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From the Director

Farms, Cities & the Environment

The friction among agricultural, urban and environmental perspectives continues to be a major issue in California. It is a critical factor when the future of the Central Valley is considered. The area that stretches from Bakersfield to Redding is expected to double in population within 25 years.

Think about that if you live or work in the Valley. Twice as many people, and probably twice as many cars and air pollution. How will it affect the Valley's resource base? What will the quality of life be like for residents of the area and how healthy will they be?

Let's look at just one factor - air quality. How do we solve the problem of air pollution? Ozone, a major air pollutant, is now responsible for a 10 to 25 percent reduction in crop yields. If an insect pest were responsible for a problem that large, the University would be besieged by desperate farmers. If the ozone levels double in 25 years, what happens to the crops? What happens to the people? What happens to the Sierra forests where ozone levels today are sometimes three times the levels of the Valley floor?

The Sierra is our major watershed. Will the pollution destroy the trees and the watershed? Can we prevent that from happening? Maybe. Will we do our best to make sure this doesn't happen? That is not clear-because to assure the health of the Sierra and the health of Valley crops and residents, people will have to change. If auto transportation is the culprit, we must change our fuels and develop efficient and useful mass transit or come up with other solutions.

In the meantime, we have large numbers of unemployed Californians who staffed the defense industry for the last thirty years. If we shift our thinking and resources to use these hardworking individuals to solve pressing problems like air pollution, we could solve many of our regional unemployment and resource problems while protecting the state's future. Will we do it? Only time will tell. -Bill Liebhardt, director, UC Sustainable Agriculture Research & Education Program.

A New Look: SAREP Newsletters Will Merge

Beginning with the Fall 1992 issue, *Sustainable Agriculture News*, SAREP's general newsletter will merge with *Components*, the program's journal of technical notes and reviews. The new publication will be called

Sustainable Agriculture News and Technical Reviews from the University of California Sustainable Agriculture Research and Education Program

It will feature news and announcements related to sustainable agriculture in California, practical information for farmers and ranchers, as well as technical/research summaries formerly featured in *Components*.

We believe this change will allow us to reduce publishing costs, present a mix of articles to relieve reader fatigue, alleviate redundancy of some articles, and eliminate readers' confusion over two newsletters.

Subscriptions will automatically be transferred to the new quarterly starting with the fall issue, Volume 5, No, 1. There will be five issues the first "year," then four issues per year starting with Volume 6, No.1 in January 1994. For questions or comments about this change, please contact one of our editors, Lyra Halprin (916) 752-8664 or David Chaney (916) 752-3280. Thank you for your interest and support.

Grad Students, Sustainable Ag Meetings Funded

Seven graduate students and 12 sustainable agriculture seminars and field demonstrations have been funded by UC SAREP for a total of \$26,285.

"Supporting graduate students and meetings is a good way for us to use scarce resources," said **Bill Liebhardt**, SAREP director.

Liebhardt said SAREP funds will help graduate students address critical issues facing agricultural producers and society.

"The grants are a way to stimulate and encourage activity among students interested in sustainability who are beginning their careers," he said. "This is a way for us to continue supporting innovative research, and it allows us to complement already existing money in the University."

Liebhardt said the meeting grants "are to encourage people within the Cooperative Extension system and the greater agricultural community to independently pull together resources and information on sustainability and disseminate it rapidly to their new and established audiences across the state."

He said SAREP is announcing a Request for Proposals for similar grants for next year (see "Sources of Funding," page 10).

