From the Director

Why is California agriculture still using methyl bromide?

Methyl Bromide (MeBr) has been used as a fumigant to control arthropods, weeds, and diseases in diverse but specific sectors of agriculture for decades, and is very effective in this job. Unfortunately, MeBr is risky to farm workers, seems associated with prostate cancer and other illnesses, and depletes the stratospheric ozone layer. In the interests of full disclosure, I should mention that I lived under or near the Antarctic “ozone hole” in South Australia for eight years, so I have something of a particular interest in this.

The amount of MeBr produced, imported, and used in the U.S. was supposed to be phased out on January 1, 2005, following the Montreal Protocol. However, there was a loophole for critical uses in which there are no alternatives available that are technically and economically feasible. For 2005, the Parties to the Protocol authorized 37 percent of the U.S. 1991 baseline for a critical use exemption. For 2007, the U.S. requested 29 percent of baseline, including exemptions for 15 crops or uses, such as tomatoes, strawberries, peppers, cucurbits, orchard replants, and post-harvest uses, much of this in Florida but also about half in California.

The USDA has a grant program, “Methyl Bromide Transitions,” to develop suitable alternatives to methyl bromide, currently funded at about $3 million per year. The program targets short- to medium-term solutions on a commercial or field scale. While this is aimed at more rapid replacement of MeBr, in practice this means there is a significant emphasis on alternative fumigants rather than more sustainable solutions. One potential alternative, methyl iodide, is moving through the registration process at US-EPA. Methyl iodide does not seem to be an ozone depletor, but still carries a number of health risks.

More than two years ago, University of California Agriculture and Natural Resources Vice President W.R. “Reg” Gomes wrote to the USDA about this concern. Noting that other fumigants contribute both to air pollution (as volatile organic compounds that add to ozone) and the majority of reported human illnesses from agricultural pesticide accidents across California over the last few years, Gomes noted that replacement of methyl bromide with other fumigants will simply trade one problem for another. Gomes urged that the USDA grant program be changed to encourage innovative solutions.
Successful transition to organic production shows planning works

A successful transition to organic production on a large California farm showed that flexible management techniques and careful planning are keys to a smooth transition, according to a UC Davis researcher.

“This project tells me that organic transition is possible in the midst of a conventional growing environment,” said Louise Jackson, University of California, Davis professor and extension specialist and project leader of a study that followed the conversion to organic of more than 150 acres of Salinas Valley farmland.

Project members’ biggest worry—that the organic fields, set in the middle of conventionally grown lettuce, broccoli, spinach and celery, were going to become oases for large populations of nearby pests—never materialized.

“We were concerned because organic farms are generally on the periphery where they are isolated by grasslands or other ecosystems,” Jackson said, but Tanimura and Antle Inc.’s one- to five-acre organic parcels of specialty greens, leaf lettuce and herbs showed excellent performance.

The project, which was funded by the U.S. Department of Agriculture’s Sustainable Agriculture Research and Education (SARE) program, included an outreach component that focused on how UC researchers, the farmers, and farm advisors teamed up to develop the experimental design and identify potential problems. Because they expected weeds, pests and soil fertility to be problems, researchers monitored changes in the field and provided continuous feedback to growers. The growers adapted their strategies to compensate, in one instance switching from legume cover crops to rye and mustard because weeds became a problem with the legumes, Jackson said.

“The growers made changes based on understanding how biodiversity could help them,” said Jackson. “They planned species mixes and cropping patterns and managed fertility well, which is the basis of a good organic strategy.”

Frequent hand-hoeing kept weeds in check, while less susceptible crop species and some types of organic pest control reduced impacts of insect pests like aphids and leaf miners, according to Jackson. Insectary habitats of flowers planted within the cash crop is one method of organic pest control that was used.

“The growers shifted planting dates to avoid pest problems,” she said. “They developed a reusable irrigation drip line to deliver soluble organic fertilizers, which not only conserved water and cut costs, but also kept the surrounding soil much drier, reducing weeds and diseases.”

Ron Yokota, farm manager at Tanimura and Antle, said making the transition to organic vegetable production was a challenging but ultimately rewarding experience.

“We were very pleased with the results, and are happy to be able to deliver a wide range of organically produced vegetables to a growing market,” he said.

