



STATE
..... **OF THE**
STATES
2ND EDITION

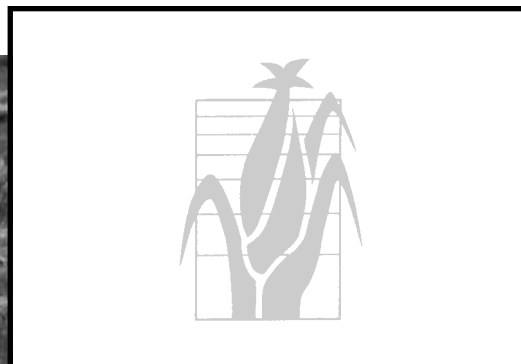
*Organic Farming Systems
Research at Land Grant
Institutions 2001 ~ 2003*

COMPILED BY
JANE SOOBY

OFRF Technical Program Coordinator

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SANTA CRUZ, CA



original graphic artist: Marianne Wyllie - revisions: Dianne Carter

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Cynthia Vagnetti and subject



*Jerry DeWitt
Photo by Dirck Halstead*

OFRF and the author are very grateful to Cynthia Vagnetti and Jerry DeWitt for allowing us to use a few of their many images of farmers and the work farmers do.

Cynthia has devoted her career as an independent researcher and media specialist to portraying American farmers and ranchers in organic and sustainable agriculture practices. Taking a holistic approach, she combines oral history interviews with black and white photography and digital video to create heartwarming stories of farmers practicing what works in agriculture today. Lead author of the recent monograph entitled People Sustaining the Land, Cynthia is currently working on a national exhibition and video project entitled Voices of American Farm Women.

Some of Cynthia and Jerry's work is also compiled in a portfolio entitled Gifts and Graces of the Land, which can be found at:

http://dirckhalstead.org/issue9907/gift_into.htm

<http://www.globalweb.org/vagnetti/>

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Acknowledgments

DEDICATION

to Mark Lipson, whose visionary ideas, team-building, and hard work have changed the landscape of organic agricultural policy in the U.S. Mark originally conceived of this report, including documenting organic research acres in each state. I hope we work together for many more years.

THANKS FIRST to Lauren Warboy, intern extraordinaire, whose enthusiastic efforts got the second edition rolling last fall.

Thank you to all the researchers and Extension folks who provided information on their activities. The following also reviewed portions of the text:

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Any errors or omissions are solely my responsibility.

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Working Assets

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A special thank you to Dianne Carter for laying out the publication; Don Burgett for handling the production details; and Cynthia Vagnetti for providing artistic support.

- Jane Sooby



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"RESEARCH IS JUST ABSOLUTELY NUMBER ONE. We started so many artificial cycles because of the chemical agriculture we developed over the last generation. It's imperative to continue the research that needs to be done to unravel some of that and look for better alternatives. We need to know about the inner relationships between insect cycles and disease cycles and weed cycles. If we stop now we will never unravel the problems we've created for ourselves from the past."

Bob Quinn -
Big Sandy, Montana

Executive Summary

BACKGROUND

BECAUSE PUBLIC TAX DOLLARS SUPPORT the federal land grant system of agricultural research, extension, and education, we expect it to be responsive to the needs of all its constituents, including organic farmers. Sales of organic food and area of land certified organic have been growing at a rapid pace in the U.S., and we look to the land grants to support this growth. This report describes organic farming research that is currently being conducted in the U.S. land grant system, and provides information on Extension and other resources that may be of use to organic growers. It is a follow-up to our original *State of the States* report released in 2001.

Over the past 140 years, the land grant system has invested billions of dollars researching agricultural practices and inputs. While largely responsible for modern U.S. agriculture's astonishing increases in productivity, the land grant system has also been criticized for serving corporate agricultural input manufacturers and large-scale producers to the detriment of small-scale and low-input producers. The land grant system's institutionalized focus on purchased chemical inputs and mammoth-scale production marginalized many other areas of inquiry, including smaller scale and more environmentally appropriate farming techniques such as organic practices.

In 1997, OFRF's policy director Mark Lipson conducted an intensive review of USDA's Current Research Information System (CRIS) database, seeking all organic-pertinent research being done at that point in time. What he found was sobering yet not unexpected: less than 0.1% of federal agricultural research dollars were funding organic farming research. The first *State of the States* report was a follow-up to Lipson's groundbreaking report, *Searching for the O-Word*. This second edition is a guide to organic activities currently underway in the U.S. land grant system.

METHODS

After establishing a baseline of organic activity in the land grant system for the first edition, collecting information for the second edition involved following up with existing projects; searching university websites for new organic resources; combing through the CRIS, Sustainable Agriculture Research and Education, National Research Institute, and Organic Transitions Program databases for federally-funded organic research projects; and contacting researchers, extension personnel, and administrators by phone and e-mail for any leads.

Though we continue to promote organic research that features meaningful farmer involvement, takes a systems approach, and is explicitly organic, the main criterion for inclusion was that the research managed at least one treatment organically. The "organic farming systems ideal" is being realized in a growing number of states, but is still a theoretical model for most.



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In 2001, we found that land grants in 39 states had research or some resource relevant to organic producers; in 2003, we found evidence of organic activity in 44 states. Fourteen states that had no organic research acres in 2001 now have them, bringing the total number of states with organic research acreage to 37. The total number of organic research acres in the U.S. land grant system has more than doubled, while the number of certified organic research acres has trebled.

Still, the 1,162 organic research acres today represent 0.13% of the total available research acres in the land grant system, while the 496 certified research acres represent only 0.06% of the total available. With certified organic acreage in the U.S. covering between 0.3-2% of all U.S. farmland (depending on crop type), there is still a gap between actual acres farmed organically and the proportion of research acres dedicated to certified organic research.

We applaud the 18 states that have taken the important step of certifying their organic research acres and encourage scientists in all states to follow their lead. An additional 8 states are poised to have certified organic research acres once they have gone through the transition period. Scientists should certify their research acres to indicate to growers that they are adhering to the same federally mandated production practices that organic growers must follow in order to market their goods as organic. The particular processes and constraints of the certification process give credibility to organic research findings.

Certification costs are also a significant part of organic operations, and the costs of certifying research acreage and abiding by the standards are crucial components of conducting realistic economic analyses of organic systems.

The top five organic research states from 2001—Iowa, Ohio, Minnesota, North Carolina, and West Virginia—were singled out because they have centralized organic research programs that are interdisciplinary, involve farmers in planning and decision making, have a systems awareness, and are committed to transitioning research acres to certified status. These states all continue their exemplary organic research, education, and extension efforts and are joined in 2003 by two newcomers, Washington and New York, that have instituted new organic research and education programs.

South Carolina, Maryland, Florida, and New Hampshire deserve recognition for their emerging organic research programs that are bringing research land through the transition to organic certification.

Michigan and California both lack centrally coordinated organic research programs, but have increasing levels of Extension-initiated organic research and educational activity. High levels of organic Extension involvement are also found in New York state. In Michigan, it is exciting to see how a strong emphasis on ecological approaches to “sustainable” agriculture is evolving into increased investigation of organic.

Some states seem to strongly resist taking this reasonable step. Though the Wisconsin Integrated Cropping Systems Trial (WICST) deserves credit for beginning to transition organic research acres, the University of Wisconsin still has little to offer organic growers in the state, which has the fourth largest commercial organic acreage in the U.S. Fortunately, another 12-acre area is currently being developed for future organic research in Wisconsin.

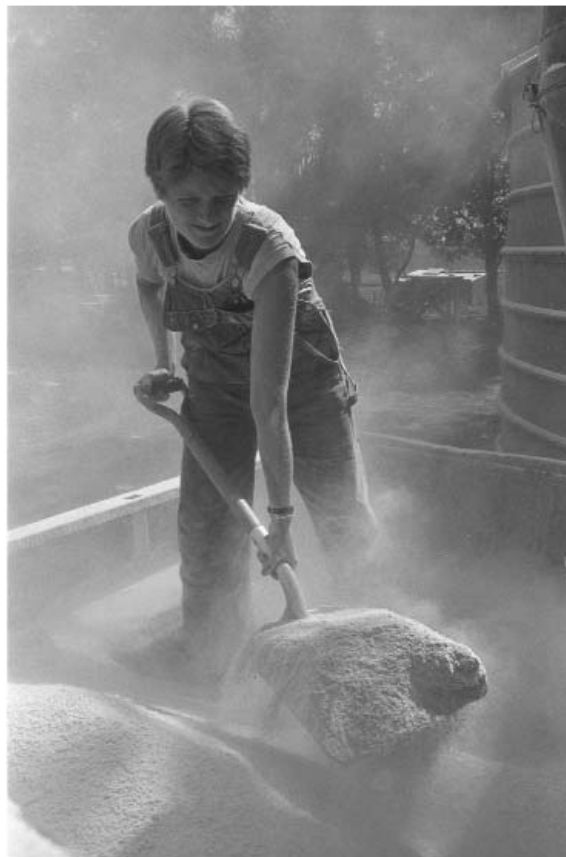


Pennsylvania State University is another land grant that almost completely lacks any meaningful organic research or extension activity. While the Rodale Institute, located in Pennsylvania, is renowned worldwide for its landmark organic research, Pennsylvania State has made only sporadic efforts to assist the state's sizeable organic farming community.

Though Oregon has a very active organic community and economy, scientists at Oregon State University are only just beginning to meet with organic growers and plan research that will meet their information needs.

Purdue University in Indiana and the University of Illinois, located in the U.S. heartland, have both increased their organic research acres in the past year. Surprisingly at Purdue, most of the organic research so far is in organic apple and vegetable production, rather than in the field crops so dominant in Indiana.

In the first two editions of the *State of the States* report, we have focused primarily on quantifying organic research efforts at land grants around the country. For future editions, we plan to develop a ranking system to help assess the quality of the organic research being done as well as the quantity.



Nancy Vogelsberg-Busch - Home, Kansas



ORGANIC RESEARCH ACRES AT LAND GRANT INSTITUTIONS 2001 – 2003 *

State	Certified		Transitional		Managed		Total	
	2001	2003	2001	2003	2001	2003	2001	2003
Arizona					9	9	9	9
California		21.5			9	39	9	60.5
Colorado	12	11	4			15.25	16	26.25
Connecticut					33	30	33	30
Florida		10		40				50
Georgia			9	1		11.5	9	12.5
Hawaii					2.5	1.99	2.5	1.99
Idaho				2				2
Illinois		3	6	6			6	9
Indiana					0.2	5.4	0.2	5.4
Iowa	17	20				22	17	42
Kansas				3.18				3.18
Kentucky		8	8	12	160	160	168	180
Louisiana						0.11		0.11
Maine	3	3				3.5	3	6.5
Maryland		3		27.42				30.42
Michigan		29	17	28		2	17	59
Minnesota	120	107		17.69			120	124.69
Mississippi						0.75		0.75
Missouri						2		2
Montana					1.1	11	1.1	11
Nebraska					7.5	7.5	7.5	7.5
New Hampshire		22						22
New Jersey	0.2	0.2			3	3.75	3.2	3.95
New Mexico		6.5				1		7.5
New York		6		30		16		52
North Carolina		46	100	29.54		7.45	100	82.99
North Dakota				8.5		2.06		10.56
Ohio		32.46	35	13			35	45.46
Oregon				2.5	1		1	2.5
South Carolina				20		2		22
Texas		154.3						154.3
Vermont					2	4.5	2	4.5
Virginia						5		5
Washington	2	13.3		6			2	19.3
West Virginia			60	35			60	35
Wisconsin				12		8.5		20.5
Totals:	154.2	496.26	239	293.83	228.3	371.26	621.5	1,161.35

According to the 1999 report of the USDA Strategic Planning Task Force on Research Facilities, there are 885,862.5 total available research acres in the land grant system. The 496 certified organic acres now in the land grant system represent just 0.056% of the total available research acreage; however, this represents a trebling of organic certified research acres in the past two years.

NOTE: *2001 values do not include student organic farm acreage, while 2003 values do. The student organic farm acreage that has been added are: California, 21.5 cert.; Iowa, 6 m.o.; Maine, 3 cert.; Michigan, 6 trans.; New Jersey, 3 m.o.; New Mexico, 1 m.o.; New York, 12 m.o.; North Carolina, 7 m.o.; Vermont, 4.5 m.o.

KEY: cert = certified organic; m.o. = managed organically; trans = in transition



I ntroduction

revised and updated for the second edition

BY JANE SOOBY

Organic farming

has developed from the roots up, nourished by the labors of growers who use nature’s principles of diversity and cycling of nutrients and energy to raise crops and livestock. In contrast to the industrial-chemical methods of conventional agriculture, organic farming techniques have been developed and spread in a grassroots fashion, almost entirely outside the institutionalized research and extension system of the land grant universities.

This report describes organic farming research currently in the ground at land-grant universities, provides information on extension and other resources that may be of use to organic growers, and documents the changes we have seen since the first edition published two years ago. We hope it will be a useful reference for organic farmers and ranchers, scientists, extension personnel, activists, interested consumers, students, and administrators. The purpose of this project is to shine a light on the excellent work being done in states such as Iowa, Ohio, New York, North Carolina, Minnesota, Washington, and West Virginia, and to provide a resource for those who want to find research-based information on organic farming in their own state. This report also points out states that are ignoring their organic constituents’ needs and providing little or no resources for them. We hope it will be an effective organizing tool for those working to increase the resources directed toward organic farming research at the land-grant level.

WHY THE LAND GRANT SYSTEM?

Because public funds support the land grant system, we expect it to be responsive to the educational and research needs of its constituents, including organic farmers. Sales of organic food and area of land certified organic have been growing at a rapid pace in the U.S., and we look to the land grants to support this growth. The land grant system consists of three components: public universities, agricultural experiment stations, and Cooperative Extension.

Land grant universities were established by the Morrill Act of 1862, which granted land and federal funds in each state to establish a public college “for the benefit of agriculture and mechanical arts.” The Morrill Act was an effort to make higher education accessible to everyone, not just the well-to-do. A second Morrill Act was passed in 1890 that provided federal funds for historically Black colleges in the segregated south. Consequently, southern states are home to both 1862 and 1890 land-grant colleges.



The second part of the land grant system, the national network of agricultural experiment stations, was established by the Hatch Act of 1887. The third piece was fitted into place with passage of the Smith-Lever Act in 1914, which authorized federal funding for the Cooperative Extension service, the outreach arm of the land grant system. The Hatch and Smith-Lever Acts continue to be the main mechanisms for distributing federal agricultural research and education funding to the land grant universities.

There are other elements to the land grant system that are not covered in this report. American Samoa, the U.S. Virgin Islands, Guam, Micronesia, the Northern Mariana Islands, and Puerto Rico each have public institutions that receive land grant funds. In 1994, 29 Native American tribal colleges, located primarily in the Upper Plains states and New Mexico, were given land grant status (in 1998, a 30th tribal college was added to the list). Because most of these are two-year colleges with minimal agricultural research programs, they were not included in this analysis.

The 1890 institutions are at a disadvantage in carrying out extensive research programs because they do not receive Hatch or Smith-Lever funds. However, this report reveals that in some states—notably Georgia and Kentucky—1890 institutions have led the way in instituting organic farming research programs. Two years ago, we found organic production research being done at the 1890 while none was being done at the 1862; now, both the 1862 and 1890 campuses in these states have growing organic research programs.

Over the past 140 years, the land grant system has invested billions of dollars in researching agricultural practices and inputs. While responsible for modern U.S. agriculture’s astonishing increases in productivity, the land grant system has also been criticized for serving corporate agricultural input manufacturers and large-scale producers to the detriment of small-scale and low-input producers.

The land grant system’s institutionalized focus on purchased chemical inputs and mammoth-scale production—and, more recently, on assisting corporations to develop patented transgenic crops and animals—marginalized many other areas of inquiry, including smaller scale and more environmentally appropriate farming techniques such as organic practices. Organic farming practices were not only lost in the shuffle, they were swept under the carpet as insignificant and threatening to the status quo. The system also failed to meet the needs of small- and moderate-scale farmers, limited resource farmers, and minority farmers.

Historically, USDA’s Sustainable Agriculture Research and Education (SARE) program was one of the major sources of federal support for organic farming research projects. Between 1988–2000, 9.8% of all SARE-funded projects related to organic agriculture (Delate et al. 2001). Though fairly insignificant fiscally (in 2002, SARE received \$17.25 million, 1.6% of USDA’s Cooperative State, Research, Education, and Extension Service funding), the number of farmers and scientists studying aspects of organic production with SARE funding has enhanced the visibility of organic in research settings, and provided valuable information on production and marketing practices.

In 2000, the Initiative for Future Agriculture and Food Systems (IFAFS) program was launched by USDA. During its two-year life span, IFAFS made the largest federal grants

FEDERAL RESEARCH FUNDING SOURCES



ever to support organic farming research. In 2000, the Organic Agriculture Consortium received \$1.8 million to conduct a 4-year program of organic production, marketing, and consumer research, education, and outreach. In 2001, the North East Organic Network received \$1.2 million to conduct numerous organic activities.

The National Research Initiative (NRI), the primary agricultural competitive grants program in the U.S., has also made a handful of large grants in support of organic research projects over the past five years that fiscally overshadow SARE funding levels.

The Organic Transitions Program, a portion of USDA's Integrated Pest Management funding program, spent over \$2 million on nine organic research projects in 2001 and 2002. This source of funding will continue to play a role in furthering organic research.

The 2002 Farm Bill contained historic provisions to fund organic research at \$3 million per year over the next 5 years. This funding will begin being disbursed in 2004, and will result in another increase in organic research being conducted in the U.S.

The Agricultural Research Service (ARS) is the research arm of the USDA, though it is a separate entity from the land grant system. ARS scientists around the U.S. are working with growers to conduct organic research at federal research stations in 24 states (Bull 2003). However, this work is outside of the scope of the current report.

AFTER THE "O-WORD"

In 1997, OFRF's policy director Mark Lipson conducted an intensive review of USDA's Current Research Information System (CRIS) database, seeking all organic-pertinent research being done at that point in time. What he found was sobering yet not unexpected: less than 0.1% of federal agricultural research dollars were funding organic farming research (Lipson 1997). Lipson found only 34 projects that were explicitly focused on organic farming systems—of 30,000 projects total.

The first edition of the *State of the States* (SOS-I) was a follow-up to Lipson's groundbreaking report, *Searching for the O-Word*. This second edition (SOS-II) is an update of the existing organic farming research being done at land grant institutions across the United States. In 2001, we found that land grants in 39 states had research or some resource relevant to organic producers; in 2003, we found evidence of organic activity in 44 states. Fourteen states that had no organic research acres in 2001 now have them, bringing the total number of states with organic research acreage to 37. The total number of organic research acres in the U.S. land grant system has more than doubled, while the number of certified organic research acres has trebled.

At the same time, the land grant system is not providing services to the organic sector proportional to its significance in agriculture. SOS-I reported that 0.02% of land grant research acres were certified organic, which is ten times less than the 0.2% of U.S. cropland reported at that time by USDA (Greene 2000; Sooby 2001). The 1,162 total organic research acres that exist today represent 0.13% of the available research acres in the land grant system, while the 496 certified research acres represent only 0.06% of the research acres available (based on the 885,862.5 acres reported as available research acres in the land grant system by USDA 1999).

Meanwhile, the latest USDA data show that overall, certified organic acreage in the U.S. was 0.3% of all U.S. crop and pasture land in 2001 (Greene and Kremen 2003). The gap is



closing, but a minimum 5-fold increase in organic research acres is still needed to reach parity. For vegetable production, 2% of all U.S. acres are certified organic (Greene and Kremen 2003). Organic vegetable research acreage is greatly disproportionate to the level of organic vegetable acreage in the U.S.

Though we continue to promote organic research that features meaningful farmer involvement, takes a systems approach, and is explicitly organic, the main criterion for inclusion in this report was that the word “organic” was used in the title, or was used to describe at least one treatment. Some projects used an untreated control, and this was not counted as “organic.” The “organic farming systems ideal” is being realized in a growing number of states, but is still a theoretical model for most.

For the most part, this report contains follow-up on projects reported in the first edition and descriptions of new projects and resources. In a few cases, I have added a reference to an older publication or project that should have been included in the first edition but was overlooked. Taken together, the first and second editions should provide thorough coverage of organic research, extension, and education that has occurred in the U.S. between 1995 and 2003.

Some researchers have objected to our exclusive focus on “organic” research, pointing out that much basic research is as applicable to organic as to conventional growers. For example, Ford Denison at UC Davis wrote, “The discovery that wild potatoes produce aphid alarm pheromone when injured doesn’t immediately help either conventional or organic farmers, but this information could be used to develop aphid-resistant cultivars.” He has a point; however, we simply do not have the resources to screen all biological research for potential utility to organic growers. Undoubtedly, much work on cover cropping, rotations, green manures, integrated pest management, and biological control can be applied in organic farming systems. But our task is not to compile a compendium of work that might possibly be used by organic farmers, it is to specifically identify work being done in an organic context. We encourage all scientists performing basic research to test their materials, organisms and practices under certified organic conditions in order to verify their utility to organic farmers.

A number of comparison studies include organic management as one treatment among many. These sorts of studies vary in their effectiveness at evaluating organic systems. “Organic by neglect” management, simply withholding all inputs, seldom generates useful information and is more likely to falsely reinforce the idea that organic farming has lower yields than conventional. For the first three years, the transition to organic is being studied, instead of the performance of a well-managed, mature organic system. A control treatment to which no chemical inputs are applied doesn’t qualify a project as “organic” research because it lacks critical aspects of standard organic management—such as crop rotation—that make the system work.

A growing number of scientists are realizing that certified organic land presents a unique opportunity to study more complex plant and insect interactions than conventional systems that are routinely treated with synthetic biocides.

CONSIDERATIONS FOR INCLUSION



THE ORGANIC FARMING SYSTEMS IDEAL

Three elements are fundamental to our ideal for organic farming systems research: farmer involvement, explicit organic content, and a systems approach.

FARMER PARTICIPATION

Ideally, farmers themselves participate in research from the very beginning, helping to identify research priorities, frame research questions, and plan methodology. On-farm studies generate data meaningful to farmers and help conserve scarce research funds. Certified organic farms can provide ready-made sites for meaningful organic research that gives a valid test of organic performance. Increasingly, the farmer-cooperator model of the past—with the grower donating land, labor, and credibility to the researcher's project with little say in the treatments or methods—is giving way to a more active role as farmer collaborator who participates in decision-making and is reimbursed for the time and resources spent on the project.

EXPLICIT ORGANIC CONTENT/SYSTEMS APPROACH

It is difficult to separate these two factors because with an awareness of organic production principles comes awareness of working with the entire agroecosystem. The success of organic farming systems to date has hinged on managing systems as wholes rather than relying on “silver bullets” aimed at a single aspect of the system. We believe that the strength of such integrated systems in building fertility, soil quality, and resistance to pests is an emergent property from the whole. Therefore, how the discrete elements of the whole interact is the most appropriate focus for organic farming systems research. Organic management at its most productive takes an ecological approach to the larger system, with equal attention paid to the system as to its parts.

There is some value in investigating emergency or rescue strategies for extreme and sudden infestations, but the majority of research effort is best focused on managing whole systems rather than relying on individual inputs. Interdisciplinary research teams are best suited for organic systems research, in order to examine and comprehend each element of the system separately, then to reintegrate them into an understanding of the whole and how the elements interact. Ecological studies of energy and nutrient flows through organic farming systems are also needed, and are being conducted at various locations. Systems research methodologies applied to agronomic research are still underdeveloped in the U.S., but organic researchers are helping to lead the way (Drinkwater 2002, Delate 2002, Mueller et al. 2002).

Research efforts in Iowa, North Carolina, Ohio, Minnesota, West Virginia, New York, and Washington still best exemplify our ideal of organic farming systems research. Farmers participate in advisory boards that set research priorities and make funding decisions. Research station land is being put through the three-year transition to organic certification. Interdisciplinary teams of researchers bring together their expertise in soil nutrient dynamics, weeds, microbial ecology, plant pathology, horticulture, agronomy, economics, marketing, and other disciplines. An increasing number of researchers are studying the most cost-effective transition strategies to reduce the economic risk of going organic. They are documenting the changes in all aspects of the system as it goes through the transition, then continuing to pursue dedicated organic systems research at the site once the area is certified.



After establishing a baseline of organic activity at the sixty-eight 1862 and 1890 institutions in the land grant system for the first edition, collecting information for the second edition involved following up with existing projects; searching university websites for new organic resources; combing through the CRIS, SARE, NRI, and Organic Transitions Program databases for organic research projects; and contacting researchers, extension personnel, and administrators by phone and e-mail for any leads. At OFRE, we continuously collect information on new organic research initiatives. As time goes on, our first-hand knowledge of organic research programs around the country is expanding. For example, in 2002, the author made site visits to the research programs at North Carolina State University and at Cornell in New York state, which provided a deeper perspective on these programs not available by simply reading about them. Site visits will continue to be an important method for assessing organic research programs.

One change since 2000 in finding web-based information on university programs is that more university websites feature powerful search engines that increase access to any item that uses the word "organic." While convenient, it's time-consuming to wade through all the hits for "organic chemistry." To facilitate web searches for organic research in the future, we suggest that university-based personnel make it a point to use the words "organic farming" somewhere in their text to simplify such searches.

The top five organic research states from 2001—Iowa, Ohio, Minnesota, North Carolina, and West Virginia—were singled out because they have centralized organic research programs that are interdisciplinary, involve farmers in planning and decision making, have a systems awareness, and are committed to transitioning research acres to certified status. These states all continue their exemplary organic research, education, and extension efforts and are joined in 2003 by two newcomers, Washington and New York, that have instituted new organic research and education programs. Washington State University is also developing a full-fledged bachelor's degree in organic agriculture.

South Carolina, Maryland, Florida, and New Hampshire deserve recognition for their emerging organic research programs that are bringing research land through the transition to organic certification.

Michigan and California both lack centrally coordinated organic research programs, but have increasing levels of Extension-initiated organic research and educational activity. High levels of organic Extension involvement are also found in New York state. In Michigan, it is exciting to see how a strong emphasis on ecological approaches to "sustainable" agriculture is evolving into increased investigation of organic.

Some states seem to strongly resist taking this reasonable step. Though the Wisconsin Integrated Cropping Systems Trial (WICST) deserves credit for beginning to transition organic research acres, the University of Wisconsin still has very little to offer organic growers in the state, which has the fourth largest organic acreage in the U.S. (Greene and Kremen 2003). Fortunately, another 12-acre area is currently being developed for future organic research in Wisconsin.

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METHODS

STATE OF THE STATES



Pennsylvania, is renowned worldwide for its landmark organic research, Pennsylvania State has made only sporadic efforts to assist the state's sizeable organic farming community.

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Here is a look at the organic research status of the top ten states in terms of 2001 certified organic commercial acreage (acreage from Greene and Kremen 2003):

1. California: 148,664 certified organic acres—has the largest volume of organic research and Extension activity, most of it conducted individually by cooperative extension farm advisors in response to grower interest. However, lacks a centralized organic research program. The main agricultural campus in the UC system, Davis, still fails to have any specific program to assist organic growers. No research station land is in transition or certified; only the Student Experimental Farm at UC Davis has made the commitment to take this important step. Most of the organic research in CA is conducted on-farm. The Sustainable Agriculture Farming Systems (SAFS) study conducted between 1989–2001 did generate many scientific publications on organic practices. For the state with the most certified organic research acres in the country, land grant support is uncoordinated and spotty. Individual researchers and Extension personnel have been responsive to the organic industry, but not the institution as a whole.
2. North Dakota: 144,890 certified organic acres—is beginning to establish an organic research program, focused mainly on organic small grains production. Transitioning research station land to certified status is a sign of commitment. A long-term project comparing no-till and tilled organic rotations started in 1999. There are still only two or three individuals who are pioneering organic research/extension in North Dakota.
3. Minnesota: 98,256 certified organic acres—has had a research project studying an organic rotation since 1989. In 1999, Elizabeth Dyck started the Organic Conversion Project, which involves production research as well as informational support for transitioning growers. Highly supportive state for organic.
4. Wisconsin: 79,128 certified organic acres—WICST has until very recently resisted a commitment to clearly assessing organic. They are finally adhering to their “no-chemical” treatments, and starting to manage an area for organic research. Involvement in organic dairy research has been limited to documenting the transition of one dairy to organic. However, considering the significance of organic production in this state, the University of Wisconsin has very little to offer the organic grower.
5. Iowa: 71,796 certified organic acres—hired Kathleen Delate as country’s first dedicated organic researcher in 1997. Has established a broad organic research program there that encompasses many types of crops. Highly supportive state for organic.
6. Montana: 71,707 certified organic acres—little to no research specifically into organic. The major effort in this state started in 1997 and has a single organic trial at one



location. No useful information has been generated from it as of yet. Extension in Missoula County is enlightened and responsive to organic growers. Some individual efforts in developing biologically-based pesticides and using remote sensing to map weeds, but there is no coordinated effort focused on assisting the many organic growers in the state.