A total of \$13,290 has been awarded to the following graduate students:

- Charles Griffin, Department of Vegetable Crops, UC Davis, \$1,990 for "A Cover Crop Growth Model";
- **Niklaus Grunwald**, Department of Plant Pathology, UC Davis, \$2,000 for "Control of Tomato Root Diseases by Cover Cropping";
- Nirmala Gunapala, Department of Soil Science, UC Davis, \$2,000 for "The Significance of the Soil Microbial Biomass and its Activity in a Cover Crop Managed Cropping System";
- **Tiel Jackson**, UC Santa Cruz, \$1,906 for "The Effects of Soil Nitrogen Level and Management Techniques on Potato Aphids (*Macrosiphum euphorbiae*) Feeding on Tomato Seedlings";
- Franz Niederholzer, Department of Pomology, UC Davis, \$1,400 for "Nitrogen Uptake Capacity of Mature Almond Trees as Indicated by Spatial and Temporal Fine Root Growth Dynamics";
- Hilary Sampson, Department of Pomology, UC Davis, \$2,000 for "The Influence of Orchard Management Practices on Tree Nitrogen Uptake Efficiency, Nitrate Leaching, and Earthworm Populations"; and

• **Fekede Workneh**, Department of Plant Pathology, UC Davis, \$1,400 for "Unraveling the Reason of Suppressiveness of Organically Managed Soils to *Pyrenochaeta lycopersici*, the Causal Agent of Corky Root of Tomatoes."

The twelve sustainable agriculture seminars or field demonstrations and their coordinators have been awarded \$12,995. They include:

- Aziz Baameur, Carl Bell & Walter Graves, UCCE farm advisors, Riverside, Imperial and San Bernardino counties, \$1,675 for two seminars and two field demonstrations, "Sustainable Agriculture Options for Vegetable Crop Farming Systems in Southern California" (April, June 1992);
- **Stephen Brown**, UCCE consumer marketing advisor, Los Angeles County, \$850 for "The Los Angeles Garden Conference" (October 17, 1992);
- **Richard Enfield**, UCCE County Director/4-H Youth Development Advisor, San Luis Obispo County, \$700 for a meeting "A Vision for Agriculture on the Central Coast" (May 1992);
- **Ben Faber,** UCCE farm advisor, Ventura County, \$1,000 for avocado workshops "Working the Soil," (July 10, Ventura; July 14, Escondido);
- **Deborah Giraud,** UCCE plant science farm advisor, Humboldt County, \$525 for a Humboldt, Trinity, Del Norte counties and Hoopa and Klamath Indian reservations farmer meeting (March 1992);
- Marion Kalb, Southland Farmers' Market Association, Los Angeles, \$795 for a sustainable agriculture meeting for market association members (May 1992);
- **Sibella Kraus**, coordinator, \$1,500 for the East Bay Community Gardening and Greening Conference (May 1992);
- **Stephanie Larson**, UCCE livestock & range management advisor, Santa Rosa County \$750 for a sheep marketing meeting (March 1992);
- **Bob Scowcroft,** California Certified Organic Farmers, \$1,200 for an organic farming practices meeting (March 1992);
- **Rhonda J. Smith, UCCE** viticulture farm advisor, Sonoma County, \$500 for a North Coast wine grape meeting on cover crops (February 1992);
- **Don Villarejo**, executive director, California Institute for Rural Studies, \$3,000 for two transitional organic cotton conferences (March, October 1992); and
- **Ed Weber, UCCE** viticulture farm advisor, Napa County, \$500 for an equipment demonstration and grower meeting on cultural management of vine row weeds using mulched cover crops and cover crop species evaluation (March 1992).

New PAC/TAC Members Join SAREP

UC SAREP is required by the California Legislature's 1986 Sustainable Agriculture Research and Education Act to have both public and technical advisory committees to advise the university on program goals and make recommendations on the award of competitive grants. The Public Advisory Committee (PAC) includes individuals actively involved in agricultural production, as well as representatives from government, public organizations, and institutions of higher education. The Technical Advisory Committee (TAC) is made up of university wide faculty and staff with knowledge and experience related to sustainable agriculture and makes recommendations about the scientific merit of grant applications. Each PAC or TAC member serves for three years. New members in 1992 are listed below.

Public Advisory Committee

GLENN ANDERSON is a Hilmar organic almond grower who established a comparative study to evaluate organic and chemical production methods with his brother Ron, and Lonnie Hendricks, a Merced County farm advisor. The successful on-farm model has received widespread recognition.