Jackson was involved in project outreach, telling Central California growers at workshops, meetings, field days and short courses about using whole-farm research as a way to analyze organic systems.

“This project has provided information of vital importance to growers interested in making the transition to organic, a growing segment of agriculture today,” said David Chaney, UC SAREP coordinator and the Western Region SARE representative. “The information is not limited to organic systems, however. Other vegetable growers will also benefit from these findings.”

UC SAREP will soon be issuing a call for proposals for research and extension on alternatives to methyl bromide and fumigation. We hope that we can help to bring more of the resources of the UC to bear on this problem.—Rick Roush, interim director, University of California Sustainable Agriculture Research and Education Program

USDA’s SARE program helps advance farming systems that are profitable, environmentally sound and benefit communities through a national research and education grants program. The program, part of USDA’s Cooperative State Research, Education and Extension Service, funds projects and conducts outreach designed to improve agricultural systems (see SARE’s Web site at www.sare.org). More information about the Jackson organic transition project is at http://www.sare.org/highlights/2005/organic_transition.htm. Western Region SARE project and grant announcements are available at wsare.usu.edu.
A public lecture series exploring the links among agriculture, food and community began in January at UC Davis and continues each Tuesday with nationally recognized speakers and local experts through March 14.

Mark Van Horn, director of the UC Davis Student Farm, opened the series with a talk entitled “Agriculture, Food and Community—the Connections.”

“The links among agriculture, food and community have stimulated public debate about where food comes from, the well-being of the farmers and farmworkers who produce it, and access to food,” said Van Horn. “We are very happy to have this group of farmers, garden organizers, students, educators and researchers address key issues relevant to food, community and agriculture.”

The series will include the Feb. 28 special appearance by internationally known social worker Catherine Sneed, who initiated and continues to run one of the world’s most comprehensive prison garden programs at the San Francisco County Jail in San Bruno.

In addition to Sneed’s talk on building communities and prison gardens, speakers will address the global context of the U.S. farm bill and the impact of agricultural subsidies on family farmers worldwide, food insecurity among California farmworkers, grassroots efforts by Native American communities, high school and university student groups’ efforts to make their food systems more sustainable, and the importance of community and agriculture in sustaining farmers, farmland and food security.

Rick Roush, interim director of the UC Davis-based statewide Sustainable Agriculture Research and Education Program (SAREP), which is co-sponsoring the series, said the discussions help make the connections among hunger, agriculture and communities.

“University research and education play a key role in assessing and increasing the sustainability of the food and agricultural systems,” he said.

Lectures are scheduled for 4:10 p.m. to 5 p.m. Tuesdays on the UC Davis campus. All lectures except Sneed’s will take place in Room 101 Bowley Science Center off Extension Center Drive. Sneed’s Feb. 28 talk will be in Wyatt Pavilion Theatre.

In January, the seminar series included four lectures, including Van Horn’s talk, a discussion of the 2007 U.S. farm bill in a global context by Dan Sumner of UCD’s Agricultural Issues Center, a talk on U.S. ag subsidies and their impact on family farmers by Victoria Mesa of Oxfam America, and a discussion of student action for a sustainable campus food system at UCD by graduate students Navina Khanna, Jason Pentzer and Rainbow Vogt.

In February, the first three seminars were on food insecurity among farmworkers by Cathy Wirth, a graduate student in International Agriculture and Development at UCD, California’s immigrant farmworkers by Luis Magana, of the Stockton American Friends Service Committee’s “Project Voice for Immigrants,” and Native American health services, by Ed Mata and Eddie Tanner of Potawot Health Village in Arcata.

Contact Van Horn for more information at (530) 752-7645 or mxvanhorn@ucdavis.edu. Support for the lecture series is provided by the UCD plant sciences department, UC SAREP, UC Student Farm, UCD Graduate Student Association, UCD International Agricultural Development Graduate Group, UC Small Farm Center, UCD Women’s Resources and Research Center, UCD Domes (Baggin’s End), UCD African and African American studies department, UCD human and community development department, UCD Community Development Graduate Group, UCD Students for Sustainable Agriculture, and the Davis Food Co-op.
An important goal of USDA’s Sustainable Agriculture Research and Education (SARE) program is to increase the capacity of Cooperative Extension personnel and staff from federal agencies such as the Natural Resources Conservation Service, to apply sustainability principles and practices while working with their clientele. These agricultural professionals are at the front line helping farmers, ranchers and other groups develop food and farming systems that are profitable, sustain natural resources, and promote stable and prosperous farm families and communities.

