis.edu">www.sfc.ucdavis.edu</a> or <a href="http://www.FoodSafety.gov/September">www.FoodSafety.gov/September</a>.</p>	



## The Specialty and Minor Crops Handbook

Updated and expanded from the first edition, the *Specialty and Minor Crops Handbook* contains 63 crop profiles, a comprehensive bibliography, a glossary of Asian vegetables, and an index to common and scientific crop names.

To order, call the Small Farm Center at (530) 752-8136. Cost: \$35 plus tax and shipping.



## The Small Farm Handbook

This practical guide covers topics including livestock and crop production, buying property and equipment, dealing with taxes and regulations, and marketing.

To order, call the Small Farm Center at (530) 752-8136. New price: \$15 plus tax and shipping.

### Publications



Free web publications focusing on **organic vegetable production in California** are available on the Small Farm Center web site at <http://www.sfc.ucdavis.edu/research/organic.html> or by calling the Small Farm Center at (530) 752-8136. UC authors include Mark Gaskell, farm advisor, San Luis Obispo and Santa Barbara counties; and Benny Fouche, farm advisor, San Joaquin County. Titles include:

- *Organic Certification, Farm Production Planning, and Marketing*
- *Soil Management and Soil Quality for Organic Crops*
- *Weed Management for Organic Crops*
- *Insect Pest Management for Organic Crops*
- *Plant Disease Management for Organic Crops*

The Organic Materials Review Institute (OMRI) has released the third *OMRI Generic Materials List*, which contains information on more than 500 substances, and the U.S. National Organic Standards Boards' recommendations on the materials. Cost: \$50. Contact: OMRI, P.O. Box 11558, Eugene, OR 97440; phone: (541) 343-7600; <http://www.omri.org/>

The *National Organic Certifiers Directory* is available on the Internet at [www.ofrf.org/about\\_organic/certifier.html](http://www.ofrf.org/about_organic/certifier.html) or from the Organic Farming Research Foundation, P.O. Box 440, Santa Cruz, CA 95061, (831) 426-6606.

*Sustainable Vegetable Production from Start-Up to Market* guides beginning vegetable growers in moderate-scale vegetable production using sustainable practices. Publication number: NRAES-104. Cost: \$42. Contact: NRAES, Cooperative Extension, 152 Riley-Robb Hall, Ithaca, NY 14853-5701; phone: (607) 255-7654; fax: (607) 254-8770; <http://www.nraes.org>.

### Resources

### Web Sites

**ATTRA List: Suppliers of Organic, Non-GE, or Heirloom Vegetable Seed**  
<http://www.attra.org/attra-pub/altseed.html>

**USDA-ARS Biocontrol of Plant Diseases Lab**  
<http://www.barc.usda.gov/psi/bpdl/bpdl.html>

**USDA National Organic Program**  
<http://www.ams.usda.gov/nop/index.htm>

**Organic Trade Association**  
<http://www.ota.com/>

**Organic Farming Research Foundation**  
<http://www.ofrf.org>

**California Certified Organic Farmers**  
<http://www.ccof.org/>

**Organic Farmers' Market Association**  
<http://web.iquest.net/ofma/>

**University of Illinois Farm.Doc Decision Outreach Central**  
<http://web.aces.uiuc.edu/farm.doc>

**How to Get Information from USDA**  
<http://www.usda.gov/news/howto/howto.htm>

**USDA Agricultural Biotechnology**  
<http://www.aphis.usda.gov/biotechnology/>

**UC IPM Pest Management Guidelines**  
<http://www.ipm.ucdavis.edu/PMG/crops-agriculture.html>

**UC Sustainable Agriculture Research and Education Program**  
<http://www.sarep.ucdavis.edu/sarep>

**UC Santa Cruz Center for Agroecology and Sustainable Food Systems**  
<http://www.sarep.ucdavis.edu/sarep>

## Remembering Kathleen Barsotti

The agricultural community mourns the passing of Kathleen Barsotti, 51, who died July 2, 2000, after a valiant nine-year battle with breast cancer.

Barsotti was a member of the UC Small Farm Program Advisory Committee and a strong supporter of the program. Last year she received the Small Farm Program 1999 Pioneer Agriculturist Award for her lifelong commitment to organic farming, her dedication to helping other organic farmers, and her efforts to establish the Davis Farmers' Market. She will be remembered as an inspiration to the organic farming community, and to women growers in particular.