SIBELLA KRAUS is an agriculture writer and special events producer in the San Francisco Bay Area. She writes a weekly produce column for the San Francisco Chronicle, as well as feature stories for the Chronicle, Produce Business Magazine, and California Farmer. Her special events work includes the coordination of the East Bay Community Gardening and Greening Coalition Conference, The Chez Panisse 20th Anniversary Farmers' Market, and the Tasting of Summer Produce. She is currently helping to plan a public market on the San Francisco waterfront.

BRYCE LUNDBERG is a Richvale rice grower. Approximately half of the Lundberg family farm is in organic production. The family operation is vertically integrated: family members grow, store, mill and market their own rice. Bryce is a farmer member of the California Organic Advisory Board.

BETTY VAN DYKE is a Gilroy farmer who grows organic Bing cherries, and Blenheim apricots, 30 percent of which are farmed organically.

Technical Advisory Committee

MARITA CANTWELL (DE TREJO) is an Extension Specialist in the UC Davis Vegetable Crops Department, working in the area of postharvest physiology and handling. Her main areas of research interest include 1) the quality of vegetables as affected by variety, maturity at harvest, preharvest cultural practices, and postharvest handling practices; 2) postharvest handling of specialty vegetables; and 3) nonchemical alternatives to postharvest

RICHARD HARRIS is a forestry specialist at UC Berkeley. His research interests include habitat management and forest management on tribal lands.

DONNA HIRSCHFELT is a viticulture farm advisor in Fresno County. Her clientele includes 4,000 owner/operator/managers on 205,000 acres of wine, table and raisin grapes. Areas of research interest include the influence of vineyard floor management on nitrogen dynamics, grape production and quality; table grape cultural practices; pest and disease management/resistance management; minimal pruning in wine grapes; and rootstock and trellis management.

NICELMA KING is the director of the UC Division of Agriculture and Natural Resources (DANR), North-Central Region, based at UC Davis. In that capacity she helps to facilitate Cooperative Extension programs in a 15-county area that includes the San Francisco Bay Area, upper San Joaquin Valley, and the central portion of the Sierra Nevada.

DEBORAH LETOURNEAU is an associate professor of environmental studies at UC Santa Cruz. She specializes in insect ecology and biological control. Her research on the effects of traditional polycultures (in Mexico and Malawi) and on pest levels have shown that intercropping/fertilizer farm management decisions affect insect damage to crops in unpredictable ways. She is involved in an interdisciplinary on-farm comparison of organic and conventional tomato production in the Sacramento Valley.

JIM OLTJEN is a management systems specialist in the animal science department at UC Davis. He is conducting research on animal production systems, including projects on quantifying water needs for cattle and improved grazing systems including public lands. His special interest is modeling effects of alternative scenarios on resource use and production.

Continuing PAC/TAC

Public Advisory Committee: Audy Bell, Bill Brammer, Vashek Cervinka, Maren Hansen, Molly Penberth, Judith Redmond, Ed Sills, Tony Turkovich and George Work.

Technical Advisory Committee: Dan Desmond, George Goldman, James Grieshop, Carol Lovatt, Jackelyn Lundy, Michael McKenry, Faustino Munoz, Howard Rosenberg, Lupe Sandoval and Lawrence Yee.

Biographies of continuing PAC/TAC members appeared in the Fall 1991 issue of *Sustainable Agriculture News*, Volume 4, Number 1.

Sustainable Agriculture: The Video

"Alive and Well: Sustainable Soil Management," a videotape funded by a grant from UC SAREP, is now available. The 30-minute program was produced by Mendocino County farm advisor **Glenn McGourty** in association with production coordinator **Jan McGourty**, and **Oleg Harencar** of Prometheus Productions of Mendocino.

"It's a beautiful, technical introduction to sustainable agriculture," said **Jill Auburn**, SAREP information analyst and part of the academic team who advised the production crew. "This videotape is an inspiration for those who have doubts about the future of California agriculture."