SARE provides educational programs for this diverse group of agricultural professionals largely through its Professional Development Program (PDP). This program was authorized in the 1990 federal farm bill and has received annual funding since 1994. The professional development program is currently implemented through four regional coordinators based in the SARE regions and their respective networks of state-level coordinators and programs. The regional and state coordinators, along with a diverse portfolio of competitively funded PDP projects, have generated an impressive level of educational programming for agricultural professionals over the past 10 years.

Yet, one key component that has been missing from PDP has been a clear picture of what specific knowledge and skills extension personnel and other agricultural professionals should have to adequately address sustainability in agriculture. Some extension leaders have expressed a need for a basic course in sustainable agriculture to help meet the requirements of the legislation, particularly as it relates to new hires within extension and federal agencies.

In 2004, the national SARE program began a project to address those needs. Project leaders focused on developing the curriculum framework for a comprehensive continuing education program in sustainable agriculture, and a Web-based pilot course on one of the major topics within the curriculum framework. Specific outcomes of the project are that:

- Extension service providers and other key agricultural professionals are better able to advise their clientele and develop research and education programs in sustainable agriculture; and
- SARE regions have more clearly defined objectives and guidelines for building practical, in-depth professional training in sustainable agriculture, without having to spend time on basics.

**Curriculum Framework.** The curriculum framework was completed in August 2005 and is available on the SARE Web site at [www.sare.org/pdpcurriculum/](http://www.sare.org/pdpcurriculum/). It addresses five major topics:

1. Sustainable Agriculture: Basic Principles and Concept Overview
2. Agroecology
3. Strategic Farm/Ranch Planning and Marketing
4. Participatory Research and Education Skills
5. Program Planning Skills and Professional Development

Sub-topics and learning objectives under each topic provide clear statements of what skills, knowledge and/or behaviors agricultural professionals should be able to demonstrate as a result of participating in related courses or programs. The framework was developed by a curriculum design team and intensively reviewed by four regional focus groups. Feedback from the focus groups indicated that the framework is a useful planning tool, and can serve multiple purposes for state SARE coordinators and others as they plan and implement training programs in their states or regions—a major goal of the project. Specific ways in which focus group participants suggested or anticipated using the framework include:

- in assessing staffing and identifying where organizational capacity could be strengthened,
- as a checklist for assessing strengths and weaknesses and areas where professional development may be needed,
- as a guide for developing projects,
- in helping organizations develop a common vision of sustainable agriculture, and
- as a guide for planning basic-level courses as well as practical, in-depth training programs developed and delivered at the regional and state level.

Another purpose of the framework was to outline the essential content areas in which extension service providers should be proficient to help develop effective research and education programs in sustainable agriculture. Feedback from the focus groups also confirmed the framework fulfilled that objective. Positive feedback indicated the framework is comprehensive in its coverage and description of the range of topics and issues related to sustainability in agriculture.

**Online Course.** This component of the project is an interactive, Web-based course series for extension service providers and other agricultural professionals that covers the fundamentals of sustainable agriculture and helps meet the requirements of the PDP legislation.
The series is planned to eventually include five online courses based on the major topics outlined in the curriculum framework. Each course in the series will be self-guided and self-paced, allowing maximum flexibility for students to participate when it is most convenient for them. Courses will be graphically rich and include interactive components designed to encourage thought, reflection, action and further study; courses will also incorporate extensive links to regional SARE courses and workshops, and other sustainable agriculture resources and programs.

The first course is in the final stages of development and will be offered starting in the spring of 2006. It is being delivered though the Cooperative Extension Curriculum Project (CECP) Web campus based at Texas A&M (http://cecp-online.org/). This course management system provides the technical infrastructure needed to create a quality educational experience for the student and the means to manage and monitor course content and student participation and progress efficiently. In addition, it enables development and cataloging of course content and multimedia elements, and is designed for the maximum sharing of these learning resources across states; it is designed to be part of the larger Extension effort nationwide (http://www.extension.org).