7. Colorado: 67,347 certified organic acres—widespread support for organic farmers around the state. Organic research is not limited to one particular study, but is being done out of the campus at Ft. Collins as well as at research stations around the state. Good effort that shows signs of expansion. Researchers are committed to certifying research land.
8. Idaho: 64,982 certified organic acres—Minimal level of activity in the past, gradually increasing. Mir Seyedbagheri launched his organic research program in 1999 and has developed strong ties with growers and conducted useful studies into commercial humic products, effectiveness of compost, and N mineralization. Until recently, this was the only organic-supportive activity in the state. One research station has acres in transition with a program still in the planning stages.
9. South Dakota: 49,984 certified organic acres—a significant organic comparison study was done 1986-1992; since then, however, organic production research is completely lacking in this state. Some support is provided by Thomas Dobbs's economic analyses. Lots of room for improvement.
10. Michigan: 45,466 certified organic acres—Many efforts are being made around the state to provide useful information to organic growers, including a major organic apple program. Like California, Michigan has a high level of activity yet still lacks a central organic research program. Researchers are taking certification seriously, and a wide range of production systems and crops are being studied.

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We searched activity at the sixty-eight 1862 and 1890 land grant universities for organic research, Extension, and education currently underway. We are confident that most of the organic farming activity being done in the land grant system is represented here. Readers are invited to tell us about any omissions, errors, or new activities just getting started. We will continue to update this report on an ongoing basis. In future editions we may include organic farming research being conducted independently on-farm, at state universities, community colleges, 1994 (Native American) land grants, private colleges, and other educational institutions. The more information we receive from the public, the greater our ability to report on these activities.

In the past two editions of the State of the States report, we have focused primarily on quantifying organic research efforts at land grants around the country. Certifying research acres is one measure of an institution's long-term commitment to organic research, but it's not the only one. In future editions, we plan to develop a ranking system to help assess the quality of the organic research being done as well as the quantity.

It is gratifying to see major changes in the organic research landscape after only two years. Though the acreage devoted to organic farming research in the land grant system is small, each project has great potential to help organic farmers continue to supply communities with wholesome, organic food. Every certified organic research acre is important!

FUTURE DIRECTIONS



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Tom and Deb Larson
from St. Edward,
Nebraska



The States

ALABAMA

AUBURN UNIVERSITY, 1862, AUBURN

RESEARCH, PRODUCTION

A two-year Alabama Agricultural Experiment Station study in 1996 and 1997 looked at the effectiveness of organic sprays in controlling diamondback moth, cabbage looper, and imported cabbage worm in cabbage and lettuce. In one of two years of the study, the organic sprays were more effective than the chemical control treatment. Materials studied were the proprietary materials Garlic Barrier, Align, Javelin, and a red pepper mixture. The study was headed by entomologist Geoff Zehnder, who is now active in organic research in South Carolina. A report on the project was published in the Fall 1997 edition of *Highlights of Agricultural Research*, and is on the web at <http://www.ag.auburn.edu/aaes/communications/highlights/fall97/sprays.htm>

EDUCATION

A class, Organic Gardening, is taught every quarter through the Horticulture Dept. by professor James E. Brown. This is a general science course with an enrollment of at least 200 students per term. Brown uses a text he has written, *Organic gardening: vegetable growing in simple terms*, published in 1998 by Simon & Schuster. Brown also teaches an advanced, hands-on course, Minor Problems in Organic Gardening, to 30 students per quarter. The students in this course help Brown maintain an acre and a half of organic vegetables, flowers, and trees on campus. James E. Brown, phone 334-844-3034, e-mail brownj2@auburn.edu.

EXTENSION

1. Web page, dated 1998, with information on "fertilizing the organic garden:" <http://www.aces.edu/department/ipm/avgorgfert.htm>
2. Publication on "Organic fertilizers for fish ponds," written by Alex Bocek, with illustrations showing how animal pens can be adapted to fertilize fish production ponds. <http://www.ag.auburn.edu/icaae/organic.htm>



3. An article based on an Extension nutritionist's opinion that organic food is "no better" than conventional food and more likely to contain microbial contamination. Published May 2002. Quotes nutritionist Jean Weese.
<http://www.aces.edu/dept/extcomm/newspaper/may21b02.html>

ALABAMA A&M UNIVERSITY, 1890, HUNTSVILLE

no organic found

TUSKEGEE UNIVERSITY, 1890, TUSKEGEE

no organic found

ALASKA

UNIVERSITY OF ALASKA, 1862, FAIRBANKS

no organic found

ARIZONA

UNIVERSITY OF ARIZONA, 1862, TUCSON

9 acres managed organically

RESEARCH, PRODUCTION

1. Four acres at the Citrus Agricultural Center in Waddell are still being managed organically (though not certified), two each of Mineola tangelo and Washington navel oranges. Contact James Truman, farm manager, phone 602-255-3316, e-mail jstruman@qwest.net
2. Five acres of an 8-acre field at the Yuma Agricultural Center-Mesa Station have been managed organically since spring 1999 for a multi-year experiment on the feasibility of organic lemon production in the area, with an emphasis on organic fertility inputs. A report on the first year (2000), by Mohammed Zerkoune, Glenn Wright, David Kerns, and William McCloskey, is on the web at <http://ag.arizona.edu/pubs/crops/az1275/09.pdf>

A related article on the effects of organic amendments on lemons, by Mohammed Zerkoune, Glenn Wright, and David Kerns, is on the web at <http://ag.arizona.edu/pubs/crops/az1303/az1303-12.pdf>

Contact research scientist Glenn Wright for more information: phone 928-726-0458, e-mail gwright@ag.arizona.edu



RESEARCH, CONSUMER / ECONOMIC

Gary Thompson with the Agricultural and Resource Economics Dept. has published more articles on organic markets and consumer issues, including:

- ♦ Thompson, Gary D. 2000. International Consumer Demand for Organic Foods. HortTechnology 10:663-674;
- ♦ Thompson, Gary D. and Julia Kidwell. 1998. Explaining the Choice of Organic Produce: Cosmetic Defects, Prices, and Consumer Preferences. American Journal of Agricultural Economics 80:277-287;
- ♦ Thompson, Gary D. 1998. Consumer Demand for Organic Foods: What We Know and What We Need to Know. American Journal of Agricultural Economics 80:1113-1118.

Thompson, phone 520-621-6249, e-mail garyt@ag.arizona.edu

EXTENSION

1. Article by organic farmers Sherry Luna and Phil Ostrow on marketing produce. Though written pre-rule (1999), it still contains useful information on developing market infrastructure and dealing with marketing agents.
<http://ag.arizona.edu/OALS/ALN/aln46/luna.html#luna1anchor>
2. Web page by Extension IPM program with some organic resources listed:
<http://ag.arizona.edu/crops/pesticides/pesticidealts.html#organics>

ARKANSAS

UNIVERSITY OF ARKANSAS, 1862, FAYETTEVILLE

RESEARCH, PRODUCTION

Horticultural researcher Curt Rom conducted a survey of organic apple growers in 2001 to determine their awareness of the need to thin apples and to document their current practices. A summary of this survey was published in Horticultural Studies 2001, Arkansas Agricultural Experiment Station Research Series 494: "Demonstrating the need for alternative apple fruit thinning methods for organic growers," pp. 24-25. The report may be read on the internet at

<http://www.uark.edu/depts/agripub/Publications/researchseries/494.pdf>

Rom has also received funding from OFRF to conduct two years of research on organic apple thinning strategies, which was conducted in Colorado. Reports on the results are available from OFRF. Contact Rom at phone 479-575-2603, e-mail crom@uark.edu.



EXTENSION

Univ. of Arkansas Extension has a guide to organic gardening, on the web at <http://www.arhomeandgarden.org/landscape/HomeLandscaping/SpecGardening/OrganicGardening.asp> No author is indicated. It is dated Sept. 2002.

UNIVERSITY OF ARKANSAS, 1890, PINE BLUFF

EXTENSION

A 2002 press release from Cooperative Extension contains detailed information on organic sweet potato production provided by Cooperative Extension horticulturist Steve Izekor. Read it at http://www.uaex.edu/Other_Areas/news/June2002/0621tatr.asp

Contact Izekor at phone 870-575-8152, e-mail izekor_s@uapb.edu.

CALIFORNIA

UNIVERSITY OF CALIFORNIA SYSTEM, 1862

39 acres managed organically;

misc. on-farm plots;

21.5-acre certified organic student farm

RESEARCH, PRODUCTION

1. University of California Cooperative Extension vegetable specialist Louise Jackson is heading a 3-year, multidisciplinary on-farm study of the transition from conventional to organic vegetable production on 200 acres in the Salinas Valley. Cooperating with large vegetable growers Tanimura & Antle, "We're trying to describe what's going on when an entire ranch goes organic," Jackson was quoted as saying. The study involves cooperation between UC Davis faculty, Monterey County extension farm advisors, California State University-Monterey Bay faculty, and students. Funding is from western region SARE and UC DANR. The study began at the start of the conversion process in summer 2000 and will continue until the transition is completed in 2003. Louise Jackson, phone 530-754-9116, e-mail lejackson@ucdavis.edu
2. Approximately 1/3 of \$1.8 million awarded by the UC Division of Agriculture and Natural Resources (DANR) with money from a federal Farm Bill Block Grant to the state of California for specialty crop research in 2002 was directed toward organic research projects, including:
 - ♦ Developing a management program for San Jose scale and oriental fruit moth for organic and non-organic stone fruit farmers, Walt Bentley, UC Kearney Ag Center, e-mail wjbentley@ucdavis.edu



- ♦ Investigation of organic seed treatments for spinach disease control, Steve Koike, UC Cooperative Extension Monterey Co. and Eric Brennan, USDA-ARS. Koike, phone 831-759-7350, e-mail stkoike@ucdavis.edu
 - ♦ Effect of cover crop variety and seeding rate, and supplemental fertilization on yield, weed management, nitrate leaching, soil quality, and profitability of organic cool-season vegetable production on the Central Coast, Eric Brennan, USDA-ARS. Brennan, phone 831-755-2822, e-mail ebbrennan@ucdavis.edu
 - ♦ Nutrient management and soil microbial ecology for organically grown fresh-market tomatoes, Louise Jackson and Kate Scow, UC Davis. Scow, phone 530-752-4632, e-mail kmscow@ucdavis.edu
 - ♦ Precision weed control for organic vegetable growers, Ken Giles, Tom Lanini, and David Slaughter, UC Davis. Giles, 530-752-0687, e-mail dkgiles@ucdavis.edu; Lanini, phone 530-752-4476, e-mail wlanini@ucdavis.edu; Slaughter, phone 530-752-5553, e-mail dcslaughter@ucdavis.edu
3. Sean L. Swezey continues to conduct an ambitious program of organic research, extension, and education. He has received funding from OFRF to study pest control methods in organic strawberries, integrated approaches to organic artichoke production, codling moth control for organic apples, and organic cotton production methods. (Reports on these projects are available from OFRF.) As director of the statewide UC Sustainable Agriculture Research and Education Program (SAREP) and SAREP's statewide Organic Initiative, he has ensured that organic issues are well represented in SAREP's programs. (See SAREP entry under Extension.) Swezey continues to research organic strawberry production, and is working on a new publication, an organic strawberry production manual. Swezey received SARE funding to study the effects of trap crops on the suppression of the western tarnished plant bug (*Lygus hesperus*) in organic strawberries. Cooperating with a large organic strawberry production company, Pacific Gold Farms of Watsonville, Swezey is evaluating the use of trap crop plantings of radish and alfalfa with and without the additional use of tractor mounted suction devices to suppress lygus bugs.

Swezey presents information on organic production in California at many Extension and professional meetings. Some of his recent articles include:

- ♦ Swezey, S.L., and P.H. Goldman. 2001. Cotton yields, quality, and insect abundance in the Northern San Joaquin Valley, CA: comparison between organic, conventional and grower-led reduced input production systems. Proceedings, Beltwide Cotton Conferences. Anaheim, CA. pp. 803-808.
- ♦ Swezey, S. L. 2001. A grower-managed biorational program for artichoke pests (BIO-RAPP). Organic Farming Research Foundation Information Bulletin 10:30-31. <http://www.offr.org/publications/news/IB10.pdf>
- ♦ Swezey, S.L., and J.C. Broome. 2000. Growth predicted in biologically integrated and organic farming systems. California Agriculture 54:26-35.
- ♦ Swezey, S.L. 2000. Organic apple production in California: on-farm research and extension partnership produces first regional production guidelines. Proceedings,



Farming and Ranching for Profit, Stewardship and County Conference, USDA-WSARE Program, March 7-9, Portland. p. 82.

- ♦ Swezey, S.L. (editor) 2000. Organic apple production manual. University of California Division of Agriculture and Natural Resources Publication 3403. 80 p.
- ♦ Swezey, S.L., P.H. Goldman, R. Jergens, and R. Vargas. 1999. Preliminary studies show yield and quality potential of organic cotton. *California Agriculture* 53:9-16.

Swezey, phone 530-752-7556, e-mail Findit@cats.ucsc.edu

4. Milt McGiffen with the Botany and Plant Sciences Dept. at UC Riverside is continuing his organic research efforts. He has two experiments on-going at the Coachella Valley Agricultural Research Station in Thermal: one on crop rotations to control nutsedge, the other on reduced tillage cropping systems for desert vegetables. A report on the desert cropping systems project may be read on the web by going to <http://wsare.usu.edu/projects/2002/2002.htm> and scrolling down to Final SW98-044. Altogether, 2 acres are managed organically for these projects. McGiffen also is conducting on-farm work on organic vegetable production using cover crops in the San Joaquin and Coachella Valleys. Contact McGiffen at phone 909-560-0839, e-mail milt@citrus.ucr.edu
5. Tom Lanini has two trials ongoing at UC Davis examining the impacts of preplant irrigation, followed by either cultivation or flaming to reduce weed pressure prior to planting. One trial is in tomatoes and the second is in lettuce. Each study is slightly larger than two acres in size, and is managed organically but is not certified. The title is "Pre-irrigation followed by cultivation or flaming to deplete the weed seed bank prior to crop planting or emergence." Contact Lanini, e-mail wtlanini@ucdavis.edu, phone 530-752-4476.
6. UC Cooperative Extension Mendocino County viticulture specialist Glenn McGourty worked on certified organic on-farm trials for Fetzer Winery in 2002. The projects included effects of compost on phylloxera damage in an organically certified vineyard (with Jeff Granett); effect of sulfur dusting intervals on mite damage in Zinfandel wine grapes; and improving the powdery mildew weather prediction model (with Doug Gubler). Contact McGourty at phone 707-463-4495, e-mail Gtmcgourty@ucdavis.edu.
7. Richard Molinar, UC Cooperative Extension Fresno Co., has investigated using colored plastics in the San Joaquin Valley for weed control in strawberries, eggplant, squash, and cantaloupe. He has also studied soil solarization in organic strawberries. Molinar is renowned for working with local Hmong and Hispanic farming communities. Molinar organized the first-ever UC-sponsored conference on organic farming in the San Joaquin Valley in 2000 (see under Extension/Education below). Molinar, phone 559-456-7555, e-mail rhmolinar@ucdavis.edu
8. Crop advisor Michael Cahn, UC Cooperative Extension, Sutter/Yuba Counties, received two years of OFRF funding to study "Conservation tillage and cover crop systems for organic processing tomato production." After initiating the project, Cahn took a new job and crop advisor Enrique Herrero took over the conservation tillage work. A final report to OFRF is still pending. UC Cooperative Extension Sutter/Yuba Counties, phone 530-822-7515.



9. Nine acres at the Long-Term Research on Agricultural Systems (LTRAS) site is managed organically. Established in 1993, LTRAS is designed as a 100-year experiment, which will compare annual cropping systems that include rotations with wheat, corn, tomatoes, and winter legume cover crops. One of the ten systems being studied is strictly organic. Six 1-acre plots are managed organically for this study. Another three 1-acre plots are being used to study the hypothesized “organic transition effect,” in which lower yields are seen in the first 2-3 years of transition before rebounding to better yields. The project’s website at <http://ltrs.ucdavis.edu> contains more information on the work.

Contact director Steve Kaffka, e-mail skaffka@ucdavis.edu

10. The Sustainable Agriculture Farming Systems (SAFS) trial, after 12 years of studying conventional, low-input, and organic farming systems, and generating numerous useful publications on organic farming systems, has transmuted into the Irrigated Agricultural Conservation Tillage project, which is studying the transition to conservation tillage in conventional, low-input, and organic farming systems. The study is being moved to the LTAR site (see # 9 above). For details, refer to their website:

http://groups.ucanr.org/ucct/new_project/

Contact Leisa Huyck, phone 530-752-2023, e-mail lhuyck@ucdavis.edu

11. Mark Gaskell, Farm Advisor in Santa Maria, has conducted two OFRF-funded research projects studying various sources of fertility amendments in organic systems. The most recent was “The Effects of Green Manure, Compost, and Feather Meal on Soil Nitrogen Dynamics, Beneficial Soil Microorganisms, and Bell Pepper Yield,” funded in 1999 and conducted on-farm. A report is on file at OFRF. Contact Gaskell, phone 805-934-6240, e-mail mlgaskell@ucdavis.edu

12. Farm Advisor Richard Smith has received OFRF funding to conduct four organic research trials, the most recent being “Evaluation of Alternative Cultivators for Vegetable Production,” funded in 1999. This project compared performance of the Bezzerides torsion weeder and the brush hoe compared to the grower’s standard equipment. A report is on file at OFRF. Contact Smith, phone 831-759-7350, e-mail rifsmith@ucdavis.edu

13. Report on a 1999-2000 trial conducted on a golf course that looked at corn gluten meal as an organic herbicide, by UCCE San Diego personnel Cheryl Wilen and Dave Shaw: <http://ucce.ucdavis.edu/freeform/slosson/documents/1999-20002063.pdf>

14. Janet Caprile, Contra Costa County farm adviser, has done extensive work with organic pome fruit production, particularly apples. Caprile, phone 925-646-6129, jcaprile@ucdavis.edu

15. Steve Fennimore, UC Davis Vegetable Crops specialist, has done work on weed control in organic strawberries. Fennimore, phone 831-755-2896, e-mail safennimore@ucdavis.edu

16. Corin Pease, UC Davis entomologist, is writing an article on research on pest and beneficial insects associated with hedgerows, and hedgerow design to optimize pest control. He plans to begin work on stinkbug control methods in 2003. Pease, phone 530-752-0275, e-mail cgpease@ucdavis.edu



17. Benny Fouche, Univ. of California Cooperative Extension—San Joaquin County, is conducting on-farm studies on organic farms west of Stockton to discover ways to control the European asparagus aphid in organic asparagus. Contact Fouche at phone 209-468-9491, e-mail bfouche@ucdavis.edu.
18. Paul Vossen, UC Cooperative Extension Sonoma Co., is working on research to develop organic control methods for olive fruit fly. Vossen has a long track record of conducting on-farm organic research. A report on a 1995 on-farm trial Vossen conducted looking at organic aphid control is on the web at http://cesonoma.ucdavis.edu/HORTIC/organic_aphid_control.pdf; and a report on a 1994 study on organic and conventional bitter pit control materials: http://cesonoma.ucdavis.edu/HORTIC/bitter_pit.pdf
Vossen, phone 707-565-2621, e-mail pmvossen@ucdavis.edu
19. UC Extension Vegetable Specialist Jeff Mitchell is continuing to work on organic conservation tillage approaches. He organized California's first conference on conservation tillage in 2000, and received OFRF funding in 1999 to compare conservation and conventional tillage in organic vegetable crop production. A report to OFRF is still pending. Jeff Mitchell, Kearney Agricultural Center, phone 559-646-6500, e-mail mitchell@uckac.edu
20. Sam Prentice, postgraduate research assistant with SAREP, and SAREP director Sean L. Swezey have conducted contract research for the National Organic Program for reviews of materials petitioned for inclusion on the National List.
Prentice, phone 530-752-7541, e-mail seprentice@ucdavis.edu
21. Janine Hasey, farm adviser from Sutter/Yuba Counties, is studying "Nutrition and vegetation management comparisons in a no-till organic cling peach system." This on-farm project is being done on an orchard that began the transition to organic in 2001. Contact Hasey for a copy of a Feb. 2003 progress report on the effort. In the past, Hasey conducted a study comparing transitional organic to conventional kiwifruit production. She found that kiwifruit is well suited to organic production because there are few insect pests of this crop, the trees shade the ground and suppress most weeds, and nutrient removal by the crop is minimal. A 1992 report may be read on the web at <http://fruitsandnuts.ucdavis.edu/crops/kiwifruit.pdf>

An article on the research was published more recently:
Hasey, J.K., R.S. Johnson, R.D. Meyer, K. Klonsky. 1997. An organic versus a conventional farming system in kiwifruit. *Acta Hort.* 444:223-228.
Hasey, phone 530-822-7515, e-mail jkhasey@ucdavis.edu

RESEARCH, FOOD SCIENCE

A landmark paper was published in early 2003 reporting on total phenol levels of marionberries, strawberries, and corn grown organically, "sustainably," and conventionally. The UC Davis-based team found consistently higher levels of total phenols in organic and "sustainably grown" food.



Asami, D.K., Y.-J. Hong, D.M. Barrett, and A.E. Mitchell. 2003. Comparison of the total phenolic and ascorbic acid content of freeze-dried and air-dried marionberry, strawberry, and corn grown using conventional, organic, and sustainable agriculture practices. *J. Agric. Food Chem.* 51:1237-1241.

A link to the full text is on the web at

http://pubs3.acs.org/acs/journals/hot_article.page?in_manuscript_number=jf020635c

Corresponding author is Mitchell, phone 530-752-7926, e-mail aemitchell@ucdavis.edu

She reports that the work is on-going at the Student Experimental Farm at Davis.

RESEARCH, ECONOMIC

1. UC Davis agricultural economist Karen Klonsky has released the next in the series of statistical reviews of organic agriculture in California, covering the years 1995-98. Karen Klonsky, L. Tourte, R. Kozloff, and B. Shouse, 2002. Statistical review of California's organic agriculture 1995-1998. The report is posted on the UC Davis Agricultural Issues Center website, <http://aic.ucdavis.edu/> Scroll down to the link near the bottom of the page. Hard copies may be ordered from the AIC for \$12 at phone 530-752-2320, e-mail agissues@ucdavis.edu. The earlier report, covering years 1992-1995, is on the web at <http://aic.ucdavis.edu/pub/briefs/brief6.html>
2. The UC Davis Dept. of Agricultural and Resource Economics produces numerous organic crop budgets, or farming cost studies. Recent additions include organic strawberries and a revised organic almond budget. View the full list at <http://www.sarep.ucdavis.edu/pubs/Costs.htm> All crop budgets are accessible over the web at <http://coststudies.ucdavis.edu>, or print copies may be ordered for \$3 each by calling 530-752-3589.
3. Leslie Butler with the UC Davis Dept. of Agricultural and Resource Economics has published two articles on organic dairy in California:
The economics of organic milk production in California: a comparison with conventional costs. 2002. *Am. J. Alt. Ag* 17:83-91; *Survey quantifies cost of organic milk production in California.* 2002, *California Agriculture* 56:157-162, on the web at <http://danr.ucop.edu/calag/0205SO/pdfs/orgmilk.pdf>
"Bees" Butler, phone 530-752-3681, e-mail ljbutler@ucdavis.edu

EXTENSION

1. Eleven California counties gained county level programs or support funds for organic farming research and Extension through an unprecedented \$450,000 grant in 2002 by the Clarence E. Heller Charitable Foundation to the University of California's Sustainable Agriculture Research and Education Program (SAREP) Statewide Organic Initiative. Additional support from the True North Foundation, the California Department of Food and Agriculture "Buy California" campaign, and the UC Small Farm Center allowed expansion of the program.

- ♦ Humboldt County: Annie Eicher, the organic farming program coordinator, manages an active outreach and research program, which started with a grower questionnaire to document organic farmers' information needs. Using questionnaire results and public records, Eicher and Humboldt County Director Deborah Giraud prepared a booklet, "Organic agriculture in Humboldt County," that characterizes organic activity in the county. Eicher is cooperating with local organic growers to conduct research into fish and kelp effects on strawberries, cantaloupe, and potatoes; transitioning alfalfa; managing symphylans; use of "Zea-later" to control corn earworm; native grass and legume species for pasture; and manure management for maximal productivity. Contact Eicher at phone 707-445-7351, e-mail AEicher@co.humboldt.ca.us, on the web at http://cehumboldt.ucdavis.edu/Plant_Science/Organic_Farming_Program.htm
- ♦ Marin County: William (Steve) Quirt was hired as Marin County's organic & sustainable agriculture coordinator. He sends out a newsletter, Grown in Marin, every other month on related topics with a strong emphasis on marketing issues. He also organizes meetings and workshops on organic production and value-added marketing. A free workshop on organic certification was held in March 2003. Website http://cemarlin.ucdavis.edu/Custom_Program600/ has links to past issues of Grown in Marin. Steve Quirt, phone 415-499-4204, e-mail WQuirt@co.marin.ca.us
- ♦ Sonoma County: Farm Advisor Paul Vossen will perform field research and hold an extension short course producing a UC production manual on organic production of olives for oil, including such topics as: varietal differences, pest management (including compliant approaches to organic management of *Dacus oleae*), soil management, and cover crops (pmvossen@ucdavis.edu).
- ♦ Mendocino County: Farm Advisor Glenn McGourty will continue field research and hold an extension short course, producing a UC production manual on organic winegrape production including such topics as varietal vigor and resistance issues, pest management with composts, research on bunch rots and their cultural controls, cover crops, and mold reduction (gmcgourty@ucdavis.edu).
- ♦ Sutter-Yuba County: Farm Advisor Janine Hasey will perform field research and extend information on organic peach production, including such topics as nitrogen budgets and application issues, green manure and compost management, and insect and weed management (jkhasey@ucdavis.edu).
- ♦ Placer-Nevada County: Farm Advisor and County Director Sharon Junge will assist development of small farm organic enterprises on such topics as scale and certification issues, marketing, and pest management, including cultural controls, cover crops, rotations/livestock integration (ceplacer@ucdavis.edu).
- ♦ Ventura County: Oleg Daugovich is a new Vegetable and Row Crop advisor in Ventura County with responsibility for conducting research and education in organic crop production. So far he has conducted trials on the fumigant potential of mustards, pest and pathogen survival in mulch, the "Waipuna" hot foam weed control system, and cover crops. Summaries of these projects can be read on the web at http://ceventura.ucdavis.edu/Vegetable_Crops/Organic.htm He has worked with



local farmers to identify their research needs and organized a series of educational events, including a grower meeting on organic production and marketing held in Oct. 2002. Contact Daugovish at phone 805-645-1454, e-mail odaugovish@ucdavis.edu

- ♦ Fresno County: Small Farm Farm Advisor Richard Molinar will conduct research on cucumber beetle control in organic vegetables such as squash, melons, cucumbers, Asian vegetables, etc. (rhmolinar@ucdavis.edu).
- ♦ San Joaquin County: Small Farm Advisor Benny Fouche will conduct research on new weed control methods for organic vegetables compared with flaming and tillage (bfouche@ucdavis.edu)
- ♦ San Diego County: Small Farm Advisor Ramiro Lobo will establish an organic producers' advisory board to improve research and marketing opportunities for organic production, and establish an organic blueberry production research trial (relobo@ucdavis.edu).
- ♦ Santa Barbara County: Small Farm Advisor Mark Gaskell will continue his important research on efficient and cost effective nitrogen and phosphorus nutrient management systems for organic fruit and vegetable production (mlgaskell@ucdavis.edu).