The videotape features five different farming operations in which sustainable practices have been successfully implemented. Practices demonstrated include soil aeration, the addition of soil amendments, the use of biological diversity, reducing off-farm inputs, and market diversification. The need for creativity and commitment to long-term goals is evident in the farming operations depicted.

Featured are the **Fetzer** family, owners of Fetzer Vineyards of Mendocino County; **Michael Maltas**, manager of a specialty market garden associated with the Fetzer operation in Hopland; **Mac Magruder**, a Potter Valley cattle rancher; **Tim** and **Karen Bates**, owners of The Apple Farm, an Anderson Valley apple orchard; and **Ed** and **Wynette Sills**, owner/operators of Pleasant Grove Farms, a diversified farm in Pleasant Grove, Sutter County.

Descriptions of sustainable farming principles are linked with interviews with the growers who share their personal experiences.

"The photography of the farming operations and techniques is outstanding," said Auburn.

The video is available for \$40 (includes tax and postage) from Visual Media, University of California, Davis, CA, 95616. Orders must be pre-paid by check payable to UC Regents, and include name, address, and daytime telephone number. For information about quantity order discounts contact Jill Auburn, SAREP (916) 757-3278.

SAREP PAC, TAC Honors

SAREP Public Advisory Committee member **Maren Hansen** was recently honored by the Center for Science in the Public Interest (CSPI) with a 1991 Safe Food Trailblazer award. Hansen, director of the Santa Barbara Safe Food Project, was cited for her preparation of a comprehensive organic agriculture plan for Santa Barbara County. The plan, which is published by Santa Barbara's Community Environmental Council, is a national model for local development of organic food production and marketing systems. (See "Resources" page 10 for ordering information.)

Faustino Munoz, a member of SAREP's Technical Advisory Committee, was presented with a 1991 American Farmland Trust Agricultural Conservation Award in the "Public Education on the Local Level" category. The award was presented at a dinner in Washington, D.C. Munoz is a UC Cooperative Extension farm advisor in San Diego County. His specialty is small farm enterprise development, organic and sustainable agriculture, and legume cover crops and conversion systems.

Should the Food System be Decentralized?

by Gail Feenstra, SAREP

(Editor's Note: Gail Feenstra, SAREP writer and nutritionist, was a speaker at the Fourth National Conference on Organic Sustainable Agriculture Policies sponsored by the Center for Science in the Public Interest and the Institute for Alternative Agriculture in Washington, DC in February 1992. The following article is adapted from her speech.)

I have spent a good deal of time thinking about the topic of decentralizing the food system, both as a nutritionist and in my work at the University of California's Sustainable Agriculture Research and Education Program. I would like to share with you some of my ideas about why I think it is essential that we begin working toward a more decentralized food system.

Let me start by describing a couple of scenarios. In the first, agricultural production has become more and more centralized, with land and capital concentrated into the hands of fewer, larger landholders. Many of these farms are highly specialized, growing mainly one crop. Small family farms are quietly disappearing, replaced by quickly expanding suburban developments, or in some regions, impoverished rural towns. These towns are the first to notice that toxic agricultural chemicals have begun to infiltrate their water supply, or that leukemia begins to strike some of their children. Yet, they are told not to worry because their agriculture and food systems are the safest, the most productive and efficient in the world. All kinds of produce are now available year-round and food is relatively cheap at the supermarkets. Some people complain that the food doesn't have much flavor. Eventually, they begin to forget what produce used to taste like or how it was grown.

In the second scenario, the food system is more decentralized. There are many more family farms on the landscape, particularly in certain farming regions of the country. These farms would be closely linked with nearby rural communities, supporting the economic, educational, and cultural vitality within those communities. Food distribution networks and food processing industries would be closely connected to nearby food production so that consumers in local communities and cities would benefit from the freshest, locally produced foods in season. Food producing resources- land, water, technologies, marketing, processing and distribution networks-are much more democratically controlled and equitably distributed among many individuals.

Unfortunately, the trends in our present food system are much more similar to the first scenario than the second. Do we want to continue in this direction? I would like to suggest that we do not and that we can go a lot further toward making our food system more localized, more democratic, and more accountable.