Both the framework and the online course have been developed through a national curriculum and course design team of individuals knowledgeable about sustainable agriculture and the SARE Professional Development Program, who have experience in professional education and the development and delivery of online courses. Team members include:

- David Chaney (UC SAREP), Kim Kroll (USDA SARE)
- Deborah Cavanaugh-Grant (University of Illinois), Vern Grubinger (University of Vermont), Andy McGuire (Washington State University), Julie Sexton (Mississippi State University), Deborah Young (University of Arizona) and Valerie Berton (USDA SARE).

For more information on this project, contact Chaney dechaney@ucdavis.edu. Learn more about SARE at www.sare.org.
The potential and challenges for alternative food systems to create major change in the way we grow and eat our food is the focus of UC Santa Cruz sociologist Patricia Allen’s newest book, Together at the Table. Allen, the associate director and social issues specialist at UC Santa Cruz’s Center for Agroecology and Sustainable Food Systems, systematically weighs the strengths and weaknesses of the sustainable agriculture and community food security movements, and in the final chapter of the book suggests specific strategies for how we can work to improve and build the capacity of these movements to create change that addresses all aspects of sustainability—ecological, economic viability and social equity for everyone in the food system. Two areas she highlights have particular relevance for our work in California, especially as the UC Davis campus and the UC Agriculture and Natural Resources division prepare to hire the first W.K. Kellogg-funded endowed Chair of Sustainable Food Systems for the campus-based Agricultural Sustainability Institute (ASI). Allen suggests that we need to:

- Develop a broad-based vision for an alternative agrifood system that goes beyond the traditional ideological framework.
- Continue to broaden constituencies and engage them in democratic processes that can provide political power to move us toward significant change in the agrifood system.

**Develop a broad-based vision for an alternative agrifood system that goes beyond the traditional ideological framework.**

In Chapter 4, Allen describes the dominant approach that guides research and education in sustainable agriculture programs. This focuses on natural sciences, production innovations, and farm-level projects, mostly at the expense of resources devoted to social equity issues (i.e., connections with food security, marketing, food/ag policy, consumer and farmworker health). She notes that sustainable, agrifood systems research and education must be larger in scope and more truly interdisciplinary than the current involvement of mostly production-oriented natural science disciplines, which she says, except for farm-level studies, have not generally included the social, political and economic components needed to encourage sustainable agriculture.

**Continue to broaden constituencies and engage them in democratic processes that can provide political power to move us toward significant change in the agrifood system.**

Allen discusses this concept in several chapters. In Chapter 7, “The Politics of Complacency: Rethinking Food System Localization,” she says that we need both participation in local food system actions, and the linking of local efforts in larger movements that involve national and international politics and policies. Some of this is happening through non-profit organizations such as the Community Food Security Coalition and its partners, as well as through the Campaign for Sustainable Agriculture, the national campaign to promote sustainable agriculture and food policies. Yet, there are other constituents we have just started to reach, including urban and regional planners, engineers or schools of business. These and other disciplines would bring valuable insights and knowledge to our understanding of sustainable food and agricultural systems.

The socio-political realities both in the halls of the academy as well as in the community are humbling. One needs to resist both the temptation to only look at the positive achievements in building sustainable communities in particular places, or to become completely overwhelmed by the dominant, concentrated food system that seems at times, to operate at the expense of local alternative efforts. Allen suggests in Together at the Table that we need to work at many levels in the food system simultaneously, from the local to the international. To do that well, we need the involvement of many people with different expertise and local knowledge. Moreover, we must acknowledge the importance of each of our contributions and communicate with each other effectively if we really want to change our food system to one that is more sustainable and equitable.

**Reviewer’s Note:**

At UC SAREP, we have tried to enlarge the ideological framework of sustainable agriculture through our definition of a sustainable, community food system:

A sustainable community food system is a collaborative network that integrates sustainable food production, processing, distribution, consumption and waste management in order to enhance the environmental, economic and social health of a particular place. Farmers, consumers and communities partner to create a more locally based, self-reliant food economy. One of the most important aspects of sustainable community food system projects is that they increase resident participation to achieve the following goals:

- A stable base of family farms that use sustainable production practices and emphasizes local inputs;
• Marketing and processing practices that create more direct links between farmers and consumers;
• Improved access by all community members to an adequate, affordable, nutritious diet;
• Food and agriculture-related businesses that create jobs and recirculate financial capital within the community;
• Improved living and working conditions for farm and food system labor;
• Creation of food and agriculture policies that promote local or sustainable food production, processing and consumption, and
• Adoption of dietary behaviors that reflect concern about individual, environmental and community health.