2. Entomologist and Extension specialist and long-time organic researcher Sean L. Swezey founded the statewide UC Organic Farming Research Workgroup in 2000, an organized group of UC-based researchers and Cooperative Extension personnel. The Workgroup provides greater visibility for organic research and extension efforts at the University of California and allows a certain level of coordination between projects. Although the work group is temporarily funded by the University of California Division of Agriculture and Natural Resources (DANR), it is not equivalent to a coordinated organic research program sanctioned by the university, and has not been "ratified" to receiving on-going funding. The Workgroup has a steering committee and meets in a formal plenary once a year at UC Davis. It holds potential to incubate increased amounts of organic research through the UC system. Its website contains a link to the member directory, which contains valuable information on the many university and Extension researchers working on organic issues, their organic activities, and contact information. The site is at <http://www.sarep.ucdavis.edu/Organic/workgroup.htm>.

With proposed budget cuts of up to 30% projected for Cooperative Extension for the upcoming fiscal year and beyond, it is unclear whether this work group will be supported in the future.

3. The Sustainable Agriculture Research and Education Program (SAREP) was established by the California legislature in 1986. SAREP has grown to be the most visible proponent of organic research and extension work in the UC system under the guidance of director Sean L. Swezey. SAREP funds sustainable agriculture research projects, many of which are directly or indirectly relevant to organic production and marketing issues. SAREP's searchable website of projects makes it easy to find organic project summaries and results by classifying materials as to their organic relevance. The Cover Crops Database accessible through the website is a useful resource for all growers.



SAREP also manages grower support projects focused on reduced-input and organic practices research with strong grower participation and outreach components. Such projects include Biologically Integrated Orchard Systems (BIOS) and Biologically Integrated Farming Systems (BIFS). Entomologist Robert Bugg works closely with these groups.

The SAREP newsletter has documented organic farming research nationally since its first issue in 1988, and is a very useful resource. Issues since 1989 are posted on the SAREP website at <http://www.sarep.ucdavis.edu/> Click on publications, then Sustainable Agriculture (newsletter title). UC Sustainable Agriculture Research and Education Program, phone 530-752-2379, e-mail findit@cats.ucsc.edu, web page on organic research and information: <http://www.sarep.ucdavis.edu/Organic/index.htm>

4. A UC website lists UC Davis experts in sustainable/organic agriculture:
http://www.news.ucdavis.edu/services/sustainable_organic.lasso
5. Vegetable Research and Information Center web page with links to series of guides on organic production issues released in 2000:
<http://vric.ucdavis.edu/selectnewtopic.organic.htm>

Titles include *Weed management for organic crops; Plant disease management for organic crops; Organic certification, farm production planning, and marketing; Soil management and soil quality for organic crops; Soil fertility management for organic crops; Insect pest management for organic crops; Postharvest handling for organic crops.*

6. Proceedings article, *Overview of California organic alfalfa production, 2001*, by grower William Douglas.
<http://alfalfa.ucdavis.edu/subpages/2001Symposium/Proceedings/CAS01ogalfalfa3.PDF>
7. The Small Farms Center maintains some resources for organic farmers. The 2000 edition of the Small Farm News contains many articles on organic, including Center director Desmond Jolly's article *From Cottage industry to conglomerates: the transformation of the U.S. organic industry*, based on his presentation at the 2000 IFOAM conference, and an article on water quality in organic production. On the web at <http://www.sfc.ucdavis.edu/pubs/SFNews/Vol2-2000/vol2-2000.pdf>. Unfortunately, because of the economic crisis in the state of California, this useful resource is facing severe budget cuts, if not complete dismantlement. Small Farm Center website, <http://www.sfc.ucdavis.edu/> Phone 530-752-8136, e-mail sfcenter@ucdavis.edu
8. Article *Organic produce production and food safety, 1999*, posted on a web page linked to UC Davis's Vegetable Resource and Information Center (no author indicated), uses critical thinking to take on Dennis Avery's attacks on organic:
<http://vric.ucdavis.edu/veginfo/foodsafety/organicproduce.html>



EDUCATION / RESEARCH

1. The UC Davis Student Experimental Farm is a student-initiated facility comprised of 21.5 acres including fruit trees, a vineyard, a 4-acre market garden site, and a ½ -acre Ecological Garden that 1,700-1,800 school children tour per year. Though it has been managed organically for 25 years, 2002 was the first time it had been certified organic.

The farm is certified by California Certified Organic Farmers, and includes a greenhouse, shadehouse and composting site. Mark Van Horn is the farm manager. The farm is used for both educational purposes and research. Current research projects include compost use in potting mixes, a potato variety and management trial, an intercropping study and a lygus biocontrol study. In spring 2003, cotton biocontrol work is planned, as well as half of the field component of an organic vs. conventional vegetable nutrition study.

Mark Van Horn received OFRF funding in 1999 to study organic management of garden symphylans in annual cropping systems. A report is on file with OFRE.

Every spring quarter, 15 students take the lower division course Organic Crop Production Practices taught by Van Horn that includes three hours of field work each week. Each summer, Van Horn teaches an 8-week course in Sustainable Agriculture: Principles and Practices, which includes 12 hours of field work each week. Contact Mark Van Horn, Plant Science Teaching Center and Student Farm, phone 530-752-7645, e-mail mxvanhorn@ucdavis.edu

Check out the Student Farm website at <http://studentfarm.ucdavis.edu/>

2. Training manual produced by the UC Santa Cruz Center for Agroecology & Sustainable Food Systems (CASFS), *Training Organic Farmers & Gardeners: Resources for Instructors*. Based on 35 years of teaching organic farming and gardening at UC Santa Cruz. Description, ordering information, and free download can be found at <http://zzyx.ucsc.edu/casfs/training/manual/index.html>. (See under "Of note" below for more information on CASFS.)

EDUCATION / EXTENSION

1. Sean L. Swezey is coordinating a multi-state SARE Professional Development project with Washington and New Mexico to provide training and resources for Cooperative Extension professionals and other ag consultants on requirements of the new USDA organic regulations. Activities include satellite broadcasts, professional development workshops and a western states compliance handbook to be published in 2004. Funding comes from a USDA Western Sustainable Agriculture Research and Education (SARE) program professional development grant. Contact Swezey, phone 530-752-7556, e-mail Findit@cats.ucsc.edu
2. A first-ever two-day organic strawberry production short course was offered by UC SAREP and UC Davis Extension in Feb. 2003 in Salinas. Co-sponsored by the ANR Organic Farming Research Work Group, Ecological Farming Association, Cooperative Extension Santa Cruz and Monterey Counties, and by California Dept. of Food and Agriculture's Buy California Initiative and the California Strawberry Commission. Sean Swezey coordinated the course. Swezey, phone 530-752-7556, e-mail Findit@cats.ucsc.edu
3. The very first organic farming conference held in the San Joaquin Valley was June 29-30, 2000, in Reedley, California. Organized by Richard Molinar, the conference drew over 100 participants and featured a keynote by John Ikerd. An article on the confer-



O F N O T E

1. Research associate Joji Muramoto, working in Steve Gliessman's lab at UC Santa Cruz, has received two OFRF research grants. One, funded in late 1997, investigated nitrate levels in leafy vegetables grown under conventional and organic management. A report is available from OFRF, or on the web at <http://www.agroecology.org/people/joji/research/nitrate.htm>

In late 2001, Muramoto received funding for the project "Nutrient analysis of organic strawberries: effect of cultivars and mycorrhizal inoculation." A report on this study is pending. An abstract and link to the full poster reporting on the project "Maintaining Agroecosystem Health in the Conversion to Organic Management of a Strawberry/Vegetable Rotation System," authored by J. Muramoto, S. R. Gliessman, B. Fulfrost, T. Koike, D. Schmida, J. R. Hitchcock, and R. Stephens, may be read at http://www.agroecology.org/people/joji/research/elkhorn_2.htm

A related report, "Indicators of Soil Health in an Organic Strawberry-Vegetable Rotation," by J. Muramoto, S. R. Gliessman, J. Scorse, J. R. Hitchcock, S. T. Koike, D. Schmida, and R. Stephens, is on the web at http://www.agroecology.org/people/joji/research/elkhorn_1.htm

Muramoto, phone 831-459-2506, e-mail joji@cats.ucsc.edu, website <http://www.agroecology.org/joji.html>

2. UC Santa Cruz, Center for Agroecology & Sustainable Food Systems (CASFS). The Center's involvement in organic farming and gardening education, research, training, and outreach began in 1967, when Alan Chadwick founded the 2-acre organic student garden on the University of California, Santa Cruz campus. In 1972, 14 acres of campus grasslands were designated for an organic farm, which has since expanded to 25 acres. Seventeen acres of orchards, row crops, and hand-worked garden beds are in production and are certified organic with California Certified Organic Farmers.

Center staff, UCSC faculty, visiting researchers, and collaborators from UC Cooperative Extension and other government agencies and NGOs conduct organic farming research both at the campus facilities and on farms throughout the region. These projects have included studies of cover crops, weed control, biocontrol of pests (e.g., insectary plantings, use of trap crops, release of beneficial insects, symphytan control, pheromone confusion studies), soil fertility management, conservation tillage, and variety trials. Working with growers in Santa Cruz, Monterey, and the Central Valley, Center staff has implemented on-farm transitions to organic production systems in artichokes, apples, strawberries and cotton. Staff and faculty also work with growers in Santa Cruz, Monterey, and San Mateo counties to improve organic row crop production.

Undergraduate and graduate students use the Center's organically managed facilities for self-designed research projects and take part in Center studies as field and lab assistants. The Center's Farm and Alan Chadwick Garden also serve as sites for undergraduate



classes and internships. In addition, the Center sponsors a six-month Apprenticeship training program that attracts an international group of participants each year. Apprentice course participants live on site, learning the skills of organic farming and gardening through both classroom work and hands-on experience. More than 1,000 apprentices have been trained through this program.

For more information, contact the UC Santa Cruz Center for Agroecology & Sustainable Food Systems at 1156 High St., Santa Cruz, CA 95064, phone 831-459-3240, website <http://www.ucsc.edu/casfs>
(text contributed by Martha Brown, CASFS senior editor)

3. A three-year study is being conducted cooperatively with researchers from USDA-ARS and the Center for Agroecology and Sustainable Food Systems at UC Santa Cruz, examining the effects of compost, organic amendments, and irrigation rates on organically-grown broccoli in two regions of California. Contact Gary Bañuelos, USDA-ARS Water Management Research Laboratory, phone 559-596-2850, e-mail gbanuelos@fresno.ars.usda.gov
4. Agricultural Land Based training Association (ALBA) is a new non-profit that encompasses two distinct centers, the Rural Development Center (RDC) and the Farmer Training and Research Center. The 110-acre RDC farm offers farm workers and small farmers on the Central Coast access to land, equipment, and water to learn farming practices that conserve the environment. Other programs include a 6-month Small Farm Education Program (Programa Educativo para Pequeño Agricultores—PEPO); practical farm training on parcels at the RDC; technical assistance for small farmers, particularly Latino farmers; and promoting marketing alternatives. ALBA, P.O. Box 5415, Salinas, CA 93915, phone 831-758-1469, e-mail alba_nueva@hotmail.com

CERTIFICATION

The California Crop Improvement Association is accredited by USDA to perform organic certification. This is one of four non-profit certified seed groups associated with a land grant university that so far has received such accreditation. Get more information from their website at <http://ccia.ucdavis.edu/CCIA/organichome.htm>, or call 530-752-0544.

COLORADO

COLORADO STATE UNIVERSITY, 1862, FT. COLLINS

**11 acres certified,
15.25 acres managed organically**

RESEARCH, PRODUCTION

1. Organic research continues on 11 acres of certified ground at the Horticulture Field Research Center. The area is certified by the Colorado Dept. of Agriculture's organic program. Projects currently underway include:
 - ♦ studying the effects of manure source effects on soil fertility and cucumber quality, headed by soil scientist Jessica Davis



- ♦ artichoke, specialty melons, medicinal herbs and flaming demonstrations
- ♦ different irrigation systems and winter mulches for garlic production
- ♦ lettuce bolting resistance variety trials
- ♦ evaluation and systems development of green manures in short-season irrigated production systems
- ♦ organic pea and bean seed production.

All projects except for the first are directed by Frank Stonaker with the CSU Specialty Crops program. Contact Stonaker, phone 970-491-7068, e-mail Frank.Stonaker@colostate.edu. Farm manager is Dana Christensen Contact Christensen at phone 970-482-8563, e-mail Dana.Christensen@ColoState.EDU.

2. Researchers are managing 11.25 acres organically at the Rogers Mesa Research Center, Hotchkiss, for use in organic fruit and vegetable production research. This includes 9 acres of fruit trees, ½ acre each of lettuce and broccoli, and 1.25 acres table grapes. Rick Zimmerman, weed scientist at Rogers Mesa, has been funded by OFRF to conduct a two-year study on “The impact of green manures and weed mat in organic peach tree orchards.” This project is slated for completion at the end of 2003. Contact Zimmerman at phone 970-872-3387, extension 1, or e-mail rzim@lamar.colostate.edu. New organic/sustainable ag specialist Ron Godin is beginning work on organic table grape production and weed control in organic vegetables. Contact Godin at phone 970-872-3387, ext. 5, e-mail rgodin@lamar.colostate.edu. Two acres of peaches and two acres of nectarines are managed organically at the Orchard Mesa Research site in Grand Junction.
3. Thaddeus Gourd with Colorado State University Extension in Brighton received an OFRF grant in 2002 to study “Controlling weeds using propane generated flame and steam treatments in crop and non-croplands.” The research was conducted on or near (in the case of non-croplands) Berry Patch Farms, a certified organic farm in Brighton. The flamer controlled weeds in organic strawberries and peaches much more effectively than the steam applicator. For more information, contact Thaddeus Gourd at phone 303-637-8117, e-mail tgourd@co.adams.co.us. Links to research summaries and photos of the equipment may be found on the web at <http://www.colostate.edu/Depts/CoopExt/Adams/ag/currentprojects.htm>
4. Soil scientist Jessica Davis received OFRF funding to analyze the results of 15 years of soil tests on a farm in northern Colorado to document the impact of transitioning to certified organic production. Annual soil tests revealed a significant increase in P, K, soil organic matter, Zn, and Fe and decreased pH levels in 33% of the fields. Available P reached a level in some fields that could be an environmental risk if not managed carefully. The full report may be read on the OFRF website at <http://www.ofrf.org/publications/Grant%20reports/00.49.15.Davis.Fall00.IB12.pdf>

Printed copies are also available from OFRF. Contact Davis, phone 970-491-1913, e-mail jgdavis@lamar.colostate.edu

5. A USDA Farm Bill Block Grant to the state of Colorado for specialty crop research was disbursed through the CSU Specialty Crops Program via a competitive grants pro-



gram open to Colorado producers. Applicants are required to work with a technical advisor from CSU or another agency. In 2002, seven of the funded projects were organic:

- ♦ Cold storage of garlic, Walter Lyons, Wellington
- ♦ Feasibility of hops production, Eugenie and Ken McGuire, Paonia
- ♦ Organic fertility management in fruit orchards, Steve Ela, Kris Kropp, and Larry Traubel, Hotchkiss (also see #1 under “extension” below)
- ♦ Weed management using flame cultivation in mixed organic vegetables and small fruit, Tim and Claudia Ferrell, Brighton (also see #3 above)
- ♦ Feasibility studies of small scale vegetable production and direct marketing, Peter and Iris Reardon, Chimney Rock
- ♦ Organic sweet potato, heirloom cucurbit seed, and blackberry production, Tres Rios Agricultural Cooperative, Avondale
- ♦ Organic fruit marketing research, Rogers Mesa Fruit Co., Hotchkiss

For results of these studies, refer to the Specialty Crops Program website at <http://hla.agsci.colostate.edu/> (scroll to “program areas” in left margin and select “Specialty Crops”). Results are presented in the PowerPoint presentation Specialty Crops Program Update. Direct requests for printed copies to program manager Frank Stonaker, phone 970-491-7068, e-mail Frank.Stonaker@colostate.edu. Additional organic projects were funded in 2003.

RESEARCH, CONSUMER / ECONOMIC

A 1999 paper documenting consumer trends and increasing popularity of “organic” by Gary C. Smith of CSU and J. Brad Morgan of Oklahoma State Univ. is on the web at <http://www.colostate.edu/Depts/AnimSci/ran/meat/understanding.htm>

EXTENSION

1. Organic fruit growers Steve Ela and Larry Traubel of southwestern Colorado have organized a second National Organic Tree Fruit Research Symposium to be held in May 2003. This symposium brings farmers and researchers together to hear papers on research into organic fruit production practices, and a half-day tour of research trials underway at the neighboring Rogers Mesa Research Center. Colorado State University, Gerber Products, and the Colorado Organic Crop Management Association are sponsors. For more information, contact Ela, phone 970-873-3488, e-mail sela@co.tds.net.
2. Publication “Fertilizing the organic garden,” by C.W. Basham and J.E. Ells. July 2002. <http://www.ext.colostate.edu/pubs/garden/07217.html>



3. Colorado Environmental Pesticide Education Program, an extension program, has a website with resources on organic:
<http://www.colostate.edu/Depts/SoilCrop/extension/CEPEP/organic.htm>
4. Cooperative Extension publication, "Organic pest controls that work," by Bonnie Ennis, May 2002.
<http://www.colostate.edu/Depts/CoopExt/4DMG/PHC/organic.htm>
5. Organic for Profit: an Extension-organized conference held in Feb. 2001 in Brighton, Adams County. Featured 31 speakers, including Katherine DiMatteo, head of the Organic Trade Association, and Mark Lappé of the Center for Ethics and Toxics.
<http://www.co.larimer.co.us/depts/extens/off/speakers.htm>

EDUCATION

1. "The fundamentals of producing vegetable seed for organic agriculture" was a 2-day workshop in Jan. 2003 sponsored by the Dept. of Horticulture and Landscape Architecture's Specialty Crop Program. An announcement may be viewed on the web at <http://www.colostate.edu/depts/HLA/seedworkshop.pdf>

The department contact is Frank Stonaker, 970-491-7068, e-mail Frank.Stonaker@colostate.edu

2. The Plant Environmental Research Center (PERC) has a ½-acre area that has been managed organically by students for the past five years. A variety of organic vegetables, plant starts, and fruits are grown each season and marketed through a campus list-serv and at a roadside stand. About sixty students are participating in this voluntary program in 2003. The PERC is also being used to demonstrate organic table grape, strawberry, hop, and raspberry production for the CSU Specialty Crops program. A season extension tunnel is being installed for tomato, pepper, eggplant, and melon production later in the season. The garden is not yet certified. Contact faculty adviser Harrison Hughes, phone 970-491-7050, e-mail hghughes@lamar.colostate.edu, or Frank Stonaker, phone 970-491-7068, e-mail Frank.Stonaker@colostate.edu.
3. The Colorado State University Organic Agroecology Program was poised to launch, but ran into funding problems. <http://organic.colostate.edu/>

CONNECTICUT

UNIVERSITY OF CONNECTICUT, 1862, STORRS

30 acres managed organically

RESEARCH, PRODUCTION

1. Associate professor Thomas Morris in the Plant Science Dept. is conducting a two-year study, "Survey of the nutrient status of organic vegetable farms," that will measure nitrate and phosphorus soil levels in at least 125 organic vegetable fields across at least 18 farms in the five states in the Northeast. If he finds excessive nutrient levels, Morris



plans to continue studying strategies for reducing nutrient accumulations. Contact Morris, phone 860-486-0637, e-mail thomas.morris@uconn.edu

2. According to Stephen Olsen, research farm and nursery manager at the U. Conn. Plant Science Research Facility, “we have 30 acres that could be certified due to the fact they are old hay fields and old (1960+) orchard land that is now just mowed to keep brush down. So they are organic by default.” The area could be used for organic research. Contact Olsen, phone 860-486-2015, e-mail stephen.olsen@uconn.edu.

EXTENSION

1. Robert Durgy with Cooperative Extension manages the “Organic Farming and Gardening Program” that includes newsletter articles, conference talks, master gardener classes and direct farmer consultation, both on-farm and over the phone. The program does not have a website. Contact Durgy at phone 860-870-6935, e-mail rdurgy@canr.cag.uconn.edu
2. Proceedings from the 1998 farmer/scientist conference, “Alternatives to insecticides for managing vegetable insects,” may be downloaded for free or print copies ordered by visiting <http://www.caes.state.ct.us/AlternativestoInsecticides/alternatives.htm>

This publication, edited by Kimberly Stoner, contains valuable information on organic insect control.

3. Information for organic growers (though limited) is available at the U. Conn. IPM website at www.hort.uconn.edu/ipm, and includes the following articles:
“Pesticides for organic growers,” [no date], by Vern Grubinger;
“Ignoring Labels on Organic Products Can Cause Problems,” 1993;
“Composts for disease suppression,” by Sally Miller. Refers to organic.

CONNECTICUT AGRICULTURAL EXPERIMENT STATION, NEW HAVEN

Kimberly Stoner, vegetable entomologist, continues to be involved in a variety of organic research and educational activities, including helping with the Focal Farm project of the Northeast Organic Network (NEON), based at Cornell (see entry under New York); cooperating with researchers Frank Mangan and Ruth Hazzard of Univ. Massachusetts to study flea beetle control in organically grown Asian vegetables; and working with Mangan, Hazzard, and organic growers to expand the range of Asian vegetables grown in Massachusetts and Connecticut, and to market them more effectively (see entry under Massachusetts, “Research, production”). Stoner also conducts a variety of IPM-style studies focused on identifying beneficial insects in cover and green manure crops that may be of use to organic farmers. Stoner, phone 203-974-8480, e-mail Kimberly.Stoner@po.state.ct.us



O F N O T E

The Organic Land Care Committee of Connecticut and Massachusetts is a program of the Northeast Organic Farming Association (NOFA) Connecticut and NOFA Massachusetts. Chaired by entomologist Kim Stoner, the committee has written organic standards for the landscaping profession, the first such standards anywhere, to their knowledge. They offer two courses each year for landscape professionals, and hold workshops and create publications for homeowners. Local organic land care professionals and many Connecticut Ag Experiment Station staff help to present the annual courses in Organic Land Care for Professionals. For more information, visit their website at <http://www.organiclandcare.net/index.php>

The website features a listing of accredited organic land care professionals in New England states.

D E L A W A R E

UNIVERSITY OF DELAWARE, 1862, NEWARK

E X T E N S I O N

“Making the switch to organic production,” 2001. Article in Extension publication Weekly Crop Update, by Richard W. Taylor, Department of Plant and Soil Sciences. <http://www.rec.udel.edu/Update01/Issue222001.htm> Taylor, phone 302-831-1383, e-mail rtaylor@UDel.Edu

DELAWARE STATE UNIVERSITY, 1890, DOVER

no organic found

F L O R I D A

UNIVERSITY OF FLORIDA, 1862, GAINESVILLE

10 acres certified,
40 acres in transition

R E S E A R C H , P R O D U C T I O N

1. Agronomist Johannes Scholberg is studying the use of cover crops for soil fertility and weed management in citrus production. Funded by a 2001 Organic Transitions grant, the work is being conducted on certified acreage at a new research station near Citra, the Plant Science Research and Education Unit (<http://plantscienceunit.ifas.ufl.edu/>). Ten acres of this pristine land have been certified so far, and another 40 acres are being held in reserve until needed. Scholberg’s project is studying perennial peanut as a cover



crop, as well as a variety of other winter and summer cover crop species. Scholberg, phone 352-392-1811 x 230, e-mail jmscholberg@ifas.ufl.edu

2. Greg Jones, a doctoral student studying under Associate Professor Kathryn Sieving of the Dept. of Wildlife Ecology and Conservation, is studying the use of organic fields by wild birds. Funded partially by OFRF, the study is a comprehensive assessment of how landscape and farm-scale factors encourage insectivory by birds in fields. Jones is assessing the effectiveness of intercropping in enhancing native bird populations and activity on organic farms. An earlier component of the study involved surveying farmers on their attitudes toward bird conservation. The results of this were published in Jacobson, S. K., K. E. Sieving, and G. A. Jones. 2003. *Attitudes and behavioral intentions of organic and conventional farmers toward wild bird conservation*. *Conservation Biology* 17:595-606. A 2002 version is on the web at <http://edis.ifas.ufl.edu/UW169>

The April 2002 issue of Linkages newsletter, a publication of the Center for Natural Resources, features articles on organic research, including Greg Jones's research on organic and birds: <http://cnr.ifas.ufl.edu/newsletters/Volume3/Issue10/default.htm>

Contacts: Greg Jones, phone 352-395-5008, email greg.a.jones@sfcc.edu; Kathryn Sieving, phone 352-846-0569, email sievingk@wec.ufl.edu

3. Graduate student in Interdisciplinary Ecology Kristen Bowers received an OFRF grant in 2001 to study controls for the yellowmargined leaf beetle, *Microtheca ochroloma*, in organic crucifer crops. A report is pending.
4. Russell Mizell at the North Florida Research and Education Center in Quincy received a 2002 Organic Transitions Program grant for the project "Organic nursery production: development and demonstration." The project will develop and demonstrate organically-produced plants in several specialty markets and address pest management as well as marketing. This project is scheduled to run through 2005. Contact Mizell, phone 850-875-7156, e-mail rfmizell@mail.ifas.ufl.edu.
5. Nematologist Robert McSorley has published scientific articles on controlling nematodes using crop rotations. He also co-authored a paper on reflective mulch in organic bean production. His on-going research program, though not always explicitly organic, is aimed at "improving non-chemical practices." Currently he is working on solarization and cover crops as alternatives to methyl bromide, and comparing rates of organic nitrogen amendments (primarily legume hays) vs. synthetic N rates to improve N recommendations for organic materials.

The articles on organic research are:

- ♦ McSorley, R. 2002. Nematode and insect management in transitional agricultural systems. *HortTechnology* 12:597-600.
- ♦ McSorley, R. 2001. Multiple cropping systems for nematode management: a review. *Soil Crop Sci. Soc. Florida Proc.* 60:132-142.
- ♦ McSorley, R., M. Ozores-Hampton, P.A. Stansly, and J.M. Conner. 1999. Nematode management, soil fertility, and yield in organic vegetable production. *Nematropica* 29:205-213.
- ♦ Smith, H. A., R. L. Koenig, H. J. McAuslane, and R. McSorley. 2000. Effect of silver



reflective mulch and a summer squash trap crop on densities of immature *Bemisia argentifolii* (Homoptera: Aleyrodidae) on organic bean. J. Econ. Entomol. 93:726-731.

Contact McSorley, phone 352-392-1901, e-mail rmcs@mail.ifas.ufl.edu

EDUCATION

The Center for Organic Agriculture (COA) opened in summer 2002 on the Gainesville campus. A 50-50 partnership between the university and industry, the center will have educational, extension, and research responsibilities in organic agriculture. The Center emphasizes interdisciplinary research and strong collaboration with the organic community. Plans include incorporating organic information into existing class curricula; organizing new courses specifically on organic issues; providing internships for students interested in organic agriculture; disseminating research-based information on organic; defining research needs as expressed by the organic farming community; and facilitating multi-disciplinary research teams to address these needs. The organic research station land near Citra provides researchers with a site on which to conduct certified organic research (see #1 under Research, Production, above). The entire project was galvanized by a SARE grant made in 2001 to Florida Organic Growers' founder Marty Mesh, "Developing a model to increase support for organic farming research at land grant institutions." Mickie Swisher, associate professor of sustainable agriculture and the statewide leader for sustainable agriculture, is the Center's director. Co-director is farmer Rose Koenig. Mickie Swisher, 352-392-2201 x 256, e-mail MESwisher@mail.ifas.ufl.edu; Rose Koenig, phone 352-331-1804, e-mail rosiesfarm@mindspring.com

EXTENSION

1. The Organic Production and Marketing Newsletter has resumed publication! Edited by J.J. Ferguson, this is a valuable resource for organic growers.
<http://www.hos.ufl.edu/jjfnweb/organicnl/organic.htm>
2. Organic gardening, extension web page, by consumer horticulture specialist Bob Black. 2002. <http://hort.ifas.ufl.edu/gt/organic-garden/organic.htm>
3. An article in the winter 2003 newsletter of the Center for Subtropical Agroforestry features Carl Jordan's alleycropping work in Georgia (see Research, production in Georgia). <http://cstaf.ifas.ufl.edu/NLw5.03.htm>
4. Publication "Organic vegetable production," revised 2001, by J.M. White.
<http://edis.ifas.ufl.edu/CV118>

OF NOTE

Co-director of the Center for Organic Agriculture Rose Koenig and OMRI science director Brian Baker published an article, *U.S. National Organic program standards: implications for researchers*, in the Nov. 2002 edition of APSNet, the on-line journal of the American Phytopathological Society. <http://www.apsnet.org/online/feature/organic/>



FLORIDA A&M UNIVERSITY, 1890, TALLAHASSEE

The Florida A&M University College of Engineering Sciences, Technology and Agriculture offered a Small Farm Organic Workshop on August 25, 2001, with a focus on hands-on, how-to-do-it organic agriculture. For additional information, contact Jennifer Taylor, Coordinator, Small Farms Program, phone 850-599-3546, e-mail jennifer.taylor@famuedu.edu.