Now that I have given you a few preliminary ideas of what I think a more decentralized food system might look like, I want to put it into perspective by identifying a premise or goal that undergirds this vision of a more decentralized food system. That goal is the creation of a more sustainable food system. By sustainable, I mean, one that is environmentally sound, economically profitable and socially just and humane. Moving toward a more decentralized food system is absolutely necessary to achieving that goal of sustainability because a more decentralized system provides the necessary environment for a sustainable food system to flourish. Let me describe why.

First, our current, more centralized system is highly dependent on fossil fuel inputs for machinery, fertilizers, pesticides, irrigation, food processing and distribution. Fossil fuel inputs have increased dramatically over the last several decades so that today, we put 9.8 kilocalories of fossil fuel energy into our food system for every one kilocalorie of food energy we get out.

In a more decentralized food system, production sites would be closer to communities where foods will be consumed, thus, transportation is reduced considerably. A 1985 study of potential local markets for fresh California produce found, using a computer model, that distribution of produce in a decentralized model could save one-third of the transportation cost (\$13-\$16 million annually) and one-fourth of the fuel compared to the centralized distribution network that we now have. Others have pointed out that shorter transportation in a more decentralized food system may also allow growers to reduce insecticides, fungicides or other post-harvest chemicals (derived from fossil fuels). This may be possible if we also rethink the cosmetic quality standards that are now in place such that they begin to reflect local markets as the endpoint of produce sales.

Second, our present centralized and concentrated food system has eroded the democratic public participation and decision-making about how our food is grown and distributed and by whom. This has had serious implications for the long-term sustainability of our natural resources, for the viability of rural communities and for our connection to the food supply. Let me elaborate on each of these implications.

As the food system has gotten more centralized, fewer landowners actually live on and work their land, so they lose the intimate contact that is necessary to care for the land, water and other resources sustainably. According to the Rural Realignment Project, in 1982, only six percent of the farms in California took in almost three-quarters of the state's total farm cash receipts. Insurance companies are one example of these concentrated holdings in agricultural land. The value of farm real estate held by life insurance companies rose from \$281.4 million in 1984 to \$432.3 million in 1986. Also, tax shelters and other incentives from earlier tax laws have encouraged absentee ownership of farmland in California. The increasing concentration of "operating enterprises" rather than simply of "ownership patterns" is of particular significance. This trend allows and even encourages a short-term focus on resource use. As one small farmer recently told me, "the land simply cannot support the maximum level of production required to maintain this corporate profit."

A more decentralized food system would encourage many small farmers to own and live on the land, giving them the opportunity to observe and experience the rhythm and capacity of the land and natural resources *over the long term*. The possibility of this long-term focus on the stewardship of land and resources then, encourages more environmentally sound production.

Another consequence of a centralized food system is the undemocratic nature of water distribution in the western states. Current water policies have historically benefited large farm businesses to the detriment of rural communities and the environment. Today, there are farm operations with more than 20,000 acres of irrigated cropland receiving unlimited irrigation water from the Central Valley Project at much less than the true cost. A 1986 study by the California Institute for Rural Studies found that the largest 13% of farms operating in ten California districts receiving subsidized federal water, operated 62% of the acres. Some of the largest farms have taken advantage of loopholes in the reclamation law, dividing up their farms on paper into many pieces, each 960 acres (which qualify for subsidized water), yet they are all managed as one unit. Not only are smaller farmers disadvantaged by these actions, but rural communities suffer.

Initially, one might suppose that the influx of capital and profits from large-scale farming operations would eventually find its way to the pockets of local residents, improving their economic well-being. Yet, research beginning in the 1940s with Walter Goldschmidt's classic study of Arvin and Dinuba, to more recent studies by Professor Dean MacCannell at UC Davis and Trudy Wischemann at the California Institute for Rural Studies, find that the advanced, industrial-type agriculture in the sunbelt states is associated with substantial deterioration of human living conditions in nearby rural communities. Although industrialization has brought benefits in terms of better technology and economic profitability to farm owners, it is associated with poverty for the workers and the community. On the other hand, in rural communities surrounded by small family farms, i.e., a more decentralized model, economic and social conditions improve.