This new framework has been difficult to introduce and implement. However, in the last several years, we have begun to see more interest from students who want to study aspects of sustainable food systems; faculty in other departments interested in food system research; and cooperative extension personnel who are incorporating sustainable food systems concepts into their outreach programs. UC Davis has a wonderful opportunity to take these suggestions seriously as the new campus Agricultural Sustainability Institute is developed with a food systems focus.

UC SAREP OFFERS COMMUNITY FOOD SYSTEMS GRANTS

UC SAREP announces a Request for Proposals (RFP) for Sustainable Community Food Systems projects. The RFP is targeted to county-based UC Cooperative Extension personnel (CE advisors and directors). Applicants must partner with community-based organizations (e.g., grower groups, consumer groups, local governmental agencies or others) to show community engagement. Letters of support from community partners are required. Awards are for one-year projects only. Typical awards will be $5,000-$10,000 per project. Total funding available is approximately $60,000. Please see the SAREP Web site for details: www.sare.ucdavis.edu. Proposals are due March 15, 2006.

VALUE-ADDED PRODUCER GRANTS

The USDA's Rural Development section’s Value Added Producer Grant Program (VAPG) is soliciting grant applications. Approximately $19.5 million in competitive grant funds has been made available to help independent agricultural producers incorporate value-added activities. “Value-added” includes changing an ag product to increase its value (lamb cuts, canned tomatoes, wine, animal feed) or differentiating the product with specific practices (organic lettuce, free-range chickens), or realizing economic benefit from farm-based renewable energy (wind energy, energy from anaerobic digesters).

The deadline for applications is March 31, 2006 with awards made August 31. Awards may be for planning activities or working capital expenses. The maximum grant for a planning grant is $100,000; the maximum grant for a working capital grant is $300,000. At least $1.5 million is set aside for applicants requesting $25,000 or less. Matching funds are required.


INTERNATIONAL FUNDING DATABASE

Community of Science (COS) Funding Opportunities is a comprehensive international database of published grants, scholarships, fellowships and awards with more than 23,000 entries that have been reviewed, compiled, and formatted in a searchable database. Other services available are COS Expertise, a worldwide database of profiles of researchers, scholars and other experts, and COS Abstract Management System, a comprehensive Web-based system for managing the submission, review and approval of abstracts. For more information see www.cos.com.

Nominate sustainable ag award candidates

Nominations are now being accepted for an award that recognizes a Western farmer or rancher who exemplifies the best concepts of sustainable agriculture.

The USDA’s Western Sustainable Agriculture Research and Education program (Western SARE) will present the Patrick Madden Award to a producer whose practices are profitable, good for the environment and benefit the wider community.

The award is presented in memory of Patrick Madden, the first national director of SARE, which was initiated under the U.S. Department of Agriculture in 1988. It comes with a $1,000 cash award and an expense-paid trip Aug. 15-17 to the national SARE conference, “A Midwest Homecoming: Sharing a New Tradition of Sustainability,” in Oconomowoc, WI.

The most recent Madden Award recipient in the West was Peter Kenagy, who grows wheat, beans and corn on 325 acres near the Willamette River of Oregon.

Nomination forms can be found on the Western SARE Web site at www.wsare.edu. For more information, contact Al Kurki, Western SARE Professional Development Program associate training coordinator, at (406) 449-0104.

Send nominations by April 5, 2006 by email to wsare@ext.usu.edu, by fax to (435) 797-3344 or by mail to Western SARE, Utah State University, Logan, UT 84322-4865. Self-nominations will not be considered.
**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: 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.

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. Inquiries regarding the University's non-discrimination policies may be directed to the Affirmative Action Director, University of California, Agriculture and Natural Resources, 300 Lakeside Dr., Oakland, CA 94612-3550; (510) 987-6096.

**ADDRESS SERVICES REQUESTED**