GEORGIA

UNIVERSITY OF GEORGIA, 1862, ATHENS

1 acre in transition

RESEARCH, PRODUCTION

1. George Boyhan, horticulturist with the East Georgia Extension Center in Statesboro, conducted organic Vidalia onion research in 2000-2002. He looked at organic yields compared to conventional yields, and at organic transplant production. Boyhan is continuing this work on-farm and applying for certification on 1 acre of research station land at the Vidalia Onion and Vegetable Research Center in Lyons. Boyhan, phone 912-681-5639, e-mail gboyhan@arches.uga.edu
2. Conservation ecologist Carl Jordan with the Univ. of Georgia's Institute of Ecology is conducting research on no-till production on his own 100-acre research farm. This includes work on 1.5 acres managed organically. Dr. Jordan is working with Univ. of Florida partners who received an IFAFS grant in 2000 to establish a center for subtropical agroforestry. His part of the project is to investigate the agroforestry practice of alley cropping as a way to increase the output from organic farms, using hedgerow clippings as a mulch. A summary of this work is on the web at <http://cstaf.ifas.ufl.edu/research3.htm>. Jordan is also investigating organic shade-grown blueberries. Carl Jordan, phone (706) 542-6019, e-mail cjordan@arches.uga.edu

RESEARCH, CONSUMER/ECONOMIC

Luanne Lohr continues to produce excellent analyses of international organic trade policy, U.S. organic marketing approaches based on geographical information systems (GIS) data, and economic and production-related issues facing organic producers. She and colleague Timothy Park have generated four papers based on their analysis of the data OFRF collected for its 1997 national organic farmers' survey. Lohr, phone 706-542-0847, llohr@agecon.uga.edu

Here is a listing of her recent papers on organic:

- ♦ Benefits of U.S. organic agriculture. 2003. <http://www.consumerscouncil.org/> Click on the Ecolabeling Case Studies link and select the Lohr paper.
- ♦ Promoting sustainable insect management strategies: learning from organic farmers. 2002. Luanne Lohr and Timothy Park. OFRF data.



http://www.agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=4768 (also published in Ecological Economics)

- ♦ Improving extension effectiveness for organic clients: current status and future directions. 2002. Luanne Lohr and Timothy Park. OFRF data.
http://www.agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=6547
- ♦ Organic pest management decisions: a systems approach. 2002. Timothy Park and Luanne Lohr. OFRF data.
http://www.agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=5688
- ♦ Management strategies and human capital investments by organic producers. 2001. Timothy Park and Luanne Lohr.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=2679&ftype=.pdf
- ♦ Growth and Change in U.S. Organic Food Markets. 2002. PowerPoint slide show.
www.misa.umn.edu/Programs/organicmarkets.ppt
- ♦ The importance of the Conservation Security Act to U.S. competitiveness in global organic markets. 2001.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=3822
- ♦ Predicting organic market development with spatial analysis of existing industry information. 2001. Luanne Lohr, Yassert Gonzalez-Alvarez, and Anita Graf.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=2667&ftype=.pdf
- ♦ Consumer effects of harmonizing international standards for trade in organic foods. 2001. Luanne Lohr and Barry Krissoff.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=2399&ftype=.pdf
- ♦ Factors affecting international demand and trade in organic food products. 2001.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=2391&ftype=.pdf
- ♦ Recociling attitudes and behavior in organic food retailing. 2000. Luanne Lohr and Adelin Semali.
http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=2106&ftype=.pdf

EXTENSION

1. A Farmer-Researcher Roundtable was held in Feb. 2003, at the East Georgia Extension Center in Statesboro. This two-day meeting was one element of a SARE-funded professional development project administered by the non-profit organization Georgia Organics to work with organic farmers to translate their research needs into viable research proposals. Titled "Building capacity in organic agriculture: an integrated approach to training agricultural information providers," this project is an excellent example of how a non-profit is facilitating land grant personnel's knowledge base about organic by establishing training programs and information resources. Univ. of Georgia agricultural economist Luanne Lohr surveyed organic farmers in Georgia to identify their greatest research needs, then presented the results of the survey at the beginning of the roundtable. George Boyhan, horticulturist with the East Georgia Extension Center in Statesboro, organized the roundtable at his facility. Farmers and researchers



met in sessions and brainstormed specific researchable questions. For follow-up, research teams will form to submit research proposals to address these questions. The research would involve farmers and involve either on-station or on-farm research. Contact Georgia Organics, PMB 200, 3895 Cherokee St. NW Suite 200, Kennesaw, GA 30144-6727, phone 770-621-4642, website www.georgiaorganics.org.

2. In Feb. 2000, a 4-part series of meetings on organic production was held at the Oconee County Civic Center in Watkinsville. An article describing the first meeting appears in Extension Horticulturist George Boyhan's *Vidalia Vegetable News*, on the web at <http://www.ces.uga.edu/Agriculture/horticulture/commodityNL/vidalia-feb00.htm>

EDUCATION

Extension horticulturist Wayne J. McLaurin has taught Organic Gardening, Hort 3300, for the past four years. The course is offered each spring and typically enrolls between 100-125 students. Besides presenting detailed information on organic cultivation practices, McLaurin provides an overview of organic marketing issues and has students discuss social issues around organic. McLaurin, phone 706-542-2340, e-mail wmclauri@arches.uga.edu

EXTENSION PUBLICATIONS

1. *Suggestions for organic blueberry production in Georgia*, by Gerard Krewer. May 2001. University of Georgia Fruit Publication 00-1. <http://www.smallfruits.org/Recent/00organi.htm>
2. *How to convert an inorganic fertilizer recommendation to an organic one*, by Wayne McLaurin. 2000. <http://www.ces.uga.edu/pubcd/C853.htm> Good discussion of organic fertility inputs, their nutrient values, and interpreting soil tests.
3. Article in Cooperative Extension newsletter, *Faces*, on organic farming, by Brooke Hatfield. Feb. 2003. *Organics could change nature of U.S. farms*. <http://georgiafaces.caes.uga.edu/storypage.cfm?storyid=1786>
4. *Growing Vegetables Organically*, prepared by George E. Boyhan, Darbie Granberry, W. Terry Kelley, and Wayne McLaurin. 1999. <http://www.ces.uga.edu/pubcd/b1011-w.html>

FT. VALLEY STATE UNIVERSITY, 1890, FT. VALLEY

11½ acres managed organically

RESEARCH, PRODUCTION

Srinivasa Rao Mentreddy completed a study on the effects of Effective Microorganisms on organic soybeans in 2002. He is working on an article summarizing the work. It is described briefly in an abstract published in the Agronomy Society of America proceedings:



Rao, M.S.S., A.S. Bhagsari, and T.D. Glover. 2000. Evaluation of Soil Microorganisms Technology for Sustainable Organic Crop Production. p. 286. Agronomy Abstracts. ASA, Madison, WI.

A full 3-year report is available through Southern SARE (phone 770-412-4787, website <http://www.griffin.peachnet.edu/sare/>). Mentreddy has established an approximately ½-acre demonstration plot showing peanut and sweet potato cultivation beneath straw and plastic mulches. Eleven acres at the university research farm continue to be managed organically for future projects. Srinivasa Rao Mentreddy, Agricultural Research Station, phone 478-825-6809, e-mail raum@fvsu.edu

HAWAII

UNIVERSITY OF HAWAII AT MANOA, 1862, HONOLULU

1.99 acre managed organically

RESEARCH, PRODUCTION

Vegetable crops extension specialist Hector Valenzuela has been conducting long-term organic farming research in Waimanalo since 1993. The work is focused on long-term effects of compost on soil quality, pest pressure, and crop productivity, and on weed suppressive effects of cover crops. A summary of this project in poster form may be accessed at <http://www2.hawaii.edu/~hector/background%20stuff/digitals/MOA99.pdf> (scroll down to link). This project contains a conventional control. Other reports on organic research conducted by Valenzuela, including a 5-year report on “Nature farming compost experiments in Waimanalo, Hawaii,” can be accessed through <http://www2.hawaii.edu/~hector/Sustainable.html>

Contact Valenzuela, phone 808-956-7903, e-mail hector@hawaii.edu.

EXTENSION

1. Publication *Is organic papaya production in Hawaii threatened by cross-pollination with genetically engineered varieties?* Oct. 2002. By Richard Manshardt. <http://www2.ctahr.hawaii.edu/oc/freepubs/pdf/BIO-1.pdf>
2. The College of Tropical Agriculture and Human Resources maintains a website listing organic resources at <http://www.ctahr.hawaii.edu/sustainag/SustainableAg/OrganicFarming.asp>
3. The April 1999 issue of *Vegetable Crops Update* is devoted to articles on organic farming industry in Hawai'i, mostly written by Hector Valenzuela and collaborators. http://www2.ctahr.hawaii.edu/oc/freepubs/pdf/VCU_4_99.pdf



UNIVERSITY OF IDAHO, 1862, MOSCOW

2 acres in transition

RESEARCH, PRODUCTION

1. Soil scientist Jodi Johnson-Maynard received an OFRF grant to study “Application of brassica meal for disease control and improved nitrogen fertility in organic farming systems.” Started in 2002, the project will be conducted for two years on a certified organic farm in Moscow. A website showing results is at:
<http://soils.ag.uidaho.edu/swm/Organic.htm>

Meanwhile, two acres at the university’s Parker Farm are being transitioned to organic certified status. Though still in the planning stages, the research will center on a rotation study designed to develop profitable, diverse rotations that can produce mustard meal for vegetable/biodiesel production. For more details on these projects, contact Jodi Johnson-Maynard, phone 208-885-9245, e-mail jmaynard@uidaho.edu

2. Elmore County Extension educator Mir-M. Seyedbagheri continues to investigate organic production methods and materials in cooperation with local growers. He wrote an article on growing organic potatoes using composted manure that may be read at http://extension.ag.uidaho.edu/elmore/pdf_files/pota.pdf

Seyedbagheri continues his studies on nitrogen mineralization in different farming systems, use of rapeseed and radish as green manures, and compost use. He has evaluated commercially available humic products and mineralization of compost. He received a SARE grant in 1999 for the project “A community-based approach to extension in organic agriculture,” which funded many of his on-farm trials and presentations at farm tours, workshops, and regional meetings. A thorough report on this project is on the web at

http://www.sare.org/reporting/report_viewer.asp?pn=EW99-013&ry=2002&rf=1

Mir-M. Seyedbagheri, phone 208-587-2136, e-mail elmore@uidaho.edu

3. Kootenai County Extension educator Vickie Parker-Clark cooperated with an herb grower to study organic weed control methods for basil in 1999. A report on the study may be found at
http://www.uidaho.edu/ag/extension/impacts/Pdf_99/OrganicWeedControl-99.pdf

Vickie Parker-Clark, phone 208-667-6426, e-mail vickiepc@uidaho.edu

RESEARCH, ECONOMIC / CONSUMER

As part of an IFAFS-funded grant for the project “Northwest Direct: Improving Markets for Small Farms,” John Foltz in the Dept. of Agricultural Economics is leading an analysis of profitability of direct marketing strategies. Together with Cinda Williams and Nancy Taylor at Univ. Idaho, they will develop 12 case studies on farmers from Oregon, Washington, and Idaho, including some organic farmers, who direct market. They will doc-



ument the kinds of record-keeping systems the farmers use to manage their businesses, and develop a computer program to evaluate relative profitability of strategies such as farmers' markets, on-farm sales, CSAs, and direct-to-retail marketing. John Foltz, phone 208-885-6047, e-mail jfoltz@uidaho.edu

EXTENSION

Article on organic farming in Idaho and Extension educator Mir-M. Seyedbagheri's assistance to organic growers. By Marlene Fritz. Fall 2001.
<http://info.ag.uidaho.edu/magazine/fall2001a/naturalchoice.html>

ILLINOIS

UNIVERSITY OF ILLINOIS, 1862, URBANA-CHAMPAIGN

**3 acres certified,
6 acres transitional**

RESEARCH, PRODUCTION

1. Three acres at the Cruse Tract Vegetable Crop Research Farm in Champaign are certified organic, and another six acres are in the transition to certified status. Investigations into different transition strategies will take place at the site. Researcher John Masiunas, associate professor in the Dept. of Natural Resources and Environmental Sciences, is establishing a farmer advisory board for this research site. In 2002, they grew a 1-acre demonstration garden for the class Masiunas teaches on vegetable gardening. The remainder of the 9 acres is in alfalfa. Plans are to transition 3 acres beginning in 2003 and another 6 acres after that, for an ultimate goal of 18 acres of research land that will be certified organic. Masiunas, phone 217-244-4469, e-mail masiunas@uiuc.edu
2. John Masiunas conducted a study, "The Impact of Cropping Systems on Weed Populations," that looked at the impact of weed management practices and soil characteristics on soil seed banks of four central Illinois organic farms. A report is on the web at <http://www.nres.uiuc.edu/research/r-masiunas.html#3>
3. Soil scientist Michelle Wander is doing a comparison of organic matter in soils managed conventionally or in organic systems that receive or do not receive manure or compost additions. Samples were gathered from six long-term field trials that have included organically managed systems. Analysis is underway. Contact Wander, phone 217-333-9471, e-mail mwander@uiuc.edu
4. Natural resource scientist Gregory McIsaac received a 1998 SARE grant to study "Nutrient and Pesticide Loads in Subsurface Drainage from Organic and Conventional Cropping Practices," conducted on matched organic and conventional farms. A summary of the results, which indicate significantly lower nitrate and chloride levels in runoff from organic than from conventional farms, is on the web at http://www.aces.uiuc.edu/~asap/research/stew_farm/home.html
McIsaac, phone 217-333-9411, e-mail gmcisaac@uiuc.edu



1. Martha Bazik with Cooperative Extension, John Masiunas with Univ. of Illinois, and farmer Juli Brussell received an Illinois Council for Food and Agriculture Research grant to study the potential impact of organic agriculture on rural development. They recently completed a survey of organic farmers to determine their current production and marketing activities, along with their thoughts on the potential for organic farming in Illinois. In the second phase of the project, Brussell and others will be contacting key players to understand the potential for organic markets in Illinois. Contact Martha Bazik, phone 309-796-0512, e-mail bazik@extension.uiuc.edu
2. John Masiunas received a 2000 SARE grant for a project, "Assisting farmers in crisis to adopt sustainable marketing alternatives." This project explicitly recognizes the chronic crisis in rural economies caused by high input costs, low commodity prices, lack of market access, and institutionalized bias of government programs--including research and extension--toward "large-scale corporate farms." This project will provide small-scale producers with information on five promising enterprises, including organic vegetable production, that may allow them to diversify and keep families on their farms. Contact Masiunas, phone 217-244-4469, e-mail masiunas@uiuc.edu

EDUCATION / RESEARCH

1. In fall 2001, a group of 20 faculty and staff met to discuss the role of the university in organic education and research. An Organic Task Force was subsequently formed to assess the needs of its organic constituency and plan ways to meet these needs. Two listening sessions were held, at which farmers expressed their opinions and needs. The newsletter for the Agroecology/Sustainable Agriculture Program published articles describing this process in its fall 2002 newsletter, which may be read on the web at <http://www.aces.uiuc.edu/asap/news/v11n3.pdf>

Co-chairs of the task force are John Masiunas and Martha Bazik: masiunas@uiuc.edu, phone 217-244-4469; bazik@uiuc.edu, phone 309-796-0512.
2. The Agroecology/Sustainable Agriculture program features a web page with organic resources linked to it: <http://www.aces.uiuc.edu/asap/organics/>

EXTENSION

1. Fact sheets on organic food-grade corn and soybean production have been compiled by Rita Frerichs. The 2003 fact sheets include sample crop budgets. On the web at <http://web.aces.uiuc.edu/value/factsheets/corn/fact-organic-corn.htm>
<http://web.aces.uiuc.edu/value/factsheets/soy/fact-organic.htm>
2. Dan Beccue with the Entrepreneur Development for Agriculture Extension program has compiled a basic publication on organic certification. On the web at <http://web.extension.uiuc.edu/iidea/PDF/Organic%20fact%20sheet.pdf>
3. Champaign County Extension article *Organic food issues*, presenting the views of a nutritionist at Wayne State, which concludes that organic is no better than any other



food in terms of taste and nutrition, and that it may not be as safe.
<http://www.urbanext.uiuc.edu/champaign/connections/0006/0006-ag4.html>

OF NOTE

The Illinois Natural History Survey (INHS), a state entity, is dedicating 6 acres at its Windsor Road site to long-term research on organic production systems. INHS scientists Cathy Eastman, John Shaw and Ed Zaborski are joining Univ. of Illinois colleagues Dan Anderson, Darin Eastburn, John Masiunas, and Michelle Wander, as well as Leslie Cooperband with the Univ. of Wisconsin, to study organic transition strategies. The research team is recruiting experienced organic growers in Illinois to serve as an advisory panel for the project. An article on the new project is in the spring 2003 edition of INHS Reports, on the web at <http://www.inhs.uiuc.edu/inhsreports/spring-03/spring03.pdf> (on pages 1 and 8). For more information, contact Cathy Eastman, phone 217-333-6659, e-mail ceastman@uiuc.edu

INDIANA

PURDUE UNIVERSITY, 1862, WEST LAFAYETTE

5.4 acres managed organically

RESEARCH, PRODUCTION

1. Rick Foster, entomologist, heads a Purdue research group that is studying organic apple production. The study is being done at two locations, the Meigs Farm south of Lafayette and at the Southwest Purdue Ag Center near Vincennes. At each site, 5.2 acres are being used for the study with half of that being managed conventionally as a control. The emphasis is on organic insect control methods. The costs of transition to organic are being recorded, and the plan is to continue the study for at least ten years. Plant pathologist Paul Pecknold and horticulturist Peter Hirst are also working on the project. Contact Foster, phone 765-494-9572, e-mail rick_foster@entm.purdue.edu

A Purdue press release features this project.

<http://news.uns.purdue.edu/UNS/html3month/000602.Ag.Foster.organic.html>

2. Regional Horticulture Specialist Elizabeth Maynard manages 1/5 acre of the Pinney-Purdue Agricultural Center in Wanatah organically. For the past ten years, she has used manure, legume green manures, and compost for fertility and has cover cropped every winter. Cultivation and hand-weeding keep weeds under control. Maynard does both replicated trials and demonstration work at the site. Maynard has investigated the effect of buckwheat on weed growth and compared paper and plastic mulches for tomato production. Peppers, tomatoes, greens, and ornamental sunflowers have been grown. Maynard demonstrates the plot at field days and periodically publishes her findings in research bulletins or posters. A report on the 2002 specialty tomato trials is on the web at <http://www.hort.purdue.edu/hort/ext/veg/reports/02tomvarrptall.pdf>.



Recently she has collaborated in on-farm research to evaluate specialty tomato varieties. A report on two years' worth of on-farm trials on specialty tomatoes, including a useful section on marketing, is on the web at

<http://www.hort.purdue.edu/hort/ext/veg/reports/02tomvarrptall.pdf>

Maynard also maintains a website with resources on commercial vegetable and specialty crops, which contains a brief fact sheet on organic vegetable production. Go to

<http://www.hort.purdue.edu/hort/ext/veg/>, then scroll down to Organic Vegetable Production and click. Maynard, phone 219-785-5673, e-mail emaynard@purdue.edu.

EXTENSION

1. A 2002 Purdue Extension publication, *Organic Vegetable Gardening*, was written by Gerald Brust, Daniel Egel, and Elizabeth Maynard. This 20-page full-color publication is on the web at http://persephone.agcom.purdue.edu/AgCom/Pubs/ID/ID_316.pdf, or may be ordered from the Ag Communication Media Distribution Center, phone 765-494-6794 or 888-398-4636, e-mail Media.order@purdue.edu. The guide is #ID-316.
2. Organic fertilizers for the garden, by Horticulture Extensionist Larry Caplan. 2001. <http://www.ces.purdue.edu/vanderburgh/horticulture/extnotes/2001/organicfert.htm>
3. The 2003 Indiana Horticultural Congress and Trade Show, sponsored by the Department of Horticulture and Landscape Architecture, Purdue University Cooperative Extension Service, and state horticultural organizations, featured workshops on organic production and marketing issues. None of the presenters in the organic workshops were based at Purdue, however; they were all drawn from the private sector. A program is on the web at <http://www.hort.purdue.edu/hort/ext/hortcongress/Program>

EDUCATION

Class in organic ag: Hort 491, Organic Production in Horticulture. Taught by Stephen C. Weller, weller@hort.purdue.edu. There is also a class in Organic Gardening.

I O W A

IOWA STATE UNIVERSITY, 1862, AMES

20 acres certified;

16 acres managed organically;

6-acre student farm managed organically

RESEARCH, PRODUCTION

1. The organic research program at Iowa State continues to expand under the dynamic management of Kathleen Delate. Organic production practices for traditional field



crops such as corn and soybeans are being studied, as well as research on newer Midwestern crops such as vegetables, medicinal herbs, and apples. One project, funded by OFRF, looked at soil amendment effects on two types of Echinacea and on lemon balm (*Melissa officinalis*). A report is available from OFRF.

Five Iowa State research farms have sites in which organic research is being conducted. Certified research acres are at the Neely-Kinyon Research and Demonstration Farm in Greenfield. Acres managed organically but not certified include 4 at Allee Research Farm in Newell, 6 acres at McNay Memorial Research Farm in Chariton, 1.5 acres at the Muscatine Island Research Farm in Fruitland, and 3 acres at the Southeast Research Farm in Crawfordsville. Many on-farm organic trials are also being conducted.

The Organic Program at ISU also sponsors field days, farm tours, and other educational programs throughout the year. For example, in 2002, Delate held a workshop on alternative weed management at the Northeast Iowa Research Farm. A list posted on the organic website describes 23 field days in 2002 that had at least some organic relevance.

Specific projects, all managed by Kathleen Delate, include:

Allee Research Farm, Newell, IA

- ♦ Evaluation of Corn Varieties for Certified Organic Production - Allee Trial 2001

McNay Memorial Research Farm, Chariton, IA

- ♦ Evaluation of Tillage and Crop Rotation Effects in Certified Organic Production 2002
- ♦ Integrating Organic Soybean Production following CRP Land into Sustainable Farming Systems 2001
- ♦ The Effect of Tillage on Organic Soybean Production Following CRP Land 1999

Muscatine Island Research Farm, Fruitland, IA

- ♦ Evaluation of Soil Amendments and Cover Crops for Certified Organic Pepper Production 2002
- ♦ Evaluation of Soil Amendments for Certified Organic Pepper Production 1999
- ♦ Evaluation of Soil Amendments for Certified Organic Vegetable Production- Muscatine Pepper Trial 1998

Neely-Kinyon Research and Demonstration Farm, Greenfield, IA

LTAR

- ♦ Compost Rate Study at the Neely-Kinyon LTAR Site 2002
- ♦ Comparison of Organic and Conventional Crops at the Neely-Kinyon Long-Term Agroecological Research (LTAR) Site 2002
- ♦ Long-Term Agroecological Research (LTAR) in Iowa: An Economic Comparison of Organic and Conventional Grain Crops 1999-2002



- ♦ Comparison of Organic and Conventional Crops at the Neely-Kinyon LTAR Site 2001

- ♦ Compost Rate Study at the Neely-Kinyon LTAR Site 2001

Edamame

- ♦ Edamame (Vegetable Soybean) Variety Trial at Neely-Kinyon Farm 2001

Soybean Variety

- ♦ Evaluation of Soybean Varieties for Certified Organic Production - Neely-Kinyon Trial 2002

Soybean Staining

- ♦ Evaluation of Organic Pest Management Treatments for Bean Leaf Beetle - Neely-Kinyon Trial 2002

Sweet Corn

- ♦ Sweet Corn Variety and Pest Management Trial at Neely-Kinyon Farm 2002

Open-Pollinated Corn

- ♦ Open-Pollinated Corn Variety Trial 2001

Economics

- ♦ Long-Term Agroecological Research (LTAR) in Iowa: An Economic Comparison of Organic and Conventional Grain Crops 1999-2002

Southeast Research Farm, Crawfordsville, IA

- ♦ Evaluation of Corn, Soybean and Barley Varieties for Certified Organic Production Crawfordsville Trial 2002
- ♦ Evaluation of Corn Varieties for Certified Organic Production Crawfordsville Trial 1998

On-farm projects include:

- ♦ Squash Research: Laura Krouse, Mount Vernon, IA; Delbert Pratt, Nashua, IA. Organic Squash Pest Management Trials and Heirloom Vegetables 2002
- ♦ Herb Research: Student Organic Farm, Ames, IA. Herb Trials and Heirloom Vegetables 1999-2000
- ♦ Broccoli: Jan Libbey, Kanawha, IA. Effect of Organic Soil Amendments on Broccoli Production 1998-2000
- ♦ Fruit: Effect of Organic Pest Management Practices on Apple Productivity and Apple Food Safety
- ♦ Soybean: Edamame (Vegetable Soybean) Variety Trial IDALS Specialty Grant Program 2002

Reports on these projects and on earlier years of work are linked to
<http://extension.agron.iastate.edu/organicag/rr.html>.



The organic website maintained by Delate has numerous useful resources:
<http://extension.agron.iastate.edu/organicag/>

Kathleen Delate, phone 515-294-7069, e-mail kdelate@iastate.edu

2. In 2000 and 2001, organic range-fed chickens were raised on the ISU Allee Farm. A report on this project including a budget was written by superintendent Lyle Rossiter and is posted on the web at
<http://www.ag.iastate.edu/farms/2001reports/nwallee/OrganicBroilerReport.pdf>

Contact Rossiter, phone 712-272-3512, e-mail ltross@iastate.edu

3. Cropping systems specialist Matt Liebman studies ecological approaches to weed control and is conducting one study on an organic system. Located at the Northwest Area Research Farm in Sutherland, the complete factorial experiment compares a 3-year and 4-year rotation with either alfalfa or red clover as the legume and either applying composted manure or not. The research area managed organically is 1.5 acres. Crop yields and economics are being measured as well as soil nitrogen dynamics and physical characteristics. Liebman has examined using cover crop residues to suppress weeds through allelopathy and how weed seed size affects susceptibility to allelopathy. He has also studied patterns of soil N availability from decomposing materials and phytopathogens in the soil. Liebman co-authored a book titled *Ecological management of agricultural weeds* that was published by Cambridge University Press in 2001. Matt Liebman, Department of Agronomy, phone 515-294-7486, e-mail mliebman@iastate.edu

RESEARCH, ECONOMIC

A series of publications on organic pork economics have been produced by researchers in the Dept. of Animal Science:

- ♦ *Cost of organic pork production*. 2003. By Ben Larson, Jim Kliebenstein, and Mark Honeyman.
<http://www.extension.iastate.edu/agdm/livestock/html/b1-80.html>
- ♦ *Comparison of premiums and returns in organic pork production*. 2001. By Ben Larson, James Kliebenstein, and Mark Honeyman.
<http://www.extension.iastate.edu/ipic/reports/01swinereports/asl-1784C.pdf>;
- ♦ *Comparison of pig flow and labor needs in two organic pork production systems*. 2001. By Ben Larson, James Kliebenstein, and Mark Honeyman.
<http://www.extension.iastate.edu/ipic/reports/01swinereports/asl-1784A.pdf>
- ♦ *Current status of U.S. organic livestock production with a focus on swine*. 2000. By W. Red Tomahawk and M.S. Honeyman.
<http://www.extension.iastate.edu/ipic/reports/00swinereports/asl-674.pdf>

Contact Honeyman, phone 515-294-4621, e-mail honeyman@iastate.edu



1. The first annual all-day Iowa Organic Conference on issues related to organic production, marketing, and food preparation was held in Nov. 2001. Subsequent Organic Conferences have been held in Nov. 2002 and in Feb. 2003. For more information, contact Kathleen Delate, phone 515-294-7069, e-mail kdelate@iastate.edu
2. The Iowa State Organic Agriculture website has expanded to include links to many resources on organic production and marketing practices.
<http://extension.agron.iastate.edu/organicag/default.htm>
3. Article by Kathleen Delate on the long-term organic research conducted in Switzerland and published in Nature in 2002:
<http://www.meteor.iastate.edu/gccourse/issues/biodiversity/organic.html>
4. *Strategies for the Coexistence of GMO, Non-GMO, and Organic Crop Production.* Presentation to the Sustainable Agriculture Colloquium at Iowa State University, 2001, by Walter R. Fehr, director of the Office of Biotechnology at Iowa State.