The end result of our ever more centralized food system is that people have become separated from the source of their sustenance. Most people have no idea where their food comes from or how it grows or what the implications are for the sustainability of the resource base, other humans or other living creatures. In the centralized model, food has been reduced to a mere commodity with its value measured solely by market prices. One of the most compelling reasons then, for moving toward a decentralized food system is to put people back in touch with their food supply by connecting them with those that grow and harvest their food. This will allow people to begin to understand some of the broader environmental and social implications of their purchasing decisions. Only then can we all participate in building a more sustainable food system.

Sources of Funding

SAREP Grants

SAREP is requesting grant proposals in the following areas:

- critical component research (maximum \$10,000/year);
- monitoring innovative producers (maximum \$10,000/year);
- graduate student awards (maximum \$1,000/student);
- meetings/field demonstrations (maximum \$1,000/event).

The deadline for applications is September 1,1992. Applicants must be affiliated with a California non-profit organization. The Request for Proposals has been sent to everyone on UC SAREP's mailing list. If you have not received one, contact SAREP at (916) 752-7556.

W.K. Kellogg

The W.K. Kellogg Foundation has established a new grant program called the Integrated Farming Systems (IFS) Initiative. It will provide support for community-based projects that aim to: 1) help farmers adopt resourceefficient, productive, profitable, integrated crop and livestock systems that protect the environment and health of farm families; and 2) help people and communities overcome barriers to the adoption of more sustainable agricultural systems which can serve to revitalize rural American communities. Two to three page concept papers for creative new projects in IFS will be accepted until September 1, 1992. Concept papers should include objectives, intended impacts, the "community" involved, major collaborators, activities needed to meet objectives, plans to evaluate the project, a time frame, and an estimated total budget. Those submitting concept papers will be notified by October 15, 1992 if they will be invited to develop a full IFS proposal. The Foundation is also offering "collaboration initiation" grants for those groups not ready to submit a fully-developed IFS project proposal, but who need limited financial support to initiate the collaboration necessary to develop an IFS project in one to two years. The September 1 deadline applies to requests for a collaboration initiation grant. To receive a full description of the IFS concept paper instructions, contact the W.K. Kellogg Foundation at One Michigan Avenue East, Battle Creek, Michigan 49017-4058 or call (616) 968-1611 (TDD available.)

Organic Research Grants

The Organic Farming Research Foundation is offering funds for: organic farming methods research, dissemination of research results to organic farmers and growers making the transition to organic production systems, and educating the public about organic farming issues. Projects should involve

farmers in both design and execution, and take place on working farms whenever possible and appropriate. Proposals of \$3,000-5,000 are encouraged. Most projects will be less than \$10,000. Matching funds from other sources and/or in-kind contributions from cooperators are encouraged but not required. Proposals are considered twice a year. The deadlines for the next two granting cycles are: Proposals received by July 20, 1992 will be awarded by October 20,1992; proposals received by January 31, 1993 will be awarded by April 30,1992. To receive copies of grant application procedures and the "OFRF Research and Education Priorities" which describes target areas, write Grants Program, Organic Farming Research Foundation, P.O. Box 440, Santa Cruz, CA 95061 or call (408) 426-6606.

Stewardship Incentive Program

Federal Stewardship Incentive Program (SIP) funding of up to \$10,000 per landowner per year is available to private individuals, groups, associations, corporations, Indian tribes or other legal private entities who own rural lands with existing tree cover or woody vegetation or land suitable for growing such vegetation. The Food, Agriculture, Conservation and Trade Act of 1990 authorizes the SIP to offer cost-sharing assistance to improve management of nonindustrial private forest lands. Landowners must maintain and protect SIP-funded practices for a minimum of ten years. Eligible landowners must have an approved Forest Stewardship Plan and own up to 1,000 acres of qualifying land. (Authorizations must be obtained for exceptions of up to 5,000 acres.) Existing management plans can be modified to meet guidelines. Specific SIP practices approved for cost-share assistance include management plan development, reforestation, forest and agroforest improvement, windbreak and hedgerow establishment and maintenance, soil and water protection and improvement, riparian and wetland protection and improvement, fisheries habitat enhancement, wildlife habitat enhancement, and forest recreation enhancement. For more information contact a state forester, Agricultural Stabilization and Conservation Service office, County Extension office, or Soil Conservation office.