"Kathleen was an exemplary leader who pioneered innovations in family farming that not only benefited her farm, but opened up opportunities for others," said Desmond Jolly, Small Farm Program director. "We will sorely miss her."

The proprietor of Capay Valley Fruits and Vegetables, Barsotti brought

innovation to her 70-acre organic farming operation for more than two decades. She received a master's degree in ecology in 1974 from UC Davis and started farming organically with four partners on a small plot of land in the Capay Valley northwest of Davis.



*Kathleen Barsotti*

A pioneer in organic farming and small scale marketing, Barsotti was among the first small, organic farmers to understand the potential for specialty crops marketed to chefs who created the new California cuisine. Her introduction of the

Bintje potato to the San Francisco market was a textbook example of successful specialty marketing. She also ran a successful Community Supported Agriculture program that drew subscriptions from consumers as far away as the Bay Area.

Barsotti also was a founding member of the Davis Farmers' Market 25 years ago with Martin Barnes, Jeff and Annie Main of Good Humus Produce, and Henry Espenshade. Her family grew up in the market, and many hours of her life were devoted to ensuring the market's success. She is survived by her husband Terry Schroeder, and sons Che, Noah, Thaddeus and Freeman.

The Small Farm Program was indeed lucky to be graced by Kathy Barsotti's presence. We will always remember her warm smile, her positive attitude, and her ongoing dedication to small-scale farmers. The Small Farm Program's Pioneer Agriculturist Award will be renamed "The Kathleen Barsotti Pioneer Agriculturist Award" to honor the inspiration and leadership of Kathleen Barsotti. ■

## The 2000 Pedro Ilic Agricultural Awards

The Small Farm Program is issuing a call for nominations for the 2000 Pedro Ilic Agricultural Awards. The awards will be presented at Farm Conference, November 17-19, 2000, in Santa Rosa.

The awards were established in 1994 to honor Pedro Ilic, farm advisor in Fresno County from 1976 to 1994. Awards are given to an outstanding educator and an outstanding farmer selected on the basis of some of the attributes which contributed to Pedro's success. Criteria include:

- The ability to envision what can be done and the imagination, energy, and intellect to translate that vision into a successful activity
- To be part of the solution, not the problem — critical in thinking but constructive in approach
- To act as an advocate and risktaker
- To be an effective teacher, instilling self-esteem and constantly encouraging others
- To be a dedicated professional who believes in his or her work
- To have determination, exuberance, high energy, and genuine friendliness for all people, with the conviction that the smallest is as important as the largest
- To have good personal and family values.

The above criteria should be clearly shown in the nominations. Forms may be obtained from the Small Farm Center; phone (530) 752-8136; or e-mail [sfcenter@ucdavis.edu](mailto:sfcenter@ucdavis.edu).

The Kathleen Barsotti 2000 Pioneer Agriculturist Award also will be presented at Farm Conference 2000. If you have suggestions for nominations, send them to Desmond Jolly, director, Small Farm Center, University of California, One Shields Avenue, Davis, CA 95616-8699; (530) 752-8136.

## calendar

**SEPTEMBER****26 (San Diego, CA)****October 18 (Watsonville, CA)****Frost Control Workshop**

Participants learn about frost formation, chilling and freezing of crops, techniques for frost control, and using databases on the web.

Contact: Mary Golden, California Ornamental Research Foundation, 493 S. Highland Ave., Ukiah CA, 95482; (707) 462-2425.

**27****Annual Chile Field Day****Santa Clara, CA**

More than 150 chile varieties will be shown, including jalapeno, serrano, ancho, new mexican, thai, habanero and wax pod types.

Contact: Maria de la Fuente, UC Cooperative Extension, Santa Clara County, 1005 Timothy Drive, San Jose, CA 95133; (408) 299-2635.

**OCTOBER****14****Establishing the Small Vineyard****UC Davis**

This beginning course is the first in a series of classes covering basic viticulture principles and practical aspects of vineyard management.

Contact: University Extension, University of California, 1333 Research Park Drive, Davis, CA 95616; (800) 752-0881.

**17-18****Aquatic Weed School****Woodland, CA**

This two-day workshop covers topics including aquatic weed identification, biology, and weed control in lakes, ponds, reservoirs, and other bodies of water.

Contact: Kitty Schlosser, Weed Research and Information Center, University of California, One Shields Ave., Davis, CA 95616; (530) 752-7091.