Though Fehr attempts to be fair, and has an inexplicable faith that coexistence is possible, it is clear that GM crops pose many unacknowledged problems. [Karen Charman quotes Fehr in a March 2003 story posted at In These Times: "He says genetically engineered varieties of staple crops like corn and soybeans have contaminated seed stocks all the way to the 'breeder seed,' the purest version of a crop variety."]

http://www.biotech.iastate.edu/publications/IFAFS/Walt_coexistence.html

[Charman's story: http://inthesetimes.com/comments.php?id=53_0_1_0_C]

EXTENSION PUBLICATIONS

1. A well-illustrated and nicely designed series of publications contains useful information on organic production practices and marketing.
 - ♦ *Organic agriculture*, by Kathleen Delate. Posted May 2002. This document outlines certification requirements and organic pest management and production strategies. It contains specific information on organic soybean production, including economic analyses of producing organic and conventional soybean crops. There is also a section on organic apple production.
<http://extension.agron.iastate.edu/organicag/pubs/PM1880.pdf>
 - ♦ *Growing organic soybeans on CRP land*, by Kathleen Delate. Updated Feb. 2002.
<http://extension.agron.iastate.edu/organicag/pubs/PM1881.pdf>
 - ♦ *Soil quality in organic agricultural systems*, by Kathleen Delate, Cynthia Cambardella, and Douglas Karlen. Posted April 2002. <http://extension.agron.iastate.edu/organicag/pubs/PM1881.pdf>
 - ♦ *Weed management for organic farmers*, by Kathleen Delate. Posted Feb. 2002.
<http://extension.agron.iastate.edu/organicag/pubs/PM1883.pdf>



The series is available on the ISU Extension Web site at <http://www.extension.iastate.edu>, or ordered through ISU Extension county offices.

2. A 1998 web-based resource on pesticide drift onto organic farms, by Michael White and Kathleen Delate:
<http://www.pme.iastate.edu/PAT/pcic/1998/organic/default.htm>

E D U C A T I O N

1. Iowa State also has a 6-acre Student Organic Farm in Ames, completely managed by students. More information may be found at the farm's website at <http://www.agron.iastate.edu/studentfarm/>
2. A distance education organic crop production course was offered in spring 2000, organized by Kathleen Delate.
3. The Michael Fields Agricultural Institute, based in Wisconsin, presented three intensive organic vegetable production workshops in Feb. 2000 south of Des Moines. The program was co-sponsored by the ISU Organic Agriculture program and ISU Extension. A description is on the web at <http://www.extension.iastate.edu/newsrel/2000/jan00/jan0015.html>

O F N O T E

1. The Leopold Center for Sustainable Agriculture was created in 1987 as part of the Iowa Groundwater Protection Act. It has administered a competitive grants program for Iowa residents to conduct research into sustainable agricultural alternatives since 1988; however, because of significant budget cuts, they had to suspend their grants program in 2002. The center receives a direct appropriation from the legislature annually, and also receives funds from a fee assessed on sales of nitrogen fertilizer and pesticides; however, in 2002 the state legislature transferred \$1 million out of the Groundwater Protection Fund that provided support for the center. The Leopold Center has provided significant support for organic farming research in Iowa and sponsors an "Organic Initiative" that has funded many of the projects carried out by Kathleen Delate listed under "Research, production" above. Organic farmer Frederick Kirschenmann was appointed director of the center in 2000, and has successfully led it through financial difficulty. The grants program has been reinstated for 2003. The Leopold Center, Iowa State University, 209 Curtiss Hall, Ames, Iowa 50011-1050, telephone: 515-294-3711, e-mail leocenter@iastate.edu, website <http://www.ag.iastate.edu/centers/leopold/>
2. Practical Farmers of Iowa (PFI) is the best example in the U.S. of farmer-researchers answering their own production questions by conducting research at the grassroots level. Started in 1985 by five growers, participants use randomized and replicated experimental designs to generate data about their cropping systems. Not all research is done on organic farms, though some is. PFI established a relationship with Iowa State Univ. in 1988, and the on-farm research service is housed on campus. Programs have recently expanded to include community food systems work. Contact Practical



KANSAS STATE UNIVERSITY, 1862, MANHATTAN

3.18 acres transitional

RESEARCH, PRODUCTION

1. Horticulturist Edward Carey, based at the Kansas State Univ. Research & Extension Center in Olathe, received an OFRF grant to conduct a study “Are organic vegetables more nutritious? Fresh and postharvest assessment of nutritional quality of organically- and conventionally-grown lettuce and other salad greens.” Produce will be grown in shaded high tunnels at the research center. The area beneath three of these is in transition organic. A report will be available in mid-2004. Carey, phone 913-645-0007, e-mail tcarey@oznet.ksu.edu
2. Horticultural researcher Rhonda Janke initiated a medicinal herb research project in 2000 that is currently assessing 36 species of herbs for performance under Kansas climatic conditions. The plots, located at four Horticultural Research Farms (Olathe, Wichita, Hays, and Colby), are managed organically though not certified. The work is being done with Jeanie DeArmond and Ted Carey. A report on the project is on the web at http://www.oznet.ksu.edu/rc_hefw/Medicinal%20Herbs.PDF Janke, phone 785-532-0409, e-mail rrjanke@ksu.edu.

EXTENSION

1. The Kansas Center for Sustainable Agriculture and Alternative Crops was established by legislative action in 2000 as a resource for family farmers and ranchers to increase farm profitability, protect natural resources, and support rural communities. The Center’s website contains useful information including farmer profiles and a directory to Kansas locally grown food: <http://www.oznet.ksu.edu/kcsaac/welcome.asp>

In 2002, the Center released the *Kansas family farmer and rancher resources and services guide* that contains listings of everything from sources of grant assistance to cooperative development. There is also a section on organic production resources. Available on-line at <http://www.oznet.ksu.edu/library/agec2/mf2544.pdf>

Printed copies may be ordered by calling Center coordinator Jana Beckman, phone 785-532-1440, e-mail jabeckma@oznet.ksu.edu

2. Extension press release on pathologist Ned Tisserat’s advice on organic gardening. <http://www.oznet.ksu.edu/news/sty/2001/organicgardening.htm>
3. Economic issues with natural and organic beef. 1999. M. Boland, E. Boyle, C. Lusk. <http://www.oznet.ksu.edu/library/agec2/mf2432.pdf>



UNIVERSITY OF KENTUCKY, 1862, LEXINGTON

7.5 acres transitional

RESEARCH, PRODUCTION:

1. Agronomy graduate student Victoria Bhavsar received SARE funding to investigate “Resilience of Nitrogen Availability and Retention in Soils at Kentucky Certified Organic Farms” in 2000. This project studied soils collected from cropped and non-cropped areas of organic farms and measured soil total carbon (C) and nitrogen (N), microbial C and N, potentially mineralizable N, and mineralized N. A greenhouse study perturbed the different soils by artificially inducing drought, flood, and heavy N application. The soils’ ability to retain N in organic, microbial, and inorganic forms and to release N in mineralized forms to plants were measured at intervals to determine the rate and extent of the soils’ recovery from perturbation. Preliminary results indicate that soil type or level of soil organic matter (SOM) rather than management practice seems to be most influential in producing soil resilience, with high SOM soils more resilient than low SOM soils. Contact Victoria Bhavsar, phone 859-257-5020, e-mail toria@uky.edu.
2. Researchers at the Horticultural Crops Research Station in Lexington are transitioning 7.5 acres to organic certification. Horticulture weed scientist Mark Williams is working with colleagues Brent Rowell (Extension Vegetable Crops Specialist) and Mike Mullen (soil science) to develop an organic system for producing bell peppers using disease-resistant varieties, beneficial insects, and various weed control techniques. Initial funding has come from tobacco settlement money through the New Crops Opportunity Center. Contact Mark Williams, phone 859-257-2638, e-mail mawillia@uky.edu
3. A biological control study investigating the release of *Trichogramma* wasp to control European corn borer in bell peppers is being conducted at three conventionally managed and two certified organic sites. Led by Extension vegetable specialist Brent Rowell and entomologist Ric Bessin at Univ. Kentucky, the organic sites are at the Kentucky State University Research and Demonstration Farm and Berea College. A report on the first year’s results are in the Univ. Kentucky 2002 Fruit and Vegetable Crops research report, on the web at <http://www.ca.uky.edu/agc/pubs/pr/pr470/pr470.pdf> pages 52-54 (51-53 in the printed copy). Contact Rowell, phone 859-257-3374, e-mail browell@uky.edu.
4. Horticulturist Robert Anderson conducted a preliminary investigation of organic lettuce production in tobacco greenhouse “float beds” in 2000. The organic fertilizer sources were ineffective in producing high yields. A report, *Nutrient analysis of selected commercial organic fertilizers for greenhouse lettuce production*, (HortFacts 16-02), by Bob Anderson and L. Stephanie Schmidt, is on the web at <http://www.uky.edu/Ag/NewCrops/lettuceresults.html> Contact Anderson, phone 606-257-4721, e-mail randerso@ca.uky.edu



Graduate level course “Organic agriculture: principles and practices.” Offered every other year. Small group of students, emphasis on hands-on learning. Taught by Victoria Mundy Bhavsar, phone 859-257-5020, e-mail toria@uky.edu

EXTENSION

1. A Farm to Table Connection conference in 2001, co-sponsored by Univ. of Kentucky Extension and the Kentucky Dept. of Agriculture, presented USDA undersecretary of agriculture for marketing and regulatory programs Bill Hawks speaking on the growth of organic. An article on the conference is at <http://www.ca.uky.edu/agc/news/2001/Nov/organic.htm>
2. Publication *Disease and Insect Control Programs for Home Grown Fruit in Kentucky Including Organic Alternatives*. 2001. By R.E. Durham, J.G. Strang, J.R. Hartman, R. Bessin, R. Hadad, R.T. Jones, and G.R. Brown. Publication ID-21. On the web at <http://www.ca.uky.edu/agc/pubs/id/id21/id21.htm>
3. A web page on organic marketing resources, linked to a Dept. of Agricultural Economics special program, Horticulture and New Crops marketing: <http://www.uky.edu/Ag/HortBiz/organics.html>
4. The 2003 Fruit and Vegetable Conference in cooperation with the University of Kentucky College of Agriculture, Kentucky State University and the Kentucky Department of Agriculture, featured National Organic Program leader Richard Mathews as a speaker and results of organic research trials. The program is on the web at <http://www.uky.edu/Ag/Horticulture/finalprogram03.pdf>
5. Undated publication, *Organic manures and fertilizers for vegetable crops*, by Brent Howell and Robert Hadad. <http://www.uky.edu/Ag/Horticulture/manures.htm>
6. The Univ. of Kentucky’s New Crop Opportunities Center website has (rudimentary) links to organic resources: <http://www.uky.edu/Ag/NewCrops/sites.html> Click on organic farming.

KENTUCKY STATE UNIVERSITY, 1890, FRANKFORT

8 acres certified,

4.5 acres transitional,

160 acres managed organically

RESEARCH, PRODUCTION

1. Tony Silvernail is beginning to investigate organic weed control in direct seeded yellow potato and sweet corn in rotation at the Kentucky State University Research and Demonstration Farm. He is studying the overall seed bank dynamics and looking at the long-term effects of flaming and various kinds of mechanical weed control. They are



also testing the efficacy of corn gluten meal in controlling weeds. Contact Tony Silvernail, phone 502-597-6974, e-mail tsilvernail@gwmail.kysu.edu.

2. Based on research needs expressed in a survey of organic farmers in 1999, Community Research Dept. investigator Gary Cline is looking at various cucumber beetle controls for organic melon production at the Kentucky State University Research and Demonstration Farm. Paw paw extracts, reflective mulches, and interplanting rows of repellent or attractive species are some of the strategies being studied. Though organic beetle control methods are being studied, ammonium nitrate was applied and an application of Bravo fungicide was made in year 1 to control gummy stem blight. Investigators plan to manage the study organically beginning in year 2. Contact Gary Cline, phone 502-597-6186, e-mail gcline@gwmail.kysu.edu.
3. A summary on the SARE database now reports conclusions drawn from surveys of organic farmers conducted as part of Gary Cline's exploratory grant, "Organic Vegetable Production for Limited Resource Farmers." Follow-up meetings were held to discuss the survey findings, and an interdisciplinary research team assembled to tackle the most significant problem identified, cucumber beetle control in cucurbit crops. A group of farmers interested in on-farm research was also assembled.
http://www.sare.org/reporting/report_viewer.asp?pn=LS99-098&ry=1999&rf=0

LOUISIANA

LOUISIANA STATE UNIVERSITY, 1862, BATON ROUGE

EXTENSION

1. Press release "Organic farming has place in Louisiana agriculture." Carl Mostenbocker, Hort Dept., is quoted. Oct. 2001. Carl Mostenbocker, phone 225-578-2158, e-mail cmostenbocker@agcenter.lsu.edu
<http://www.agctr.lsu.edu/news/October2001/Headlines/FruitVegOrganic.htm>
2. Article on new organic regulations based on opinion of nutritionist Heli Roy. Unfortunately, Roy promulgates the myths that organic eggs are more likely to carry salmonella and that organic food may be more prone to bacterial contamination because of lack of preservatives. Roy also emphasizes how expensive organic produce is compared to conventional.
<http://www.agctr.lsu.edu/news/December2002/NewsUse/OrganicLabeling.asp>
Heli Roy, phone 225-578-3329, e-mail Hroy@agcenter.lsu.edu



0.11 acre managed organically

RESEARCH, PRODUCTION

1. A SARE-funded research project was conducted by investigators at Louisiana State and Southern Universities as part of a larger effort to assist limited resource farmers to access alternative market outlets. The original grant title is “Establishing sustainable production and information exchange systems for limited resource farmers,” and was made to the non-profit organization Baton Rouge Economic and Agricultural Development Alliance (BREADA). The research component of the project looked at cover cropping and solarization for weed control. A total of 0.11 acres was managed organically at Southern for the trials. Conventional fertility was used in the LSU trial. Investigators were Carl Mostenbocker at LSU and Owusu Bandele at Southern. A report on the project is on the SARE website at http://www.sare.org/reporting/report_viewer.asp?pn=LS00-115&ry=2001&rf=0 Contact Bandele, phone 225-771-2262, e-mail obandele@subr.edu.

2. A 1999 SARE project, “Pastured poultry and vegetable production: an integrated approach,” compared animal-based with conventional fertility regimes. One experiment tested crop growth after 1, 7, 14, or 21 days after chicken manure incorporation. This study was conducted at the Southern Univ. Horticultural Farm in fall 1999, spring 2000, and spring 2001. A second experiment looked at chicken manure only, chicken manure in combination with conventional fertilizer, chicken manure with organic fertilizer, and a conventional control. Five on-farm trials were conducted, as well. A summary of three seasons’ worth of data may be found at http://www.sare.org/reporting/report_viewer.asp?pn=LS99-103&ry=2001&rf=0

The project coordinator is noted rabbit researcher James I. McNitt. (Dr. McNitt has written a book, *Rabbit Production*, that is in its 8th printing.) McNitt, phone 225-771-2262, e-mail jmcnitt@subr.edu

OF NOTE

UNIVERSITY OF LOUISIANA, LAFAYETTE

1 acre certified

RESEARCH, PRODUCTION:

Durga Poudel and Jacqueline Carlisi received OFRF funding in 2001 to evaluate various organic weed management practices on fresh market tomatoes. The project is being done at the Model Sustainable Agricultural Complex, where 1 acre has been certified organic since 2001. The researchers hope to demonstrate organic production systems to the local community using a participatory approach. This project is the beginning of an organic research program at the Univ. of Louisiana at Lafayette, a state university. Contact Durga Poudel, phone 337-482-6163, e-mail ddpoudel@louisiana.edu



A workshop funded by the USDA Risk Management Agency, titled Organic Farming Practices Workshop, was held at the University of Louisiana in August 2001. Several farmers, extension personnel, students and individuals interested in launching a career in organic farming attended the workshop. Topics covered ranged from farmers' perspective of organic farming in Louisiana to marketing organic products. Contact Jackie Carlisi, phone 337-482-6064, e-mail jcarlisi@louisiana.edu for more information.

MAINE

UNIVERSITY OF MAINE, 1862, ORONO

3.5 acres managed organically
3-acre certified organic student farm

RESEARCH, PRODUCTION

1. A SARE-funded cropping systems trial, "Diversity and intensity of cover crop systems: managing weed seed bank and soil health," was initiated at the Univ. of Maine's Rogers Farm in Orono in 2001. The study compares three organic rotations using cover crops with a conventionally-managed rotation of broccoli and winter squash. Cover crops are being managed to optimize weed control and reduce reliance on tillage in the organic systems. Soil quality parameters are also being monitored. The organic rotations are based on those used on actual organic farms and are named for the farm on which they are used. A related "satellite" study looked at early potato growth after incorporation of a brassica green manure the preceding year, to investigate the biofumigant properties of the brassicas. An oat green manure is used as a control in this study, which is being replicated at five on-farm and experiment station sites. A 2002 report on the study may be viewed at

http://www.sare.org/reporting/report_viewer.asp?pn=LNE01-141&ry=2002&rf=0

Contact weed ecologist Eric Gallandt, phone 207-581-2933, e-mail gallandt@maine.edu.

2. Cover crop specialist Marianne Sarrantonio is coordinating a widespread cover crop screening trial throughout the Northeast as part of the Northeast Organic Network (NEON) project (see entry under New York). In Aug. 2002, boxes of cover crop seeds were mailed to 42 organic farms in the Northeast. The farmers have volunteered to submit information on the growth rate of the vetch, pea, and clover species, together with cereal rye, oats, and two kinds of brassicas. Contact Sarrantonio, particularly if you would like to participate in the screening in the future: phone 207-581-2913, e-mail mariann2@maine.edu
3. Patricia Westenbroek and Kathy Murray conducted a study in 2001 investigating the effectiveness of a fly parasitoid, *Muscidifurax raptor*, to control flies on organic dairy farms. <http://www.mac.umaine.edu/projects/MAC022.htm>



4. Extension vegetable specialist Mark Hutton is working with extension educator Mark Hutchinson on a project investigating alternative nitrogen sources for cover crops. Specifically, they are looking at bean and fish processing waste as soil amendments on cover crops. The study is being conducted at the Univ. of Maine's Highmoor Farm and on-farm at the Goranson Farm. A summary of the project is at <http://www.mac.umaine.edu/projects/MAC031.htm>
Hutton, phone 207- 933-2100, e-mail mhutton@umext.maine.edu
5. Pomologist Renae Moran at Highmoor Farm received an OFRF grant to study "The effect of weed management strategies on apple orchards and yield in a certified organic orchard." The project, conducted on a private organic farm in 2001, showed that a living clover mulch reduced weed growth, yet required an equivalent amount of grower "input" as shallow tillage. A full report is available from OFRF. Moran is also conducting apple replant studies using compost. Moran, phone 207- 933-2100, e-mail rmoran@umext.maine.edu
6. At the Univ. of Maine Highmoor Farm in Monmouth, about two acres are managed organically, including ½ acre growing 8 landraces of soybeans to study rhizobial strains that induce nodulation but don't fix nitrogen (ineffective nodulation); and 1 ½ acre that is being fallowed but will soon be used for seed breeding trials. Planned varieties are tomatoes that contain horizontal resistance to early blight; an open-pollinated cucumber with horizontal resistance to foliar pathogens; an open-pollinated radish; and carrot seed. Two 1-acre blocks of apples receive no sprays in order to assist the insect scouting program; however synthetic fertilizers are still used. Contact Mark Hutton, phone 207- 933-2100, e-mail mhutton@umext.maine.edu
7. John Jemison, an agronomist and water quality specialist with Univ. of Maine Cooperative Extension, and Michael Vayda, professor in the Dept. of Biochemistry, Microbiology and Molecular Biology, conducted a study in 1999 to determine how far genetically modified corn pollen would travel. They found that 1% of hybrid corn 100 ft. downwind from RR corn was cross-pollinated with GM pollen. No cross pollination was found 1000 feet away.
<http://www.umaine.edu/news/Archives/2000/Jan2000/trials.html>
http://www.umaine.edu/waterquality/Agriculture/GE_Corn.htm
8. Cooperative Extension is involved in a SARE grant, "Restoring our seed: Extension program to train farmers in ecological seed crop production." Led by CR Lawn of Fedco Seeds and grower Eli Kaufman, the project is coordinating a team of farmers, Extension personnel, and seed professionals to train farmers to produce organic seed. Seed-growing workshops and on-farm demonstrations are used. Extension agent Mark Hutton has set up some of the breeding trials at the Univ. of Maine Highmoor Farm, described under #6 above. A description of the project is in the SARE database at http://www.sare.org/reporting/report_viewer.asp?pn=LNE02-160&ry=2002&rf=0
Contact Eli Kaufman, phone 207-872-8317, e-mail humus1@netvision.net.il The project has a website at <http://www.growseed.org/>



RESEARCH, ECONOMIC

The feasibility of an organic grain milling and handling facility in central Maine. 1999. By Stewart Smith, James Leiby, Hsiang-Tai Cheng, Thomas Allen, Jennifer Hill, and David Grant of the Dept. of Resource Economics and Policy. Available on-line by going to <http://www.mac.umaine.edu/Publications.htm> and clicking on link.

EXTENSION

1. Short course in organic farming methods, organized in 1999 by University of Maine Cooperative Extension and the Maine Organic Farmers and Gardeners Association.
Extension contact is Dick Brzozowski, Cumberland County Cooperative Extension, 780-4205 or 1-800-287-1471.
2. A 1995 Extension report presents enterprise budgets for Maine blueberries grown in three production systems: conventional, integrated crop management, and organic. The information was based on data reported by growers. *Enterprise budgets for Maine blueberries: three production methods.* 1995. Michele Marra, George Criner, and Adam Carmichael. Miscellaneous Report 394. Single copies may be ordered from the Maine Agricultural and Forest Experiment Station, phone 207/581-3202, e-mail maes2@maine.edu.

EDUCATION

The 3-acre Black Bear Food Guild is a student-run, organically certified CSA located at the Univ. of Maine's Rogers Farm in Stillwater. For more information, contact Marianne Sarrantonio, phone 207-581-2913, e-mail mariann2@maine.edu

MARYLAND

UNIVERSITY OF MARYLAND, 1862, COLLEGE PARK

3 acres certified organic
27.42 acres transitional

RESEARCH, PRODUCTION:

1. An effort to establish organic research sites at most Univ. of Maryland research and education centers (RECs) has resulted in the majority of RECs having at least one area being transitioned to organic. They are:
 - ♦ Central Maryland Research and Education Center
 - ✧ Upper Marlboro Facility: 2 acre hay field, no current trials. Contact Mark Spicknall, phone 301-627-8440, e-mail spicknal@umd.edu
 - ✧ Beltsville Hayden farm: 5.9 acres, no current research. Contact Kevin Conover, phone 301-345-1225, e-mail kconover@umd.edu



- ✧ Clarksville Facility: 2 certified acres pasture, 1 certified acre in crop land. OFRF-funded cover crop research for vegetable production (see #2 below); garlic variety trial; organic disease control for tomatoes; organic rose culture. Contact Jon Traunfeld, jt46@umail.umd.edu, or Dave Clement, dc69@umail.umd.edu, phone 410-531-5556, for details on the tomato and rose work.
- ♦ Western Maryland Research and Education Center
 - ✧ Keedysville Farm: 5 acre site being managed without chemicals. Planning stage.
- ♦ Lower Eastern Shore Research and Education Center
 - ✧ Salisbury Vegetable Facility: 0.82 acre, ethnic vegetables grown on plastic. Contact Ginny Rosenkrantz, phone 410-749-6141, e-mail vr20@umail.umd.edu; or Laura Romaneo, phone 410-632-1972, e-mail lr111@umail.umd.edu
 - ✧ Pemberton Historic Farm: 1 acre, replicated ethnic vegetables and historic garden. Contact Ginny Rosenkrantz, phone 410-749-6141, e-mail vr20@umail.umd.edu; or Laura Romaneo, phone 410-632-1972, e-mail lr111@umail.umd.edu
 - ✧ Poplar Hill Agronomy Facility: 3 acres, corn-soybean-vetch rotation, edible soybean varieties being tested. Contact Ron Mulford, phone 410-742-1178, e-mail fm18@umail.umd.edu
- ♦ Wye Research and Education Center
 - ✧ Horticulture Site: 7 acres, red clover-orchardgrass hay in area to be cropped, also a woody site. No current trials. Contact Mike Newell, phone 410-827-7388, e-mail mn10@umail.umd.edu
 - ✧ Agronomy Site: 2.2 acres, red clover-orchardgrass during transition. No current trials. Contact Mark Sultenfuss, phone 410-827-7388, e-mail ms115@umail.umd.edu

For more information, contact Tom Simpson, Chesapeake Bay program coordinator, Univ. Maryland, phone 301-405-5696, e-mail ts82@umail.umd.edu; or Jim Hanson, Extension economist, phone 301-405-8122, e-mail jhanson@arec.umd.edu.

2. Caragh Fitzgerald and Bryan Butler with Maryland Cooperative Extension have been conducting research on cover crops and cover crop management for organic vegetable producers in Maryland. Funded by OFRF, the project is screening over 30 new cool-season and warm-season cover crop species to evaluate their growth and potential use; in consultation with organic growers, select the most promising varieties; and develop management recommendations for the best species to regional organic farmers. The project is being conducted on 3 acres at the Central Maryland Research and Education Center-Clarksville Facility in Ellicott City. Started in 2002, the project will continue through 2004. Fitzgerald, phone 410-313-2710, e-mail cf80@umail.umd.edu; Butler, phone 410-386-2760, e-mail bb113@umail.umd.edu
3. Graduate student Neda Diab at the University of Maryland, College Park, received funding from OFRF to study “Targeted mowing to increase allelopathy in rye cover crop.” The two-year project compared fall mowing and spring mowing in optimizing rye’s allelopathic effect on weeds. A report is available from OFRF.



4. Agriculture Extension educator from Anne Arundel and Prince George's Counties R. David Myers conducted on-farm research on organic no-till grain rotations in cooperation with Horizon Organic Dairy in 2000. A report on the study, which contains valuable recommendations on no-till corn and sorghum production, was published in the 2000-2001 Mid-Atlantic Grain and Forage Journal, Vol. 7, pp. 27-32. It is on the web at <http://www.rce.rutgers.edu/pubs/magfj/vol-07/magfj-v07g.pdf> (text begins on page 4). Contact Myers, phone 410-222-6759, e-mail dm223@umail.umd.edu
5. Christopher Walsh and James Hanson are working on a two-year project, "The Production of Organic Apples, Pears and Fruit Cider: To Promote Sustainability in Existing Orchards and as an Alternative Enterprise in the Baltimore-Washington Corridor and in Southern Maryland." "The goal of this planting will be to compare establishment costs needed in typical apple and pear orchards (i.e. Gala, Fuji, Magness and Delicious) with those required for production of disease-resistant apples and Asian pears. The planting would also serve as a demonstration for new growers interested in establishing organic and/or sustainable direct-market orchards in suburban areas in the Baltimore-Washington Corridor, and in Southern Maryland." Funded by the Maryland Center for Agro-Ecology, a private non-profit associated with the university. Contact Walsh, phone 301-405-4351, e-mail cswalsh@umd.edu
6. Extension specialist Galen Dively is testing organically-acceptable insecticides for effectiveness. This work was begun in 2002 on non-organic land, and has expanded to include organic farms in 2003. Contact: Galen Dively, 301-441-1083, gd7@umail.umd.edu.

EXTENSION

1. A day-long Extension meeting, The Organic Way of Doing Business, was held in 2003 as part of a grant-funded educational project to increase the knowledge and implementation of organic and sustainable farming and landscaping practices on the Eastern Shore of Maryland. Contact Laura Romano, phone 410-632-1972, e-mail lr111@umail.umd.edu.
2. Two field days were held at the Central Maryland Research and Education Center—Clarksville Facility in 2002 to demonstrate the cover crop research and other projects. Tours of the site are also given to students, USDA researchers, and interested members of the public. Contact Caragh Fitzgerald, phone 410-313-2710, e-mail cf80@umail.umd.edu
3. A field day was held at the Salisbury Vegetable Facility in 2002, to showcase the ongoing research on organic production of ethnic vegetables. Contact Laura Romano, phone 410-632-1972, e-mail lr111@umail.umd.edu.
4. A day-long organic in-service was held in 2001 for approximately 55 Extension staff and colleagues to teach organic practices. Contact Jim Hanson, phone 301-405-8122, e-mail jhanson@arec.umd.edu.