\$1000 Organic Article Award

The Organic Farming Research Foundation will award \$1,000 to the author of the best article published in 1992 aimed at educating the general public about organic farming. Articles must be published between January 1, 1992 and December 31, 1992 in a regularly published newspaper, journal or magazine. Applications should include 15 copies of the article, including date published and page numbers; name address and telephone number of the author(s); and information about the periodical in which it was published, including exact title, how long it has been in publication, purpose and audience, and circulation (15 copies). Applications must be received by January 10, 1993 at Organic Farming Research Foundation, P.O. Box 440, Santa Cruz, CA 95061. For more information contact the Foundation at (408) 426-6606.

Resources

Sustainable Ag Definition

What is Sustainable Agriculture? Not intended as a definitive statement, this five-page UC SAREP concept paper identifies ideas, practices and policies that make up the broader definition of sustainable agriculture. Animal and plant production systems and the role of consumers are addressed, and the entire food system is examined within the context of California's economic, social and political environments. To receive a free copy contact UC SAREP University of California, Davis, CA 95616; (916) 752-7556.

Community Organic Manual

Increasing Organic Agriculture at the Local Level, 100 pages, 1992, by Maren Hansen (UC SAREP PAC member) with Phil Boise, Jim Hagen and the Santa Barbara County Safe Food Project. A manual for consumers, grocers, farmers and policy makers interested in creating a local system to encourage organic agriculture. The authors focus on: 1) educating consumers about pesticide hazards and the benefits of organic agriculture; 2) educating grocers about effectively marketing organic food; 3) providing marketing strategies to transitional and organic farmers; and 4) providing public policy incentives to organic and transitional farmers. Individual copies are \$16 (plus \$1.24 sales tax for California residents), plus \$2 postage and handling. Bulk orders available. Make checks payable to Community Environmental Council. Send to Community Environmental Council, attn. Joan Melcher, 930 Miramonte Dr., Santa Barbara, CA 93109; (805) 963-0583.

Organic Grower/Retailer Publications

The following three publications are available from California Certified Organic Growers (CCOF). To order, send a check payable to CCOF, P.O. Box 8136, Santa Cruz, CA 95061-8136; (408) 423-2263. Prices include shipping and handling. Indicate the number of each publication ordered.

The Growers List, April 1992 revised edition. CCOF growers are listed by commodity. Acreage, number of years each grower has been certified, addresses and telephone numbers are included. \$10.

Retailers and Distributors Guide to Organic Food, 1992 revised edition, 51 pages. Features information on promotion and handling, labeling requirements, general organic farming principles, sustainable agriculture organizations and publications, and a glossary of terms associated with organic growing practices. \$15.

Grower's Handbook. A guide to growing organically under CCOF rules; includes the new California state organic law. \$10.

Cover Crops

Managing Cover Crops Profitably, USDA-CSRS Sustainable Agriculture Research and Education (SARE, formerly LISA) program, 124 pages, 1992. Information about cover crops appropriate to the four SARE regions. Includes names to call for advice and large bibliography. Send a check for \$9.95 payable to Sustainable Agriculture Publications, Hills Building, Room 12, University of Vermont, Burlington VT 05405-0082.