**26****Soil Steaming****Salinas, CA**

This half-day workshop examines soil steaming, one of the alternatives to methyl bromide. Events include presentations on soil-inhabiting diseases and weeds, and steaming techniques and demonstrations.

Contact: Mary Golden, California Ornamental Research Federation, 493 S. Highland Ave., Ukiah CA, 95482; (707) 462-2425.

**Oct. 30 - Nov. 3****Biology and Technology of Tree Fruit Production****UC Davis**

For orchardists, crop care advisors and pest control advisors, this course provides an advanced review of tree fruit plant growth, and current pest control and production practices.

Contact: University Extension, University of California, 1333 Research Park Drive, Davis, CA 95616; (800) 752-0881.

**Oct. 31 - Nov. 2****Agricultural Marketing Outreach Conference for Limited Resource Farmers****Modesto, CA**

Workshop sessions and tours cover topics including loans and grants, marketing, food safety, and export markets. Scholarships are available. See page 7.

Contact: Small Farm Center, University of California, One Shields Ave., Davis, CA 95616; (530) 752-8136.

**NOVEMBER****3****Public Relations for Small Wineries****Davis, CA**

Participants learn the fundamentals of public relations tools, including how to write a press release and how to identify media needs.

Contact: University Extension, University of California, 1333 Research Park Drive, Davis, CA 95616; (800) 752-0881.

**5-7****Health and Safety in Western Agriculture: A Practical Approach****Sacramento, CA**

Conference topics include field studies, evaluations of safety, intervention, outreach, and intercultural communications, and how these topics are affected by a diversity of crops, workers, geography, and cultures within NIOSH Region IX (California, Nevada, Arizona, and Hawaii).

Contact: Donna Dold, UC Ag Health and Safety Center, One Shields Ave., Davis, CA 95616; (530) 752-5253.

**17-19****California Farm Conference 2000****Santa Rosa, CA**

Short courses, workshops and tours cover topics including agritourism, genetic engineering, specialty crops, livestock production, and marketing.

Contact: California Farm Conference 2000; (530) 888-9206; <http://www.californiafarmconference.com>

**DECEMBER****12****Temas para el Agricultor/Rancho (Topics for the Farmer/Rancher)****Fresno County, CA**

This workshop, presented in Spanish, focuses on pest identification and control, crop culture, and soil care and preparation.

Contact: Richard Molinar, UC Cooperative Extension, Fresno County, 1720 S. Maple Ave., Fresno, CA 93702; (559) 456-7555.

Add your event to our web site at <http://www.sfc.ucdavis.edu/cgi-win/sfcweb.exe/listevents>

**2000 Farm Conference  
Healthy Farms — Healthy Communities  
November 17-19, 2000  
Santa Rosa Junior College**



**Workshop Tracks**

- Education about family farms and food systems
- Specialty crops and products
- Crop and livestock production
- Sustainable farming practices
- Farming and food policy
- Farmers' markets

**Short Courses**

- Agricultural and Nature Tourism
- Biotechnology and farming
- Sustainable grape production
- The farmer/retailer relationship

**Tours**

- Nurseries
- Permaculture
- Organic waste recycling
- Sustainable dairy production

**<http://www.californiafarmconference.com>  
For more information, call (530) 888-9206**

**Short Course: Agricultural  
and Nature Tourism  
November 17, 2000  
2000 Farm Conference**

Sponsored by the UC Small Farm Center and the Agri- and Nature-Tourism Workgroup, short course topics include:

- The demand for agricultural and nature tourism
- The planning process from an operator's perspective
- Is this business for you? Assessing your assets
- Developing a business plan and raising capital
- Product development
- Your marketing plan
- Advertising and promotion
- Community relations and risk management
- Employee development

To register for the Agricultural and Nature Tourism Short Course, call the 2000 Farm Conference at (530) 888-9206.



**Small Farm Center**  
University of California  
One Shields Avenue  
Davis, CA 95616-8699

Official Business  
610W

Address Services Requested

Bulk Rate  
U.S. POSTAGE  
**PAID**  
Davis, CA  
Permit No. G-00268

*The University of California, in accordance with applicable Federal and State law and University policy, does not discriminate on the basis of race, color, national origin, religion, sex, disability, age, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, or status as a Vietnam-era veteran or special disabled veteran. The University also prohibits sexual harassment. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action Director, University of California, Agriculture and Natural Resources, 1111 Franklin St., 6th Floor, Oakland, CA 94607-5200 (510) 987-0096.*

**Printed on Recycled Paper**