A project, "Supply and Demand of Maryland-Grown Organic Products in Maryland: A plan for market analysis, identification of opportunities, and promotion of solutions," is being conducted by the Maryland Department of Agriculture's Organic Program and a non-profit run by and for farmers called Chesapeake Fields, Inc. The goal of the project is to find out which organic product markets have the most potential for growth in the state and help develop them to their full potential. The project started in mid-2002 and will run until the end of August 2003. They have recently completed two surveys in the state of Maryland, one of consumers and one of producers, which provide a good assessment of barriers and opportunities for local organic food in the state. Contact Nessa Richman, phone 301-270-2087, e-mail mikenessa@hotmail.com.

**UNIVERSITY OF MARYLAND, 1890, EASTERN SHORE,
PRINCESS ANNE**

no organic found

UNIVERSITY OF MASSACHUSETTS, 1862, AMHERST

1. A 2001 SARE-funded project led by Frank Mangan, Extension associate professor, is working with 40 farmers in Massachusetts and Connecticut to test management strategies for flea beetles on various brassica crops. The study involves introducing new brassica crops to the region as well as identifying effective flea beetle treatments. Many of the strategies used are useful for organic growers, though some synthetic pesticides were also tested. A replicated trial was also conducted to test organic and synthetic flea beetle control methods. A guide to flea beetle management has been produced in English, Spanish, Khmer, and Hmong, written by Ruth Hazzard, Caryn Andersen, Matt Verson, and Frank Mangan. The guide recommends the use of floating row covers to prevent flea beetle damage. Though the publication has a section on applying synthetic pesticides, much of the information is useful to all growers, and one paragraph directly addresses organic production. For links to the publication in all languages, go to http://umassvegetable.org/grower_services/new_growers.html

Part of the project involved developing recipes using the new brassica varieties and translating them into Vietnamese, Chinese, Khmer, and Spanish. Community outreach through local ethnic newspapers further publicized availability of the crops. Contact Mangan, phone 978-422-6374, e-mail fmangan@umext.umass.edu

2. Ruth Hazzard continues her work as an Extension entomologist to develop and communicate organic pest control methods. She compiled an article, "Insect management:



managing beneficial habitats, using organic insecticides,” that was presented at the Kerhonkson, NY, 2002 Extension conference, “Working with organic growers” (see listing under Vermont, “extension”). Links to articles on caterpillar control in organic sweet corn may be found at the UMass Extension Vegetable Team’s IPM website: http://www.umass.edu/umext/ipm/ipm_projects/vegetable.html

Some of Hazzard’s work developing integrated caterpillar control strategies in organic sweet corn has been funded by OFRF. Hazzard, phone 413-545-3696, e-mail rhazzard@umext.umass.edu

EDUCATION

1. The 2003 Northeast Organic Farming Association winter conference was co-sponsored by the UMass Extension vegetable program and by Community Involved in Sustaining Agriculture (CISA). For more information, contact the NOFA/MASS website at www.massorganic.org or the NOFA/Mass. main office at 978-355-2853, e-mail nofamass@massorganic.org.
2. Allen Barker continues to teach his freshman-level class in Organic Farming and Gardening. The course contrasts organic fertility and other management practices to conventional chemical methods. A syllabus and more information may be found on the web at <http://www-unix.oit.umass.edu/~psoil120/index.html>

Allen Barker, phone 413-545-4733, e-mail barker@pssci.umass.edu

OF NOTE

1. The Northeast Organic Farming Association–Massachusetts (NOFA–Mass) received a 2002 SARE grant to produce ten organic practices manuals. Titles include:
 - ♦ Organic weed management;
 - ♦ Organic soil fertility management;
 - ♦ The plant-positive way to crop health: helping nature control diseases and pests organically;
 - ♦ Whole-farm planning: ordering the elements of a well-working organic farm;
 - ♦ Soil resiliency and health: crop rotation and cover cropping on the organic farm;
 - ♦ Compost, vermicompost & compost tea: feeding the soil on the organic farm;
 - ♦ The organic farmer’s guide to marketing and community relations;
 - ♦ Organic grower’s guide: humane and healthy production of eggs and poultry;
 - ♦ The wisdom of plant heritage: organic seed production and saving;
 - ♦ Making milk and dairy products organically.

For information on the status of any of these publications, contact project coordinator Jonathan von Ranson, phone 978-544-3758, e-mail commonfarm@crocker.com.



MICHIGAN STATE UNIVERSITY, 1862, EAST LANSING

**29 certified acres,
21 transitional acres,
2 acres managed organically,
7-acre transitional student farm**

RESEARCH, PRODUCTION

1. Dale Mutch and Larry Dyer continue their organic research at the W.K. Kellogg Biological Station on 9 certified organic research acres. Part of the cover crop program, current projects include clear hilum soybean variety testing, corn hybrid and open-pollinated corn variety testing, rye and spelt variety testing, and the evaluation of nitrogen credits from frost-seeded red clover into organic wheat. Another 2 acres at the station are managed organically for carbon sequestration studies. On-farm weed control research is also being conducted on certified organic farms.

A final report on utilizing cereal rye as a weed control tool for drilled organic soybeans is on the web at <http://www.msu.edu/~thelenk3/Acrobat/mspcorgsoyrep03.pdf>

Year 2000 results for weed control in organic soybeans and open-pollinated compared to hybrid corn are available on the web at

http://www.kbs.msu.edu/Extension/Covercrops/KBS_Research/kbs_research.htm

A March 2002 Cover Crop/IPM update by Dale Mutch describes how 8 acres of research station land was certified organic by OCIA.

http://www.kbs.msu.edu/Extension/newsletters/March_2002.htm

Contact Dale Mutch, phone 269-671-2412 x 224, e-mail mutchd@msue.msu.edu; Larry Dyer, phone 269-671-2412 x 229, e-mail dyerlawr@msu.edu.

2. The Kellogg Biological Station in Hickory Corners is a host site for the Long-Term Ecological Research (LTER) project, a network of 20 sites established in 1980 by the National Science Foundation to conduct long-term ecological research. The Kellogg LTER site is conducting a comparison study with organic management as one of four annual cropping systems studied. 15 certified organic acres and 15 transitional acres are used to study a corn-soybean-wheat rotation. Contact Andrew Corbin, phone 269-671-2339, e-mail acorbin@kbs.msu.edu, or Joe Simmons, phone 269-671-2221, e-mail simmonsj@kbs.msu.edu

Some results have been presented at professional meetings and are available on the web:

- ♦ Summary of poster presented at tri-societies meeting in Nov. 2000. Shows cover crop, rotation, and management system impacts on soil pH and nutrient levels. *Crop rotation impacts on extractable soil nutrient levels*, by Bernard Knezek and Lee Jacobs, Dept. of Crop and Soil Sciences.

http://www.msue.msu.edu/misanet/Abstracts/ASA_b_d_knezek.htm



- ♦ 2002 abstract: *Below and above ground weed community response to a long-term management and rotation experiment*, by R.G. Smith, K.L. Gross, and R.R. Harwood.
http://lter.kbs.msu.edu/Meetings/2002_All_Inv_Meeting/Abstracts/smith_etal.htm
 - ♦ 2001 abstract: *Carabid beetle communities and post-dispersal weed seed predation in three agricultural systems*, by J. Dauer, T. Fox and F. Menalled.
http://lter.kbs.msu.edu/Meetings/2001_symposium/dauer_etal.htm
3. A multidisciplinary team of researchers is managing the MSU Organic Apple Project, started in 1999, located at the Clarksville Horticulture Experiment Station on orchards located on five OCIA-certified acres. Informed by an advisory team of organic apple growers, the project involves both production and marketing research and outreach to Michigan fruit growers. Specific objectives include:
- ♦ To determine the temporal characteristics and rates of organic matter mineralization, soil foodweb structure, nematode community ecology, micro and macro arthropods and carbon/nitrogen budgets required for successful organic apple production with a minimum of risk to beneficials;
 - ♦ To compare the performance of intensively managed trees when grown on three different rootstocks (three tree vigor levels) influenced by three ground floor management schemes;
 - ♦ To conduct a comparative production, marketing and economic assessment of the three organic apple varieties;
 - ♦ To provide an education and participation opportunity for the Michigan organic apple production community, Extension personnel, and conventional apple growers transitioning to organic farming.

Financial sponsors include USDA, Gerber Products, GREENE, and MSU Ag Expt. Stations. Lead researchers include George Bird, Joe Scrimger, Ron Perry, Mark Whalon, Larry Gut, Phil Schwallier, Amy Irish-Brown, George Sundin, Bridget Behe, John Biernbaum, and Susan Smalley. A 2003 progress report may be read at <http://www.green.msu.edu/1-2003ProgressPDF/GR01-067-1-2003.pdf>

An Organic Apple Field Day was held in 2002 to showcase the project's first crop. Future results from the project will be posted at <http://www.hrt.msu.edu/organic>

For more information, contact faculty coordinator John Biernbaum, phone 517-353-7728, e-mail biernbau@msu.edu, or Mark Whalon 517-353-9425 e-mail whalon@msu.edu

4. Three acres of tart cherries are in transition to organic certification at the Northwest Michigan Horticulture Research Station in Traverse City. Contacts: Jim Nugent, phone 231-946-1510, e-mail nugent@msue.msu.edu; George Bird, phone 517-353-3890, e-mail bird@msue.msu.edu; Dave Epstein, phone 517-353-3274, e-mail epsteind@msue.msu.edu
5. A research site for evaluation of 13 orchard soil nutrient and groundcover systems was established in 1995 in a commercial cherry orchard next to the Northwest Michigan Horticultural Research Station. One of the systems is organic. A 2001 abstract summarizing the first four years' of data on soil biota, *Influence of cherry orchard management sys-*



tems on nematode community structure, by G. Bird, C. Edson, J. Scringer, J. Sanchez, A. Middleton, T. Willson, J. Nugent, R. Harwood, M. Whalon, J. Davenport, and F. Otto, is on the web at http://lter.kbs.msu.edu/Meetings/2001_Symposium/bird_etal.htm

6. A research project on using unheated greenhouse cold frames (high tunnels) for year-round organic vegetable production was started in 2000 by horticulturist John Biernbaum. There currently are five high tunnels covering 11,000 square feet. The project is located on campus at the Horticulture Teaching and Research Center (see also #1 under “education” below). A report on the two years of the project, *Year round high tunnel organic vegetable production*, is on the web at <http://www.msue.msu.edu/mis-anet/sa2003/Chapter12-Biernbaum.PDF> Contact Biernbaum, phone 517-353-7728, e-mail biernbau@msu.edu
7. Three acres are in the transition to organic at the Southwest Michigan Research and Extension Center in Benton Harbor. Vegetable research will be conducted here. Contact Ron Goldy, phone 269-944-1477 x 207, e-mail goldyr@msue.msu.edu
8. Plant pathologist Annemiek Schilder is leading a research team to develop “A multi-faceted approach to the management of blueberry pests and diseases.” Though not exclusively organic, some project objectives are to search out insect- and disease-resistant blueberry varieties; examine the mode of resistance to blueberry anthracnose; evaluate a mummy berry “risk” model developed in the Northeast; and evaluate efficacy of organic and “reduced risk” crop protection materials including Serenade, Surround, and Pyganic. The project started in 2001. A 1-year progress report may be found at <http://www.green.msu.edu/1-2003ProgressPDF/GR02-064-1-2003.pdf>
Schilder, phone 517-355-0483, e-mail schilder@msu.edu
9. MSU Extension agents Mike Staton and Dan Rajzer led a 3-year project that grew specialty soybean varieties in Michigan Soybean Performance Trials and tested their soymilk and tofu-producing properties. Some of the soybeans were grown under organic conditions. Perry Ng with the Dept. of Food Science and Human Nutrition conducted the quality analyses. A final report is on the web at <http://www.green.msu.edu/july02final/gr01053final.pdf>
Contact Staton at 269-944-4126, staton@msue.msu.edu.
10. Research coordinator at the Southwest Michigan R&E Center Tom Zabadal in 2001 led a team of researchers that studied “organic” insecticides’ performance against blueberry insect pests; pruning strategies for reducing peach tree borer and *Leucostoma* canker in organic peaches; and cover crop strategies as a nitrogen source for vineyards. The goal was to develop transition strategies for organic peach, blueberry, and grape production. A final report is at <http://www.green.msu.edu/july02final/gr01091final.pdf>
Zabadal, phone 616-944-1477 ext 206, e-mail Zabadal@msue.msu.edu
11. District fruit IPM agent Gary Thornton conducted on-farm trials in 2000 and 2001 examining the effectiveness of Surround in controlling pear psylla. The organically managed portions of the fields complied with Oregon Tilth certification standards. Codling moth was a larger problem than the pear psylla. A final report on this project,



that “successfully demonstrated that pears can be grown organically in NW Michigan,” is at <http://www.green.msu.edu/june01final/028final2001.pdf> A press release on the project was issued in Jan. 2002:

http://www.msue.msu.edu/learnnet/organic_011102.htm

A MAES article on organic pear and cherry production from the grower’s point of view is at <http://www.maes.msu.edu/news/OrganicFruit.htm>

Thornton, phone 231-946-1510, e-mail thornt19@msu.edu

12. Mike Score, Washtenaw County Extension agent, conducted an on-farm demonstration on compost application timing in organic alfalfa production. A report is on the web at <http://www.canr.msu.edu/flcrp/demo2001/page%2011.pdf>

Score, phone 734-997-1678, scorem@msue.msu.edu,

13. Results of an on-farm organic soybean seeding practices trial, conducted by Kalamazoo County Extension agent Bruce MacKellar, are on the web at <http://www.canr.msu.edu/flcrp/demo2001/page%2020.pdf>

MacKellar, phone 616-657-7745, e-mail mackellb@msue.msu.edu

14. New Crop and Soil Science faculty member Kurt Thelen has conducted research on organic soybean production systems. A report on a project funded by the Michigan Soybean Promotion Committee may be found at <http://www.msu.edu/~thelenk3/> Thelen, phone 517-353-1939, e-mail thelenk3@msu.edu

15. A research project on organic greenhouse crop production was started in 1999 with partial support from OFRF. Horticulture professor John Biernbaum is the principal investigator on this project. Nutrient management strategies including compost; crop propagation, transplant production, biological pest and disease control; greenhouse design; and postharvest handling and storage were investigated. An OFRF report is pending. Contact Biernbaum at 517-353-7728, biernbau@pilot.msu.edu

16. Paul Bartlett with Large Animal Clinical Sciences is studying antimicrobial resistance on organic and conventional dairy farms. Thirty organic dairy farms in Wisconsin were matched geographically with 30 conventional dairies. Fecal samples were analyzed for the presence of *E. coli* (a gram-negative organism indicator), Enterococcus (a gram-positive indicator), Camphylobacter, and Salmonella. Isolated organisms were exposed to a panel of 13 antibiotics to measure resistance levels. Researchers also looked at production, cow longevity, disease rates, and bulk tank somatic cell counts. The three-year project was funded by the Centers for Disease Control and the Food and Drug Administration. A similar study is being done in Denmark. Bartlett also received funding to do this research in swine. Paul Bartlett, phone 517-353-2937, e-mail bartlett@cvm.msu.edu

17. A SARE project that looked at the potential for integrating birds into agroecosystems, “Domestic birds as weed and insect pest biocontrol agents,” was funded in 1999. “Six working farms and one research orchard were selected as sites for observing the effects of domestic birds—geese, ducks, and chickens—for controlling weed and insect pests.” Four of the farms were organic. A report is on the web at



RESEARCH, ECONOMIC / CONSUMER

1. Jim Bingen with the Dept. of Resource Development is involved with a project, “Organic farming and rural development policy.” The objectives are to identify policy and technology issues of Michigan organic growers; to create an “organic marketing map” that shows where and how organic growers sell their products; to develop a transatlantic collaborative research program; and to start inventorying organic activities in developing countries. A detailed description of the project including a literature review is on the web at <http://www.msu.edu/~bingen/OrgAg&RuralDevelopment.htm>
Bingen, phone 517-353-1905, e-mail bingen@msu.edu
2. Bird, G. W., and J. W. Fisk. 2000. Standards, technology, institutions, and economics of organic farming in the USA. Pages 213-228. Proceedings of the International Seminar on Development of Agribusiness and its Impact on Agriculture Production in Southeast Asia. Tokyo University of Agriculture, Tokyo, Japan.

EXTENSION

1. County Extension director Dan Rossman in Gratiot County organized an organic farmers’ focus group in 1997. This group of growers—which has grown from 5 in 1997 to at least 20 active participants now—helps each other by sharing their experiences. Some of them conduct their own on-farm tests and the group discusses the results. The focus group informs Rossman’s research and demonstration program, which has involved the following projects:
 - ♦ solid-seeded organic soybeans with rye, using rye to suppress weeds until rows are shaded;
 - ♦ primary tillage demonstration comparing spring chisel plow, spring moldboard plow, and rotivator;
 - ♦ legume cover crop variety trial looking at biomass production of 5 clovers and alfalfa and weed pressure the following year;
 - ♦ early spring covers: spring-planted grass cover for soybeans;
 - ♦ 3-year hard red spring wheat variety trial.For more information on the focus group or the research projects, contact Rossman, phone 989-875-5233, e-mail rossman@msue.msu.edu
2. Page of links to resources on organic cotton:
<http://www.msu.edu/course/hed/431/linksustainableagcot.html> by M. Suzanne Sontag, updated Nov. 2002.



3. A lengthy list of web-based organic resources was compiled by extension specialist Susan Smalley and posted at <http://www.msue.msu.edu/misanet/WEB-OA.htm>
Revised 2002.
4. The July 2002 Vegetable Crop Advisory Team Alert contains resources on organic farming: http://www.msue.msu.edu/ipm/CAT02_veg/V07-31-02.htm
5. May 2002 article in Extension newsletter Landscape Alert, by Kevin Frank, on organic fertilizers: http://www.msue.msu.edu/ipm/CAT02_land/L05-03-02.htm#4
6. The March 2001 edition of Growing GREEN features information on organic, including an article on the organic apple research project.
<http://www.green.msu.edu/Newsletter/32001Newsletter.pdf>
7. Organic apple spray program, by Mark Longstroth. Created 1997; modified 2001.
<http://www.msue.msu.edu/vanburen/organasp.htm>
8. St. Clair Co. Extension has a website with links to organic gardening resources.
<http://www.msue.msu.edu/stclair/hort/organic.htm>
9. Press release on June 2002 three MSU dept. heads meeting with Swiss organic research facility (FiBL) researchers to plan research collaboration:
http://www.msue.msu.edu/learnnet/swiss_061002.htm
10. Article on storing apples without chemicals and on apple study: Growing GREEN, Aug. 2000. <http://www.green.msu.edu/Newsletter/august00.pdf>
11. The Michigan State Univ. Extension series of publications on ecological crop management has two new additions since our last report:

2003: Ecologically Based Farming Systems. In press.

2002: E2759 Fruit Crop Ecology and Management, 108 pp. \$16.00. (Description and sample pages on the web at http://www.msue.msu.edu/ipm/Pubs_eco.htm)

The original publications are still available:

L. K. Probyn, M. A. Cavigelli, and D. R. Mutch, eds. *Michigan Field Crop Pest Ecology and Management*. 2000. Michigan State University Extension Bulletin E-2704, East Lansing, MI. 108 pp. \$12.00.

Cavigelli, M.A., S.R. Deming, L.K. Probyn and R.R. Harwood (eds.). 1998. Michigan field crop ecology: managing biological processes for productivity and environmental quality. MSU Extension Bulletin E-2646, 92 pp. \$12.00.

To order, call the MSU Extension Bulletin office at 517-355-0240, or fill out an order form on-line at <http://ceenet.msue.msu.edu/bulletin/shorform.html>
12. The fall/winter 2000/spring/summer /fall 2001 edition of *Futures*, a Michigan State Univ. Agricultural Experiment Station publication, focuses on sustainable agriculture research being conducted at Michigan State, and specifically focuses on the contributions that retiring C.S. Mott Foundation Chair Richard Harwood has made to popularizing the study of the ecology of agricultural systems. An article on the organic apple project is also included. On the web at
http://www.maes.msu.edu/Futures/fall_winter2001.pdf



13. A 1996 publication, *A fruitful experience: practices of organic and IPM growers*, is on the web at <http://www.msue.msu.edu/ipm/ipmrptv5n2c.htm> Written by Michelle R. Worosz and Craig Harris. The text was also developed into a 1999 MSU extension publication: <http://www.msue.msu.edu/msue/imp/modrr/55398001.html>
14. A 1997 crop budget comparing low-pesticide, conventional, and organic soybean costs and returns. http://www.kbs.msu.edu/Farm/Reports/1997/organic_crops.htm

EDUCATION

1. A 7-acre student farm at the Horticulture Teaching and Research Center on campus is in the transition to being certified organic. The farm is used for research, education, and outreach purposes. Students are managing a 48-week CSA that distributes vegetables, small and tree fruit, herbs and flowers. High tunnels and storage are being used to extend the production and marketing season. In spring 2001, horticulturist John Biernbaum offered a course that trained students to manage the farm, Development of a student farm/market garden. The farm's website is at <http://www.msu.edu/~msufarm/> Biernbaum's class outline may be found at <http://www.msue.msu.edu/misanet/msan/msan25.html> Biernbaum, phone 517-353-7728, biernbau@msu.edu
2. A special meal was held at two residence hall dining rooms featuring organic and local food in Sept. 2002. Press release at <http://newsroom.msu.edu/news/archives/2002/09/organicfood.html>
3. The Michigan Conference on Organic Agriculture is held annually in early March on the MSU campus as part of the Agriculture and Natural Resources Week (full details on this event are at <http://www.canr.msu.edu/anrweek/>). Conference organization and management is shared jointly between Michigan State Univ., the Michigan Organic Food and Farming Alliance (MOFFA), and the Michigan Dept. of Agriculture. The most recent program is available at <http://www.moffa.org/events/MCOA.pdf> . The two-day conference includes a trade show. Contact MOFFA, phone 616-445-8769, website <http://www.moffa.org/>
4. Michigan State's Horticulture Dept. held an organic fruit school in March 2001. A description of the program is still on the web at <http://www.hrt.msu.edu/organicfruitschool.htm>
5. An organic fruit production meeting was held in March 2000 at the Northwest Michigan Horticultural Research Station, organized by district horticulture agent Jim Nugent. Nugent, phone 231-946-1510, e-mail nugent@msue.msu.edu



UNIVERSITY OF MINNESOTA, 1862, ST. PAUL

107 certified acres;
17.69 transitional acres

RESEARCH, PRODUCTION

1. The Elwell Agroecology Farm in Lamberton Township has had over 100 acres certified organic since 1998. In addition to the following list of research projects being conducted there, the approximately 80 acres of the farm not in experiments or in the 12 certified acres of native prairie are managed with an intensive regime of extended crop rotation, intercropping, green manuring, and compost application to restore soil health, manage weeds, and raise cash crops. Demonstration areas on this land include vegetables, summer annual tropical legumes, hybrid hazelnuts, and a windrow composting demonstration. Research technician Emily Evans contributed most of the details on activity at Elwell, including:

- ♦ The Variable Input Crop Management Study (VICMS), which was started in 1989. This experiment is being conducted on both a high-fertility/no past history of fertilizer or pesticide use site and a low fertility/past history of extractive management site. Treatments are a 2-year corn-soybean rotation and a 4-year corn-soybean-oat/alfalfa-alfalfa rotation under four management strategies: zero, low, high, and organic-only inputs. Agronomist Paul Porter is senior author on a recent article in the *Agronomy Journal* that summarizes ten years of data from this trial: Porter, P.M., D.R. Huggins, C.A. Perillo, S.R. Quiring, and R.K. Crookston. 2003. Organic and other management strategies with two- and four-year crop rotations in Minnesota. *Agron. J.* 95:233-244.

A 2003 Extension press release on the article is on the web at <http://www.extension.umn.edu/extensionnews/2003/Organic.html>

An article posted on the MISA website, *Designing cropping systems for soil health*, describes Deborah Allan's work analyzing the soil quality of each system: <http://www.misa.umn.edu/Other/soilhealth.html>

- ♦ A conversion study on transitional acreage, studying the effect of cropping sequence and crop type on weed management, soil quality, and profitability during transition. This is the research portion of the Organic Conversion Project, started in 1999 by Elizabeth Dyck. This project has a major on-farm component to it as well, and has involved over 40 farmers converting to organic in Minnesota.
- ♦ Underseed trial is evaluating the effect of forage legume underseeding on a small grain crop and on the subsequent corn crop.
- ♦ A cultivation study to determine the effect of early-season cultivation (rotary hoeing, flex-tine harrowing, spike-tooth harrowing, and flame weeding), and frequency of rotary hoeing on weed management, soil structural properties, and yield of corn. Other treatments include use of a computer model to determine rotary hoeing timing; between-row cultivation only; and a hand-weeded control.



- ♦ Variety trials of edible soybeans, untreated hybrid corn seed, buckwheat, quinoa, and amaranth.
- ♦ Two flax trials are evaluating fall cover crops and spring interseeded crops for weed control and yield enhancement effects on golden flax; and a date-of-planting study.
- ♦ Weed control studies including a flame weeding study on corn; effect of buckwheat and sorghum-sudan smother crops compared to frequent cultivation in controlling Canada thistle; soybean planted after winter rye; effectiveness of disk-tilled compared to mow-killed rye in controlling weeds in a subsequent soybean crop.
- ♦ Interseeding trials, including a soybean/corn interseed trial, assessing the establishment of relay-interseeded winter rye, red clover, and hairy vetch in corn and soybean (also conducted on 20 cooperating farms); and a “scavenger study” assessing the effect of interseeded species, interseed planting date, and landscape position on soil management and corn yield (also conducted on four cooperating farms).

For more information on these studies, contact Emily Evans, phone 507-752-5074, e-mail Emily.E.Evans-1@tc.umn.edu Website for Elwell:
<http://swroc.coafes.umn.edu/eaf.html>

2. At the Southern Research and Outreach Center in Waseca, Minnesota, thirteen acres are in transition to organic certification and will be certified in August 2003. Researchers plan to rotate the entire area to a different crop each year using a soybean-small grain-corn rotation. The research emphasis is on fertilization effects on weed populations. An interdisciplinary team of researchers is participating in the project, including a soil scientist, cropping specialist, weed ecologist, nematologist, and agronomist. Weed ecologist Gregg Johnson is continuing his work using Global Positioning Systems (GPS) to analyze spatial distribution of weeds in the landscape. Contact Johnson, phone 507-837-5617, e-mail johns510@umn.edu; or project leader Dan Miller, phone 507-835-3620 x152, e-mail mille414@umn.edu
3. Animal scientist Jacquie Jacob received a USDA grant in 2002 to study organic poultry feeds. She is starting the project by conducting nutrient analyses on organic grain samples in order to compile a database of the nutrient content of organically grown grains. Feed grains she will include are corn, soybean, wheat, buckwheat, sorghum, millet, oats, naked oats, rye, amaranth, flax, field peas and sunflower. Jacob is still accepting grain samples from organic growers for analysis. An intern for the Minnesota Institute for Sustainable Agriculture (MISA) wrote an article on Jacob's project, *Finding options for organic poultry feed*. Daniel Ungier, 2002.
<http://www.misa.umn.edu/Other/poultryfeed.html> The article contains the following links to Jacob's work: page of links on organic poultry production:
<http://www.ansci.umn.edu/poultry/links/organicproduction-links.htm> ;
resources on poultry nutrition:
<http://www.ansci.umn.edu/poultry/resources/nutrition.htm>
Jacquie Jacob, phone 612-624-2766, e-mail jacob150@umn.edu.
4. Nutritionist Craig Hassel received an OFRF grant in fall 2002 to develop a sensory-based standard for evaluating the quality of organic herbs. A report will be available from OFRF in 2004. Hassel, phone 612-624-7288, e-mail chassel@che.umn.edu



5. Craig Sheaffer with the Agronomy and Plant Genetics Dept. received a 2002 Organic Transitions Program grant for the project “Integrated weed and soil management options for organic cropping systems in Minnesota.” The project will bring together farmer-researcher teams to design integrated strategies for weed and soil management. Experiments will be conducted at the Elwell Agroecology Farm and on-farm. Contact Sheaffer, phone 612-625-7224, e-mail sheaff001@umn.edu.
6. Extension cropping specialist Zachary Fore and Red Lake County Extension educator Hans Kandel conducted an on-farm study on weed control in organic hard red spring wheat in 2001. A report on the project is on the web at <http://www.npsas.org/MNOrganicTrials.html> Kandel has also participated in the small grain variety trials being conducted out of North Dakota (see details under “Research, production,” #1, under North Dakota). Contact Fore, e-mail forex002@umn.edu
7. Soil scientist Deborah Allan received SARE funding in 2000 for the project, “Assessing soil quality changes in alternative and conventional cropping systems.” She is sampling soils from the VICMS study described above in #1, and from paired organic and conventional farms. An outreach component of the project involves presenting information at field days and holding farmer meetings. A report on the first year of the study is on the web at http://www.sare.org/reporting/report_viewer.asp?pn=LNC00-179&ry=2001&rf=0. Contact Allan, phone 612-625-3158, e-mail dallan@soils.umn.edu
8. Extension livestock educator Maribel Fernández has published two studies comparing the performance of beef cattle under organic and conventional management, and one study on the effectiveness of diatomaceous earth as an anthelmintic on steers.
 - ♦ Fernández, M.I. and B.W. Woodward. 1999. Comparison of conventional and organic beef production systems. I. Feedlot performance and production costs. *Livestock Prod. Sci.* 61:213-223.
 - ♦ Woodward, B.W. and Fernández, M.I. 1999. Comparison of conventional and organic beef production systems. II. Carcass characteristics. *Livestock Prod. Sci.* 61:225-231.
 - ♦ Fernández, M.I., B.W. Woodward, and B.E. Stromberg. 1998. Effect of diatomaceous earth as an anthelmintic treatment on internal parasites and feedlot performance of beef steers. *Animal Sci.* 66:635-641.