ATTRA Resources

Katherine Adam. Current information on colleges and universities offering programs or courses in sustainable agriculture. Sustainable Agriculture Organizations and Publications List, compiled by Katherine Adam and **Julie Rogers.** A resource list identifying national and international groups working in sustainable agriculture, and where applicable, the publications these groups provide. Internships, Apprenticeships, Sustainable Curricula, compiled by Katherine Adam. Identifies farms, schools, associations and agencies that offer internships, apprenticeships, on-farm experience and curricula in sustainable farming practices. Videos/Slides/Tapes, compiled by Katherine Adam. Lists titles, audiences, ordering information on sustainable agriculture audiovisual products. All four resource lists free from Appropriate Technology Transfer for Rural Areas (ATTRA) in Arkansas. Call (800) 346-9140.

Organic Wholesalers Directory

1992 National Directory of Organic Wholesalers. Ninth edition, 250 pages. Includes 450 organic food wholesalers, farm suppliers, and distributors across North America. Cross-referenced with 800 organic commodities, importers, exporters, manufacturers and companies that mail order, and includes nationwide sources of organic farm supplies, summaries of state and federal laws governing organic food, and a list of U.S. organic certification groups. Available from California Action Network, P.O. Box 464, Davis, CA 95617. \$29.95 plus \$5 first-class shipping and handling. For telephone orders call (916) 756-8518.

Video

Large Scale Agriculture Goes Organic, 80 minutes, 1990. Workshop video from the Committee for Sustainable Agriculture's 10th annual Ecological Farm Conference at Asilomar, CA. Three large-scale California produce growers discuss the challenges of operating profitable organic farms that

include 25,000 acres of which 2,300 are certified organic. Features **Paul Carpenter**, general manager of PURE-PAC Inc. of Oxnard; **Jack Pandol**, **Jr**., production manager, Pandol & Sons, Delano; and **Eric Wilkins**, Mike Yurosek & Son, Lamont. Contact Griesinger Films, 7300 Old Mill Rd., Gates Mills, OH 44040; (216) 423-1601. \$19.95.

Environmental Answers

What Works Report #1: Air Pollution Solutions, 1992. Profiles of 70 examples of transportation alternatives, successful efforts to reduce ozone-depleting chemicals and emissions, and air pollution education programs. Produced by The Environmental Exchange, a nonprofit organization that publishes the Action Exchange bulletin and coordinates a national clearinghouse of environmental problem-solving strategies. What Works is \$15 plus \$2 postage and handling. Call or write The Environmental Exchange, 1930 18th St. NW, #24, Washington, DC 20009; (202) 387-2182.

Directory

Healthy Harvest: A Global Directory of Sustainable Agriculture and Horticulture Organizations, 212 page softcover book. Latest edition includes 1,400 entries including agriculture and horticulture training institutes, research centers, development programs, advocacy groups, university programs, and businesses. Cross indexed by geography and subject. Order for \$19.95 plus \$3 shipping (CA residents add \$1.45 sales tax) from agAcess, 603 Fourth St., Davis, CA 956l6 or call (916) 756-7177.

Sustainable Ag Guide

Sustainable Agriculture in California: A Guide to Information, by Steve Mitchell and David Bainbridge. This 200-page guide, funded by UC SAREP and The Librarians Association of the University of California, is aimed at helping farmers, ranchers, researchers, farm advisors, planners, gardeners and consumers find information about sustainable agriculture. Includes bibliographies on cover crops, ley farming, agroforestry, range management, weed and pest control, specialty crops, gardening, on-farm research, and farm worker safety. Order Publication No.3349 (\$12) from UC ANR Publications, University of California, 6701 San Pablo Ave., Oakland, CA 94608-1239, or call (510) 642-2431.

Symposium Proceedings

Proceedings/Sustainable Agriculture in California: A Research Symposium, includes 23 papers ranging from practical crop production and pest control

systems to developing computerized information distribution systems, and transcripts of a panel discussion on sustainability. From the spring 1990 SAREP symposium on sustainable agriculture research and extension. Publication No. 3348, available for \$15 from UC ANR Publications, ordering information above.

UC SAREP Progress Report

Progress Report 1986-1990, reviews the work of UC SAREP. Includes summaries of 51 SAREP-funded projects. Free copies available from UC SAREP, University of California, Davis, CA

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