RESEARCH, FOOD SCIENCE

Francisco Diez-Gonzalez, a professor with the Food Science and Nutrition Dept., is currently studying which has higher levels of microbial contamination: produce grown organically or conventionally grown produce. He is collecting produce samples from approximately 40-50 organic and conventional producers in Minnesota and will test them for the presence of pathogens. Contact Diez-Gonzalez, phone 612-624-9756, e-mail fdiez@umn.edu.



1. A Jan. 2003 publication summarizes results of Extension on-farm research trials in 2002. Many of them were organic, including flame weeding in organic blue corn; organic oat variety evaluations; organic soybean variety evaluations; compost effects on soybean yield and weed density; and organic soybean management.
<http://www.extension.umn.edu/specializations/cropsystems/croppingtrials.pdf> . For information on these and other extension activities, contact Extension educators Jim Stordahl, phone 218-563-2465, or Hans Kandel, 218-253-2897.
2. A broad array of cooperating institutions gained SARE funding from its Professional Development Program to conduct a series of six training sessions on organic issues for agricultural professionals. The “Organic Short Course for Agricultural Professionals” series will be offered throughout 2003. The Minnesota Dept. of Agriculture is the lead institution. Cooperators include Natural Resources Conservation Service (Minnesota), Resource Conservation & Development Districts, Univ. of Minnesota Extension, Minnesota Institute for Sustainable Agriculture (MISA), and the Univ. of Minnesota Dept. of Agricultural, Food, and Environmental Sciences. For more information, contact Meg Moynihan with the Minnesota Dept. of Agriculture, phone 651-297-8916, e-mail meg.moynihan@state.mn.us
3. *Designing Feeding Programs for Natural and Organic Pork Production*. 2002. By Jerry Shurson, Mark Whitney, Lee Johnston, Bob Koehler, Robert Hadad, and Dean Koehler.
<http://www.extension.umn.edu/distribution/livestocksystems/DI7736.html>

A 2001 Extension press release on organic and natural pork markets is at <http://www.extension.umn.edu/extensionnews/2001/ProducerPremiumsForOrganic.html>
4. Report available: *Consumer Preferences, Premiums, and the Market for Natural and Organic Pork: Locating a Niche for Small-scale Producers*. 2001. By W. Parker Wheatley. On the web at www.misa.umn.edu/programs/altswine/litreview.html To receive a printed copy of the report, call Wayne Martin at 877-258-4647, or email at marti067@tc.umn.edu.
5. July 2002 Cooperative Extension news release on Luanne Lohr’s organic market analysis work, by Jack Sperbeck. (See entry on Lohr under Georgia, research, economic/consumer.)
<http://www.extension.umn.edu/extensionnews/2002/LocallyGrown.html>
6. *Organic Certification of Crop Production in Minnesota*, by Lisa Gulbranson, revised in 2001, from the Minnesota Institute for Sustainable Agriculture in cooperation with the University of Minnesota Extension Service. May be ordered for \$3 plus \$2 shipping by calling (800) 876-8636, or mail check to University of Minnesota Extension Service Distribution Center, University of Minnesota, 1420 Eckles Avenue, St. Paul, MN 55108-6069. Checks payable to University of Minnesota; state residents, add 7% sales tax. <http://www.extension.umn.edu/distribution/cropsystems/DC7202.html>
7. A 2001 Extension press release on SOS I’s mention of Minnesota’s organic research:
<http://www.extension.umn.edu/extensionnews/2001/ReportSaysOrganicResearchLack.html>



8. The Minnesota Extension's Sustainable Agriculture Newsletters are peppered with articles on organic issues, both Minnesota specific and broader in scope. For an index of past issues, go to <http://www.extension.umn.edu/newsletters/sustainableagriculture/Susag.html>
9. Minnesota Organic Farmers Information Exchange site, with links to Mentor Hotline, listing experienced organic growers willing to advise new growers; links to sources of information on organic and sustainable production and marketing; links to Elwell Agroecology Farm and the Southwest Research and Extension Center; and a few out-dated links to organic certifiers and to the Conversion Project. MOFIE website, <http://mofie.coafes.umn.edu/>

EDUCATION

1. A 3-unit elective course, Growing Plants Organically: What it Means to Be Green, is offered through the Horticulture Dept. Topics covered include the science and ethics of organic cultivation, and what is meant by "green" from a legal, scientific, and ethical perspective.
2. A wildly successful two-day Field Course in Organic Management was held in July 2002 at the Southwest Research and Outreach Center in Lamberton. The program included farmers and researchers as instructors and covered crop rotation design, certification, weed control, fertility management, marketing strategies, and other topics. A binder of materials was compiled to supplement the course. Contact Emily Evans phone 507-752-5074, e-mail Emily.E.Evans-1@tc.umn.edu.

OF NOTE

1. An innovative agreement was signed in April 2003 to promote organic agriculture in Minnesota. *The Memorandum of Understanding on Organic Agriculture* brings together the Minnesota Natural Resources Conservation Service, Minnesota Farm Service Agency, the Univ. of Minnesota College of Agricultural, Food, and Environmental Sciences, the University of Minnesota Extension Service, and the Minnesota Department of Agriculture (MDA) to provide assistance to the organic sector in Minnesota. Specific actions include holding field days showcasing organic farms, sharing information and training opportunities, providing staff support for organic professional development and service delivery, and developing and implementing conservation farm plans for organic crop production. The MDA press release on the agreement is on the web at <http://www.mda.state.mn.us/newsreleases/2003news/03apr21a.htm>
The entire text may be read from the MDA organic web page:
<http://www.mda.state.mn.us/esap/organic/>

For more information, contact Meg Moynihan, MDA Agricultural Diversification Specialist, phone 651-297-8916, e-mail meg.moynihan@state.mn.us.



2. In 2002, the Minnesota Natural Resources Conservation Service (NRCS) made Environmental Quality Incentives Program (EQIP) incentive payments available to producers converting from conventional crop and livestock production to organic production. This is one of the few instances in which the federal EQIP program acknowledged organic farming as an inherently conservation-oriented production system.
3. Every year, the Minnesota Dept. of Agriculture's Energy and Sustainable Agriculture Program publishes the Greenbook, a summary of projects funded by the Sustainable Agriculture On-Farm Demonstration Grant Program. Some of these projects involve organic production and marketing. The publication also contains resource listings and essays on the bigger picture. Order a copy by calling 651-296-7673, or read it on the web at <http://www.mda.state.mn.us/esap/Greenbook.html>
4. The Minnesota Institute for Sustainable Agriculture (MISA) is a partnership between the Univ. of Minnesota College of Agricultural, Food, and Environmental Sciences Dept. and the Sustainer's Coalition, a group comprised of individuals and Minnesota non-profits active in sustainable and organic agriculture. Housed at the Univ. of Minnesota, MISA has many resources on alternative agricultural practices and marketing strategies. Enter "organic" into their database of resources on the website and have fun looking around at the broad selection of materials. From the home page, click on "resources," then on "dairy resources" to go to some links on organic dairy information.

MISA and the Minnesota Dept. of Agriculture co-lead the Minnesota Organic Network, a group of individuals from agencies, non-profit groups, extension, and the University who, along with farmer members, share an interest in organics. The Network is a forum for information sharing and collaboration. Members interact on a monthly conference call and via a list serve. For more information on the network, contact Meg Moynihan (MDA), phone 651-297-8916, or Helene Murray (MISA), 612-625-0220.

MISA, Univ. of Minnesota, 411 Borlaug Hall, St. Paul, MN 55108-1013, phone 612-625-8235, 1-800-909-MISA (6472), e-mail misamail@tc.umn.edu, website at <http://www.misa.umn.edu/main.html>

CERTIFICATION

The Minnesota Crop Improvement Association is accredited by USDA to perform organic certification. This is one of four non-profit certified seed groups associated with a land grant university that so far has received such accreditation. Get more information from their website at www.mncia.org, or call 612-625-7766.



MISSISSIPPI STATE UNIVERSITY, 1862, MISSISSIPPI STATE

0.75 acres managed organically

RESEARCH, PRODUCTION

A research plot at the Truck Crops Branch Experiment Station in Crystal Springs is being managed organically to start research into the economic viability of organic vegetable production in Mississippi. Contact William Evans, phone 601-892-3731, e-mail wbe@ra.msstate.edu

EXTENSION

Organic fruit and vegetable web page at <http://www.msstate.edu/dept/cmrec/organic/>

ALCORN STATE UNIVERSITY, 1890, LORMAN

EXTENSION

Publication *Organic Vegetable IPM Guide*, by Pat Harris, James H. Jarratt, Frank Killebrew, John D. Byrd, Jr., and Rick Snyder. Feb. 2001. On the web at

<http://msucares.com/pubs/publications/pub2036.htm>

UNIVERSITY OF MISSOURI, 1862, COLUMBIA

2 acres managed organically

RESEARCH, PRODUCTION

1. The Greenley Research Center in Novelty has been the site of organic research since 1999. Researchers there conducted three years of organic soybean and popcorn variety trials. They also compared organic weed control with Roundup Ready weed control in soybeans in 2001. A summary of the soybean variety data are on the web at <http://aes.missouri.edu/greenley/research/or0101.stm>, by K. Nelson, E. Dilworth, L. McIntyre, and R. Smoot. Results from the weed control study is at <http://aes.missouri.edu/greenley/research/or0201.stm>, by K. Nelson, D. Harder, E. Dilworth, and R. Smoot. A presentation on cost-effective weed control in organic soybeans from the 2002 field day as presented by Kelly Nelson is at <http://aes.missouri.edu/greenley/fieldday/page20.stm>.

Contact Nelson, phone 660-739-4410, e-mail NelsonKe@missouri.edu; or Leon McIntyre, phone 660-895-5123, e-mail McIntyreB@missouri.edu



2. Andrew Thomas with the Southwest Missouri Center in Mount Vernon, received two years of funding from OFRF to “Evaluate kaolin-based particle film coatings on insect, disease, and heat stress suppression in apples.” Thomas found that the coating holds promise for making organic apple production in Missouri commercially possible. A report on the project may be obtained from OFRF. The text of a presentation on the project made at the 2002 field day is at

<http://aes.missouri.edu/swcenter/fieldday/h1.stm> Contact Thomas, phone 417-466-2148, e-mail ThomasAL@missouri.edu

EXTENSION

1. Publication *Organic gardening techniques*, by Denny Schrock. 1999.
<http://muextension.missouri.edu/xplor/agguides/hort/g06220.htm>
2. A 2002 article by journalism student Jenilee Jewert presents a farmer’s perspective on why she will no longer be certified organic after implementation of the national standard. <http://www.missouri.edu/~jkj42b/organicfoods.html>
3. A Nov. 2002 article from the *Columbia Missourian* on the organic label:
<http://www.jour.missouri.edu/digmo.nsf/stories/A018D2523B1E089886256C630070B64F?OpenDocument> by Cheryl Bishop.

RESOURCES

1. The Univ. of Missouri Alternatives Center (MAC) continues to maintain one of the broadest-ranging collections of information on organic farming accessible through the web. From the MAC home page (address below), click on MAC Resource Collection, then on Alternative Farming Systems, then on Organic Farming to browse through listings of the 26 books, 13 booklets, 19 videos, 7 audio tapes, and 62 webpages they’ve collected (as of April 16, 2003) on organic farming issues. The MAC newsletter, *Ag Opportunities*, regularly features articles on organic topics. From the home page, click on “Ag Opportunities” newsletter for the most recent edition. Past issues can also be accessed from here. In general, the site provides a wealth of information for small-scale growers and those interested in alternative production systems, from alpacas to walleyes. Contact Debi Kelly, project manager, at phone 1-800-433-3704 (Missouri Only), or 573-882-1905, e-mail kellyd@missouri.edu. Website is at <http://agebb.missouri.edu/mac/>
2. The Community Food Systems and Sustainable Agriculture program of Univ. of Missouri Extension maintains a website with links to many resources, including information produced by the Missouri Organic Association. Visit <http://agebb.missouri.edu/sustain/moa/index.htm> The page links to the Almanac, the MOA newsletter, including past issues.



1. Professor emeritus John Ikerd is known throughout the world for his critique of large-scale, industrialized agriculture, and his passionate advocacy of family-scale, community-based, sustainable agriculture. He maintains a website at the Univ. of Missouri on which he posts many of the papers he has presented and articles he has written: <http://www.ssu.missouri.edu/faculty/jikerd/papers/> On organic topics:
The architecture of organic production, 2001
<http://www.ssu.missouri.edu/faculty/jikerd/papers/Australia.html>;
The high cost of cheap food, 2001
<http://www.ssu.missouri.edu/faculty/jikerd/papers/SFTcheapfood.html> ;
Organic agriculture faces the specialization of production systems, 1999
<http://www.ssu.missouri.edu/faculty/jikerd/papers/FRANCE.html>;
and a classic refutation of Dennis Avery's arguments for highly industrialized agricultural practices, *Fantasies of Mr. Avery's high-yield agriculture*, 1996
<http://www.ssu.missouri.edu/faculty/jikerd/papers/Today-f.htm>
2. The Missouri Dept. of Ag sponsored an organic inspectors training near St. Louis in March 2003. The training was conducted by the Independent Organic Inspectors Association. Contact Sue Baird, 573-751-2148.
3. A 2002 press release by the Missouri Dept. of Ag features one of the recipients of a Missouri Sustainable Agriculture Demonstration Award. Grower Tom Martin conducted a study on using a "dying mulch" for weed control in organic asparagus production. <http://agebb.missouri.edu/sustain/smfarm/martin.htm>

LINCOLN UNIVERSITY, 1890, JEFFERSON CITY

no organic found

MONTANA

MONTANA STATE UNIVERSITY, 1862, BOZEMAN

11 acres managed organically

RESEARCH, PRODUCTION

1. Horticulture professor Nancy Callan received OFRF funding to study forage brassicas as a component of organic production systems. The work was conducted at the Western Agricultural Research Center in Corvallis. There are currently 10.56 certifiable acres at the research station, though not all are dedicated to organic research. Contact Callan, phone 406-961-3025, e-mail ncallan@montana.edu
2. A large-scale on-farm research project, "Sustainable pest management in dryland wheat" (SPM), was started in 1997 at three locations representing different cropping



areas of Montana. At one location, the Tyler Farm near Moore, one of the five rotations being studied is managed with high, low, and “organic” input levels. Many Montana State researchers are taking different kinds of measurements from these plots. The overall objective is to compare weeds, insects, and diseases in diversified and intensified rotations compared with wheat-fallow systems. Soil quality and economics are also being documented.

Graduate student Andrew Hulting is managing a complex study focused on the weed control effects of different rotation sequences. A detailed description of this study is found on the web at

<http://www.weeds.montana.edu/research/spm-summary.htm>

For more information, contact graduate student Andrew Hulting, e-mail ahulting@montana.edu. Hulting’s website features a somewhat abbreviated description of the project: <http://www.weeds.montana.edu/personnel/hulting.htm>

“Using Crop Diversity in No-till and Organic Systems to Reduce Inputs and Increase Profits and Sustainability in the Northern Plains” is a SARE-funded study being conducted at the Moore site focusing on the organic and no-till treatments. Contact Bruce Maxwell, phone 406-994-5717, e-mail bmax@montana.edu. Annual reports will be posted on the Montana State University weed science website at

<http://www.weeds.montana.edu/research/spm-summary.htm>

Updated reports from each site in the SPM can be accessed through the project’s website by clicking on the location name at the bottom.

<http://scarab.msu.montana.edu/spm/SPM.html>

The most recent annual reports from the Moore site (has organic treatments) are at <http://scarab.msu.montana.edu/spm/2002Annualreport.html> and

<http://scarab.msu.montana.edu/spm/2001Annualreport.html>

Entomologist Andy Lenssen is the contact for the overall project: phone 406-994-7267, e-mail alenssen@montana.edu

3. Florence Dunkel with the Dept. of Entomology’s Natural Product Toxicology Laboratory began work in 2001 on isolating nematicidal and pesticidal compounds from marigolds as part of an organic sugarbeet management program. Pests targeted with the marigold extracts are parasitic nematodes and root maggots. Dunkel, phone 406-994-5065, e-mail eufd@montana.edu, website <http://scarab.msu.montana.edu/images/fdunkle/floshmpg.htm#SelectList>
4. Andrew Lenssen received SARE funding in 1997 to use global positioning systems/geographic information systems (GPS/GIS) to map insect, disease, and weed populations, soil nitrate and water levels, and wheat grain yield and protein in 22 spring wheat fields, six of which are organic. A 2000 report is on the SARE database at http://www.sare.org/reporting/report_viewer.asp?pn=SW97-056&ry=1997&rf=0

Lenssen is working on getting all maps uploaded to a website. Cooperating researchers are Dan Long, Bill Grey, Sue Blodgett, and Bruce Maxwell. Contact Lenssen, phone 406-994-7267, e-mail alenssen@montana.edu



5. Cropping systems scientist Perry Miller is conducting a fairly complex rotation study comparing no-till and organic systems. The rotations involve “stacking” cool-season vs. warm-season, broadleaf vs. cereal crop, and early vs. late seeding crops under reduced-till organic and reduced herbicide no-till management regimes. One innovative strategy they are trying is direct seeding winter pea for green manure into standing barley stubble. The study is being done on-farm in replicated plots, and a smaller version of the study is being done at Bozeman, where 0.44 acres are managed organically. Grower Bob Quinn has provided extensive technical assistance on this project. Contact Miller, phone 406-994-5431, e-mail pmiller@montana.edu

EXTENSION

1. Helen Atthowe with Missoula County Extension conducted an extensive review of the sustainable and organic agriculture research literature and published a 740-page horticulture manual in 2002. She also produced an interactive CD-Rom database on least-toxic-option pest management practices. Additionally, the Master Gardener program in Missoula County focuses on organic production methods. A Feb. 2003 article on Atthowe’s organic activities, printed in the Missoulian and written by Daryl Gadbow, is on the web at <http://www.matr.net/print-5823.html>

Contact Atthowe (an OFRF Board member and organic farmer herself), phone 406-829-4205, e-mail atthowe@montana.com.

2. 2001 Extension press release on organic greenhouse constructed by tribal Extension agent Wilbert Fish. <http://www.montana.edu/wwwpb/extoday/spr0108.html>
3. A farmer-organized tour at Robert Boettcher’s farm in July 2002 showcased the moisture-conserving benefits of organic farming, with participation by Montana State researchers. An article in the Havre Daily News by Tim Leeds reported on the event: <http://www.montana.edu/wwwbor/OrganicFarmingExtolledAtTour.htm>

OF NOTE

The Alternative Energy Resources Organization (AERO), based in Helena, received SARE professional development program funding and OFRF funding to conduct “Organic training for Montana’s agricultural technical service providers.” AERO will produce a Montana-specific reference manual on organic crop production and processing systems, present on-farm field days demonstrating successful organic practices, and conduct training sessions on organic issues. AERO is known for successfully organizing a system of over 75 Farm & Ranch Improvement Clubs, which brought producers together to discuss their production questions and try possible solutions to them. Contact Jonda Crosby, phone 406-443-7272, e-mail aero@aeromt.org



UNIVERSITY OF NEBRASKA, 1862, LINCOLN

7.5 acres managed organically

RESEARCH, PRODUCTION

A long-term comparison study was initiated in 1975 by agronomist Warren Sah. Originally a comparison between 4-year rotations and continuous corn, the 4-year rotation was managed either conventionally, with chemical fertilizer only, or organically with cow manure only. The trial has been managed by agronomist and professor Charles Francis since 1985. The rotation treatments have been modified over the course of the experiment. The crop sequence in the rotations varies depending on system management. Weed counts were taken over a course of five years and weeds were found to cycle along with the crops in the rotation. Heavy foxtail growth in the corn years was almost entirely controlled with fall planting of wheat and was absent during the soybean year. Half of the 15-acre experiment is managed organically but not certified because of the use of chemicals in the conventional plots. Contact Charles Francis, phone 402-472-1581, e-mail cfrancis2@unl.edu.

RESEARCH, ECONOMIC / CONSUMER

1. A comprehensive report, *Attracting consumers with locally grown products*, presents the results of a survey of 500 households in Nebraska, Iowa, Missouri, and Wisconsin on their attitudes toward locally grown and organic products. 2001. No author indicated! http://www.foodmap.unl.edu/report_files/local.htm
2. Giannakas, K. 2002. "Information Asymmetries and Consumption Decisions in Organic Food Product Markets." *Canadian Journal of Agricultural Economics* 50: 35-50. Abstract published in Spring/Summer 2002 *UNL Focus: Economic issues for Nebraskans*, a Dept. of Agricultural Economics Cooperative Extension publication. Available on-line at www.agecon.unl.edu Contact Konstantinos Giannakas, phone 402-472-2041, e-mail kgiannakas@unl.edu

EXTENSION

1. A 2003 Extension article by Dodge County educator Dave Varner on the federal organic standard: <http://www.dodge.unl.edu/pubs/030206agupdatecolumn>
2. An updated version of a Univ. of Nebraska publication on organic certification was published in the Sept. 2002 Lancaster County Neblines: <http://lancaster.unl.edu/neblines/2002/sep02/page05.pdf>
3. Profiles on organic farming operations prepared for the North Central Initiative for Small Farm Profitability (www.farmprofitability.org):
 - ♦ *Less Land more profits: organic crop production makes a stand*. Prepared by Martin Kleinschmit, written by Rebecca Kilde. 2002. http://www.foodmap.unl.edu/report_files/Less_land_organic.pdf



- ♦ *Libby Creek Farm: an organic alternative to traditional farming*. 2002. by Carol Doeden and Marilyn Schlake.
<http://www.farmprofitability.org/research/libbycreek/libbycreek.htm>

4. NebGuide, *Community Supported Agriculture*, written by Paul Swanson. 2000. Mentions that most CSAs are organic.
<http://www.ianr.unl.edu/pubs/generalag/g1419.htm>

NEVADA

UNIVERSITY OF NEVADA, 1862, RENO

no organic found

NEW HAMPSHIRE

UNIVERSITY OF NEW HAMPSHIRE, 1862, DURHAM

22 acres certified organic

RESEARCH, PRODUCTION

Agroecology research and extension specialist Stefan Seiter has certified 2 acres on the Kingman Agronomy Research Farm on a field that had been fallow for five years. He is currently studying open pollinated corn varieties because of interest from organic growers, cultural management of smooth bedstraw weed in hayfields, and nutrient management on organic vegetable farms. He plans to conduct agronomic crop rotation studies in the future. The area is certified by the New Hampshire Department of Agriculture, Markets and Food. Contact Seiter, phone 603-862-0895, e-mail Stefan.Seiter@unh.edu

EDUCATION

A 20-acre pasture area on campus has been certified organic by the New Hampshire Dept. of Agriculture, Markets and Food, and will serve as a teaching, demonstration, and research area specifically for organic food production methods. The area will be collaboratively managed by various College of Life Science and Agriculture entities: the Office of Sustainability Programs, Depts. of Plant Biology and Animal and Nutritional Sciences, and Farm Services. UNH Food Services, local growers and Extension will also be involved. This year, a new student Organic Gardening Club will grow food and flowers on raised beds. Contact Stefan Seiter, phone 603-862-0895, e-mail Stefan.Seiter@unh.edu

EXTENSION

1. The Office of Sustainability Programs at the University of New Hampshire hosted a panel discussing organic food, health, and community-based agriculture in Nov. 2000.



2. UNH hosted the Soul of Agriculture conferences in 2001 and 2002. The Soul of Agriculture conference is a regional gathering that considers “new movements in New England food and farming,” including organic. UNH’s Office of Sustainability Programs will again host this conference in fall 2003. Call 603-862-4088 for more information.
3. Publication: *Pest control for organic vegetable growers*, by Extension IPM specialist Alan Eaton. It is available from UNH Coop. Extension Publications Center, 16 Nesmith Hall, UNH Durham NH 03824, phone 603-862-2346. Eaton has been working with organic growers in New Hampshire for over 20 years. Contact Eaton, phone 603-862-1734, e-mail Alan.Eaton@unh.edu

RUTGERS UNIVERSITY, 1862, NEW BRUNSWICK

**0.2 certified acres,
0.75 acres managed organically,
3-acre student farm managed organically**

RESEARCH, PRODUCTION

1. Rutgers Cooperative Extension County Agricultural Agent and Associate Professor Daniel Kluchinski conducted a study, “Evaluating Weed Control Systems for Organic Soybean Production,” on certified organic land at the Snyder Research Farm, Pittstown. This two-year study evaluated row width (narrow 8-inch vs. wide 30-inch), tillage equipment (rotary hoe vs. Buffalo cultivator), tillage frequency and type (one or two cultivation passes with one or both equipment types), tillage timing (early, late or sequential), and cover crop residue on weed control. Results are currently being analyzed. Contact Daniel Kluchinski, phone 609-989-6830, e-mail: kluchinski@aesop.rutgers.edu.
2. Extension soil fertility specialist Joseph Heckman has an on-going organic research and extension program. Heckman conducted on-farm sampling to document soil nitrate levels on organic farms at different times of the season. This project is written up as “Soil nitrogen availability for tomato production on three organic farms.” Heckman reviewed the literature and came up with guidelines on soil nitrate tests for in-season nitrogen management. This information has been published in many formats, including:

Nitrogen testing for organic tomato production. 2002. Heckman, J.R., and M. Van Horn. Plant & Pest Advisory. Organic Farming Edition (see under Extension publications below); Heckman, J.R. 2002. *In-season soil nitrate testing as a guide to nitrogen management for annual crops.* HortTechnology 12:706-710 (includes one paragraph distinguishing the role of soil nitrate testing in organic systems); and *Soil nitrate testing as a guide to nitrogen management.* 2001. The Soil Profile (a soils newsletter produced by Heckman). Heckman presented a seminar on Sir Albert Howard and the origin of organic agriculture in 2002 before the Council on History, Philosophy, and Sociology of Soil Science. Joseph Heckman, phone 732-932-9711 x119, e-mail heckman@aesop.rutgers.edu



Rutgers researchers published a 2000 article on costs of three farming systems including organic. An associated website also contains crop budgets for organic field crops, fruits, vegetables, and livestock; however, the information is based on 1996 data.

Brumfield, R.G., A. Rimal, and S. Reiners. 2000. Comparative cost analyses of conventional, integrated crop management, and organic methods. *HortTechnology* 10:785-793.

Crop budget website: <http://aesop.rutgers.edu/~farmmgmt/ne-budgets/organic.html>

Contact Robin Brumfield, phone 732-932-9171 ext. 253, e-mail brumfield@aesop.rutgers.edu

EXTENSION

1. Rutgers Cooperative Extension County Agricultural Agent and Associate Professor Daniel Kluchinski held an Organic Soybean Production Twilight Meeting in July 2002 at the Rutgers University Snyder Research and Extension Farm, Pittstown. Topics included an update on the USDA's National Organic Program, NOFA-NJ's organic certification program, organic soybean weed control field trial, "steel in the field" demonstration of cultivation implements, and organic soybean marketing.

Kluchinski also presented organic-related presentations for the following grower meetings in 2002:

- ♦ "Organic and Food Grade Soybeans—Opportunities and Markets," New Jersey Vegetable Growers Association Meeting, Atlantic City, NJ.
 - ♦ "Organic Soybean Production," Burlington County Soybean Twilight Meeting, Mount Holly, NJ.
 - ♦ "Organic Soybean Production," Central Jersey Field Crop Meeting, Mount Holly, NJ, and Flemington, NJ
2. Rutgers Cooperative Extension publishes an Organic Farming edition of its Plant & Pest Advisory newsletter. Previous issues, including organic editions from 2000, 2001, and 2002, can be viewed on the web at www.rce.rutgers.edu/pubs/plantandpestadvisory. Cindy Rovins, editor, phone 732-932-4539, e-mail rovins@aesop.rutgers.edu
 3. Fact Sheet *Consumer Perceptions of Organic Produce*. 1999. by Ramu Govindasamy and John Italia. <http://www.rce.rutgers.edu/pubs/pdfs/fs899.pdf>
 4. Publication *Nutrient Sources for Growing Plants by the Organic Method* (4 pp.), by Joseph Heckman and Daniel Kluchinski. 1993. Publication FS675.

EDUCATION

1. The Cook College Student Organic Farm continues to provide valuable experience to the students who work the farm and the community members that purchase CSA shares or receive part of the surplus that is donated to local charities. More details may



be found on the web at <http://aesop.rutgers.edu/~njuep/csof/index.html> The website contains the text of a student handbook with planting tips. Information on CSAs is also presented. Contact farm advisor Ralph Coolman, phone 732-932-8406, e-mail coolman@aesop.rutgers.edu

2. A 3-unit course, Principles of Organic Crop Production, is offered through the Plant Science Dept. It covers cultural management practices, soil stewardship, and plant health, among other topics.

OF NOTE

Emily Brown Rosen, policy director with the Organic Materials Review Institute, received SARE professional development program funding in 2002 to conduct in-service training sessions for Cooperative Extension personnel in the Northeast on the new USDA National Organic Program and the national list of approved materials. Trainings will be conducted in New Jersey, New York, New Hampshire, and Pennsylvania. A summary of the project is on the SARE database at

http://www.sare.org/reporting/report_viewer.asp?pn=ENE02-067&ry=2002&rf=0

Contact Rosen, phone 609-737-8630, e-mail ebr@omri.org

NEW MEXICO

NEW MEXICO STATE UNIVERSITY, 1862, LAS CRUCES

**6½ acres certified organic,
1-acre student CSA managed organically**

RESEARCH, PRODUCTION

1. Extension fruit specialist Ron Walser headed an effort to certify 6½ acres at New Mexico State University's Sustainable Agriculture Science Center in Alcalde. In spring 2002, 2½ acres of tree fruit and small fruit were planted, including strawberries, raspberries, blackberries, cold tolerant kiwifruit, table and wine grapes, apples, peaches, apricots, plums, and cherries. NMSU press releases on the organic fruit work are on the web at http://www.cahe.nmsu.edu/news/2001/081701_alcalde.html and http://www.cahe.nmsu.edu/news/2001/081701_apples.html Another ¼ acre is being used to look at high tunnel hoopouses for strawberries and raspberries, and ¼ acre is being used for the herb work described in #2. The rest of the acreage is in fallow until needed. Contact Walser, phone 505-852-2668, e-mail rwalser@nmsu.edu
2. Charles Martin, with the Sustainable Agriculture Science Center in Alcalde, received OFRF funding for a study, "Irrigation requirements and weed control methods for organic medicinal herb production in New Mexico." The project will focus on developing cultivation methods for three traditional medicinal plant species: yerba mansa, cota, and oshá. The project is being conducted on part of the 6½ acres at the Alcalde station that have been certified organic. A report will be on file with OFRF in 2004. Contact Martin, phone 505-852-4241, e-mail cmartin@nmsu.edu. A 2003 NMSU



press release on the project is on the web at
<http://spectre.nmsu.edu/media/news2.lasso?i=News502>

EDUCATION

A 1-acre organic garden on the NMSU campus is being cultivated as a CSA farm that is managed by students enrolled in a class. 2002 was the first year of production. Contact Constance Falk, faculty advisor, phone 505-646-4731, e-mail cfalk@nmsu.edu

EXTENSION

NMSU Cooperative Extension co-sponsored the 2002 New Mexico Apple Growers Council annual workshop, which featured information on using organic controls for spider mites and codling moths. Contact Ron Walser, phone 505-852-2668. NMSU press release on the event is on the web at http://www.cahe.nmsu.edu/news/2002/2.8.02_fruit.html

NEW YORK

CORNELL UNIVERSITY, ITHACA

6 acres certified;
30 acres transitional;
4 acres managed organically;
12-acre student farm managed organically

RESEARCH, PRODUCTION

1. Organic research capabilities at Cornell took a great step forward in 2001 when the North East Organic Network, or NEON, was funded (see details under “Multi-purpose organic consortium” below). Soon thereafter, 30 acres were reserved at the H.C. Thompson Vegetable Research Farm in Freeville to undergo the transition to organic certification, and then serve as a site for ongoing certified organic research. A farm management committee consisting of growers, Extension personnel, non-profit representatives, and Cornell scientists was formed to determine farm operating procedures, rotation schedules, and research priorities. Irrigation has been installed and cover crops planted in preparation for the 2003 growing season. Both long-term and shorter-term research will be conducted here. Pictures of the May 2002 groundbreaking ceremony at the Freeville Organic Farm are on the web at http://www.hort.cornell.edu/departments/news_events/freeopen/

Contact Laurie Drinkwater, phone 607-255-9408, e-mail led24@cornell.edu

2. The Cornell Willsboro Farm has been the site of organic grain rotation trials on 6 certified acres (by NOFA-VT) since 1993. Three years of alfalfa and timothy are the basis for the rotation. Spring and winter wheat have also been grown. Contact farm manager Mike Davis, phone 518-963-7492, e-mail md11@cornell.edu A summary of the work is on the web at <http://www.organic.cornell.edu/facilities/willsboro.html>



3. The Vegetable Pest and Crop Management Systems Evaluation Project was started in 1995 at the New York State Agricultural Experiment Station (NYSAES) in Geneva. This comparison study compares organic with two IPM strategies and conventional production. The organic research area totals 2 acres managed organically. Economics, pest control efficacy, and environmental impact of each of the systems have been evaluated. Several of the systems have also been evaluated on-farm. A report on 8-year results is on the web at <http://www.organic.cornell.edu/facilities/geneva.html>. Project leader is vegetable IPM coordinator Curt Petzoldt, phone 315-787-2206, e-mail cp13@cornell.edu
4. Researchers David Combs, Harvey Reissig, and Art Agnello have continued their studies on organic apple insect control in trials conducted on-farm and at the Geneva Experiment Station. Surround clay film, horticultural mineral oil, and a product containing neem were tested at Geneva in 2000. Insect protection materials and whole-tree exclusion cages were studied on-farm. A report on the trials was published in a 2001 article in the Cornell Scaffolds Fruit Journal, on the web http://www.nysaes.cornell.edu/ent/scaffolds/2001/4.2_insects.html

An Extension press release by Peter Seem, June 2000, also describes the work:
<http://www.nysaes.cornell.edu/pubs/press/current/organicent.html>

Contact David Combs, phone 315-787-2465, e-mail dbc10@nysaes.cornell.edu; Harvey Reissig, phone 315-787-2336, e-mail whr1@nysaes.cornell.edu; Art Agnello, phone 315-787-2341, e-mail ama4@nysaes.cornell.edu.

5. Two acres at the Long Island Agricultural Research Center in Riverhead have been reserved for organic research. 2002 was the first year in which replicated experiments were undertaken there. The four studies are:
 - ♦ hairy vetch mulch for weed control and nitrogen input in heirloom tomato production;
 - ♦ heirloom tomato variety trials;
 - ♦ stale seedbed and fertilizer types for leafy green and mesclun production;
 - ♦ evaluation of eight spring cover crops.

A report with further details on the methods is on the web at <http://www.organic.cornell.edu/facilities/riverhead.html> Contact is Suffolk Co. Extension Educator Dale Moyer, phone 631-727-7130, e-mail ddm4@cornell.edu.

6. Vegetable IPM Extension educator Abby Seaman received SARE funding in 1999 to “identify and quantify relationships between farm management practices, soil quality, and pest populations on mixed-vegetable farms.” The project involved three years of extensive sampling on organic and conventional farms throughout New York, and has focused on potato and winter squash crops. Funding was renewed in 2001. Part of the project was to conduct efficacy trials on organically approved pest control materials for tomato foliar diseases. OFRF provided funding for a third year of efficacy testing. A 2002 report on the project is on the SARE database at http://www.sare.org/reporting/report_viewer.asp?pn=LNE01-154&ry=2002&rf=0



A report on the material efficacy trials is on the web at
<http://www.organic.cornell.edu/research/pdfs/omrieffi.pdf>

Seaman, New York State Agricultural Experiment Station in Geneva, phone 315-787-2422, e-mail ajs32@cornell.edu.

7. Associate professor in horticulture Laurie Drinkwater received OFRF funding to conduct a study "On-farm nutrient budgets in organic cropping systems: a tool for soil fertility management." The project will develop a way for organic growers to evaluate nitrogen availability based on nutrient inputs and exports. A report will be available from OFRF in 2005. Contact Drinkwater, phone 607-255-9408, e-mail led24@cornell.edu.
8. Graduate student Frank Kutka, received an OFRF grant to study "Strategies for growing corn under low-nitrogen stress" in 2002. He conducted on-farm corn variety trials for performance under low-nitrogen conditions. A report is available from OFRF. Contact Kutka, phone 607-564-0278, e-mail fk29@cornell.edu.
9. Horticulturist Terence Robinson, based at the New York State Agricultural Experiment Station in Geneva, received two years' of OFRF funding to study "Insect management and fruit thinning in commercial organic apple production systems in New York" in 2000-2001. Though pest control results were spotty, organic fruit thinning practices were successful. A final report is available from OFRF. Contact Robinson, phone 315-787-2227, e-mail tlr1@cornell.edu
10. Ynte Schukken and Linda Tikofsky with Cornell's Quality Milk Production Services received an OFRF grant for the project "Comparing antibiotic susceptibility patterns for Staphylococcus aureus in organic and traditional dairy herds." Carried out in 2001, the research found greater antibiotic resistance in microbes isolated from conventional milk than from organic milk. A report is available from OFRF. A brief summary may also be found on the Quality Milk Production Services website at <http://qmps.vet.cornell.edu/Research/research.htm> (scroll down to or click on Organic Research Project). Contact Schukken, phone 607-255-8202, e-mail gmps-mailbox@cornell.edu.

MULTI-PURPOSE ORGANIC CONSORTIA

1. In late 2001, Anu Rangarajan with Cornell's Horticulture Dept. received a \$1.2 million grant from the U.S. Dept. of Agriculture's Initiative for Future Agriculture and Food Systems (IFAFS) to fund the North East Organic Network, or NEON. NEON brings together farmers, researchers, Extension educators and grassroots nonprofits to improve organic farmers' access to research and technical support. Partners include farmers, researchers from Cornell Univ., the Univ. of Maine, the Connecticut Agricultural Experiment Station, Rutgers, and nonprofit organizations including the Northeast Organic Farming Associations of New York and New Jersey, the New England Small Farm Institute, the Organic Materials Review Institute, and New York Certified Organic.

Specific NEON projects include:

- ◆ The Focal Farm Project: eleven exemplary farms in the Northeast are cooperating in



gathering information on their pest control practices and assessing pest population and crop damage, to generate information for a series of case studies.

- ♦ Organic Enterprise Budgets and Whole Farm Business Analyses: data processing “tools” have been developed to generate crop budgets for organic lettuce, salad mix, winter squash, kale, tomato, potato, corn, and alfalfa; and to assess profitability of farms marketing through either retail, wholesale, or CSA outlets.
- ♦ A “decision-support tool” for planning crop rotations has been developed based on the expertise of 12 experienced organic vegetable growers.
- ♦ Cover crop screening project involving 42 growers in the Northeast (see details under Maine, “research, production,” #2).
- ♦ Nutrient budgeting: a database of crop and soil amendment nutrient contents from organic farms has been compiled and important sources of variability are being identified in order to generate nutrient budgets for organic farmers.
- ♦ Efficacy of organic pest control products: the scientific literature and data from greenhouse and field trials were reviewed to determine effectiveness of OMRI-approved insecticides. The 500-page binder of information will be drafted in the form of grower friendly data sheets reporting on efficacy of these materials.

NEON maintained communications in 2002 with a monthly newsletter sent during the growing season. In 2003, NEON will organize five field days on various farms and develop a Who's Who listing of organic expertise for the Northeast.

Anu Rangarajan of Cornell's Department of Horticulture heads the project: e-mail ar47@cornell.edu, phone 607-255-1780. A farmer, Steve Gilman, has been hired to manage the project: e-mail shg7@cornell.edu, phone 518-583-4613. Website at <http://www.neon.cornell.edu/>

2. The Public Seed Initiative is another IFAFS-funded project that is working with farmers to strengthen the regional seed supply. Partners in the project are Cornell Depts. of Plant Breeding and Horticulture, Northeast Organic Farming Association New York (NOFA-NY), USDA-ARS's Plant Genetic Resources Unit in Geneva, and the Farmer's Cooperative Genome Project-Oregon Tilth. Activities include seed production workshops; on-farm organic trials of cucurbit varieties developed by Cornell breeders; a Mobile Seed Processing Unit that travels around the state to train growers how to use the equipment and allows them to use it on their own seed; and an annual field day. For more information, contact project manager Matt Falise, phone 607-254-6442, e-mail mf93@cornell.edu, or Michael Glos with NOFA-NY, phone 607-657-2860, e-mail michaelglos@nofany.org. The project's website is <http://www.plbr.cornell.edu/psi/>

EXTENSION

1. Cornell Cooperative Extension educators in three “Southern Tier” counties organized a meeting with organic farmers in Feb. 2003 designed to build a closer working relationship between Extension and the organic community. Extension contacts are Jim Ochterski -Schuyler County, 607-535-7161, e-mail jao14@cornell.edu; Monika Roth - Tompkins County, 607-272-2292; Tyrone Hall - Tioga County, 607-687-4020.



2. A three-day workshop on organic vegetable production was held in January 2003 at the NY State Agricultural Experiment Station, Geneva. Farmers and university researchers presented information on soil and nutrient management, and weed, insect, and disease management. Contact Abby Seaman, New York State IPM Program, 315-787-2422, e-mail ajs32@cornell.edu.
3. Cornell's Small Farms Program has a number of programs and resources that benefit organic farmers:
 - ♦ The Small Farms Program created a workbook, *The organic decision: making the transition to organic dairy production*. The 40-page workbook, released in Sept. 2002, contains a discussion of the trends in organic milk pricing, budget worksheets, information on forage production, and herd health information. It costs \$12 and may be ordered by calling 607-254-7412, or e-mailing fsb1@cornell.edu. A workshop on making the transition to organic dairy was offered in Nov. 2002.
 - ♦ The Small Farms Program has contracted with the USDA Agricultural Marketing Service to conduct a survey of organic feed grain supplies in the Northeast region. Farmers and grain buyers are being surveyed to determine the anticipated supply of organic feed grains for the years 2002-2004. A final report will be available early in January 2003.
 - ♦ The Cornell Small Farms website contains resources on organic production at http://www.cals.cornell.edu/agfoodcommunity/afs_temp3.cfm?topicID=415 and on organic marketing at http://www.cals.cornell.edu/agfoodcommunity/afs_temp3.cfm?topicID=424.

For more information, visit Cornell's Small Farm website at www.smallfarms.cornell.edu, or contact the Small Farm Program: Dave Smith, phone 607-255-7286, e-mail rds4@cornell.edu, or Joanna Green, phone 607-255-9227, e-mail jg16@cornell.edu.

4. Cooperative Extension Pest Management Guidelines for Commercial Tree Fruit Production 2003 contains a chapter on organic tree fruit production. On the web at <http://www.nysaes.cornell.edu/ent/treefruit/03html/otf03.html> (author not indicated)
5. Brian Caldwell, Extension educator with the South Central New York Fruit and Vegetable program, has posted a number of organic publications on the web, including:
 - ♦ *Production and marketing of organic potatoes in New York*
<http://www.cce.cornell.edu/scnyag/vegfruit/articles/orgpotato.html>
 - ♦ *Growing organic strawberries*
<http://www.cce.cornell.edu/scnyag/vegfruit/articles/orgstrawberries.htm>
 - ♦ *Holistic organics and biostrip intercropping*
<http://www.cce.cornell.edu/scnyag/vegfruit/articles/biostrip.html>

Contact Caldwell, phone 607-687-4020, e-mail bac11@cornell.edu

6. Yates County Extension educator Judson Reid has written articles on the growing organic activity in his county and lists county organic farms on a web page at <http://www.cce.cornell.edu/yates/yatesorganic.htm>



This page links to a brief essay by Reid on the county's organic grain and feed, dated Aug. 2002. Reid also wrote a column on organic, reporting on a survey of Ithaca consumers' attitudes about organic:

<http://www.cce.cornell.edu/yates/organic%20again.htm>

Contact Reid, phone 315-536-5123, e-mail jer11@cornell.edu.

7. Marvin Pritts, professor in Small Fruit Production Systems, has posted organic articles on his website:

- ♦ *Organic Small Fruit: Key features of organic berry crop production.* no date
<http://www.hort.cornell.edu/departement/faculty/pritts/organicres.htm>

- ♦ *Organic strawberry production* (discusses research needs and establishment costs). with Joe Kovach. no date.
<http://www.hort.cornell.edu/departement/faculty/pritts/organic.htm>

Pritts, phone 607-255-1778, e-mail mpp3@cornell.edu

8. Clinton and Essex County website on organic, including the research at Willsboro:
<http://www.cce.cornell.edu/clinton/ag/sustainable.html>

9. Thoughtful article on the 2002 Baker et al. study showing lower pesticide residues on organic produce, by nutritionist Christina Stark. 2002.
<http://www.cce.cornell.edu/food/fsarchives/050602/pesticide.html>

10. In 1997, Anu Rangarajan with the Dept. of Horticulture, Brian Caldwell with Extension, and grower Steve Gilman formed an organic advisory council to inform the university about organic producers' research needs, structured on the model of a commodity advisory group. Over the next few years of meetings, the group gave rise to the NEON project described above, and in 2001 was recognized by the university as an Extension Program Work Team. In 1999, an anonymous donation was made to the Horticulture Dept. to fund organic research. Consequently, the advisory group-turned work team has assisted in disbursing these funds through a competitive grants program open to Cornell faculty, students, staff, Extension educators, and New York farmers. Summaries of funded research were published in 2000 and 2001, and are available through the Program Work Team website. Research priorities were gathered from organic growers in 2000 and are also listed on the website. Co-chairs are Anu Rangarajan and Abby Seaman. Rangarajan, phone 607-255-1780, e-mail ar47@cornell.edu; Seaman phone 315-787-2422, e-mail ajs32@cornell.edu, website <http://www.organic.cornell.edu/index.html>

11. The proceedings from a 1995 international symposium on organic wine and grape production, *Organic viticulture in New York*, the culmination of a 5-year multi-disciplinary project on the topic, is available on the web at
<http://www.nysaes.cornell.edu/hort/faculty/pool/organicvitwkshp/tabofcontents.html>

Printed copies may be ordered by calling 607-255-2080.



E D U C A T I O N

The Dilmun Hill Student Farm continues to be a site for education and research. Located on 12 acres across the street from the Cornell campus, the farm is planted primarily to market vegetable crops, with some of the area in flowers and forage crops. Beekeeping and permaculture are also being explored at Dilmun Hill. Cornell students are able to conduct research at the farm, and have done studies on insect populations in different crops and the effect of ground covers on beneficial insect populations. School children are given the opportunity to grow produce on the farm during the summer and market it at local community centers. Students now have access to an organically managed greenhouse as well. A pilot organic gardening class will be taught at the farm in summer 2003. The farm has a strong volunteer program that rewards volunteers with produce from the farm. A report on the farm's activities is on the web at

<http://www.organic.cornell.edu/facilities/dilmun.html> The farm has its own website at <http://www.hort.cornell.edu/department/facilities/dilmun/index.html>.

Contact Marguerite Wells, phone 607-227-0462, e-mail mw38@cornell.edu, or faculty advisor Ian Merwin, phone 607-255-1777, e-mail im13@cornell.edu

NORTH CAROLINA

NORTH CAROLINA STATE UNIVERSITY, 1862, RALEIGH

**39 certified acres,
29.54 transitional acres,
7.45 acres managed organically,
7-acre certified student farm**

R E S E A R C H , P R O D U C T I O N

1. On the site of an old mental hospital, within eye- and earshot of a prison, spreads the remarkable research facility known as the Center for Environmental Farming Systems (CEFS). Located on more than 2,000 acres outside of Goldsboro, there are four main research units at CEFS: organic systems, animal systems, farming systems, and conservation tillage. The original 80 certified organic research acres at CEFS were flooded as the result of hurricanes in 1996 and 1999, so the Organic Unit was moved to higher ground and put through the transition to organic again. Researchers are taking advantage of the massive flooding by sampling from geo-referenced sites and assessing flood impacts on agricultural soils.

Currently, there are 25 certified acres in the production area at CEFS that is not part of any particular "unit." At the Organic Unit, 8 acres are certified in the research area, and the 7-acre student farm is also certified. The Farming Systems Trial, which has a significant organic component, has 6 acres certified and another 29.54 acres that are in some stage of transition.

Research and education at CEFS is done under the direction of an advisory committee comprised of representatives from North Carolina State Univ., North Carolina Agricultural and Technical State Univ. (NCA&T), North Carolina Dept. of Agriculture



and Consumer Services, farmers, NGOs, and other state and federal agencies. Most of the research conducted at the site is long-term, systems-oriented, and interdisciplinary. Many scientists from a broad range of disciplines cooperate on projects at CEFS.

Research projects currently at the Organic Unit include:

- ♦ Effects of crimson clover and poultry litter compost on sweet corn production: Nathan McClintock and Noah Ranells
- ♦ Compost rate effects on collards and sweet corn production: Noah Ranells and Keith Baldwin (with NCA&T)
- ♦ Quality and growth characteristics of commercial beneficial insect habitat blends: Lisa Forehand, Mike Linker, David Orr
- ♦ Survey of insect populations attracted to commercial beneficial insect habitat blends and cut flower crops: Lisa Forehand, Mike Linker, David Orr
- ♦ Evaluation of beneficial insect habitat as an insect management tool for organic tomato production: Lisa Forehand, Mike Linker, David Orr
- ♦ Evaluation of summer annual grass cover crops under varying frequencies of mowing: Denise McKinney and Nancy Creamer
- ♦ Evaluation of Edamame varieties: Molly Hamilton and Mike Linker
- ♦ Evaluation of Edamame planting dates: Molly Hamilton and Mike Linker
- ♦ Evaluation of Cover Crops and Conservation Tillage for Organic Sweetpotato (*Ipomoea batatas*) Production in North Carolina: Danielle Treadwell and Nancy Creamer

CEFS funding comes from a variety of different sources. In 2001, CEFS was one of the partners on a USDA Initiative for Future Agriculture and Food Systems (IFAFS) grant, which made it part of the Organic Agriculture Coalition based at Ohio State, and brought in \$500,000 to support organic research projects at CEFS (see “Multi-purpose organic consortium” under Ohio). An NCSU press release on the IFAFS funding is at http://www2.ncsu.edu/ncsu/univ_relations/news_services/press_releases/01_03/061.htm

The Farming Systems Trial is also making important contributions to organic research. A rigorous ecological comparison of five diverse systems located on 200 acres, massive amounts of data are being collected, including above-ground biomass of cover and cash crops, nutrient/energy flows, decomposition rates, soil quality indices (physical, chemical, biological), soil microbiology, microarthropods, entomopathogens, insects, weeds, disease, crop yield and quality, and economics. The five systems are: a best management practices short-rotation cash-grain system, an organic production system, an integrated crop/animal system with a 15-year rotation, a forestry/woodlot system, and a successional ecosystem. Within the organic portion of the study, a nested trial is evaluating six distinct strategies for transitioning to organic.

Animal research at CEFS includes integrated crop-livestock research, grass-based dairy research, and rotational grazing of beef cattle. A pastured turkey study is integrated within the integrated crop/animal system, and plans are underway to integrate alternative pork production systems. The conservation tillage site has been evaluating the



effect of no-till and conventional tillage on soil ecology since 1996, and includes many regionally important crops in the rotations such as corn, soybeans, cotton, peanuts, and wheat.

CEFS is the site not only of groundbreaking agricultural systems research, it also hosts such educational opportunities as a Summer Internship in sustainable agriculture that includes production experience at the student organic farm and research experience on the other CEFS units; training for extension agents and farmers on such topics as participatory on-farm research, identifying diseases and insects in the field, pasture management, and organic grain production; and an annual CEFS Field Day open to the community.

A fall 2000 article in the College of Agriculture and Life Sciences magazine Perspectives focuses on the organic unit's recovery from the hurricanes and profiles the intern program. By Natalie Hampton:

<http://www.cals.ncsu.edu/agcomm/magazine/fall00/onhigh.htm>

For more details, including lists of associated researchers and articles published on the basis of CEFS research, refer to the CEFS website at <http://www.cefs.ncsu.edu/> Contacts for research are Nancy Creamer, CEFS director, phone 919-515-9447, e-mail nancy_creamer@ncsu.edu; Noah Ranells, coordinator of the Organic Unit, phone 919-515-7595, e-mail noah_ranells@ncsu.edu; and Paul Mueller, farming systems project coordinator, at phone 919-515-5825 , e-mail paul_mueller@ncsu.edu.

2. A three-year project, "Dispersal of *Phytophthora capsici* in Soils from Conventional and Organic Agroecosystems," was funded in 2001. Led by plant pathologist Jean Ristaino, the study's objectives are to determine level of resistance in organically managed soils to the pathogen that causes Phytophthora blight; compare resilience to disturbance of soils from conventional and organic agroecosystems; and assess relationship of soil microbial diversity to level of disease suppressiveness. Contact Ristaino, phone 919-515-3257, e-mail jean_ristaino@ncsu.edu
3. The on-station portion of a study, "Effects of organic and chemical fertility inputs on soil quality in limited resource vegetable farms," coordinated in 1995 by Virginia Tech soil scientist Greg Evanylo, was carried out at the Horticultural Crops Research Station in Clinton, led by Jean Ristaino. This study looked at disease development in organic and conventional farming systems. Cotton gin trash was found to be highly suppressive to disease in tomatoes. A recent paper has been published on this work:

Bulluck, L.R. and J.B. Ristaino. 2002. Effect of synthetic and organic soil amendments on Southern blight, soil microbial communities, and yield of processing tomatoes. *Phytopathology* 93:181-189.

The on-farm portion of the study was done on three organic and three conventional farms in Virginia and Maryland in 1996 and 1997. Yields were higher on the organic farms. A recent article on this research has been published:

Bulluck, L.R., M. Brosius, G.K. Evanylo, and J.B. Ristaino. 2002. Organic and synthetic fertility amendments influence soil microbial, physical and chemical properties on organic and conventional farms. *Applied Soil Ecology* 19:147-160.



4. Greg Hoyt at the Mountain Horticultural Crops R&E Center in Fletcher is starting his ninth year of a long-term research project comparing plowed organic vs. plowed chemical management and no-till organic vs. no-till chemical management. Hoyt is taking a systems approach to the work and is measuring yields, soil microbes, earthworms, nutrient cycling, and residue accumulation in the systems. In 2001 Hoyt received funding from OFRF to help finance the research. A total of 0.45 acres are managed organically for the work. So far three articles have been published on this research:

- ♦ Hummel, R.L., J.F. Walgenbach, G.D. Hoyt, and G.G. Kennedy. 2002. Effects of Production Practices on Vegetable Arthropods and their Natural Enemies. *Agriculture, Ecosystems & Environment* 93:165-176.
- ♦ Hummel, R.L., J.F. Walgenbach, G.D. Hoyt, and G.G. Kennedy. 2002. Effects of Vegetable Production System on Epigeal Arthropod Populations. *Agriculture, Ecosystems & Environment* 93:177-188.
- ♦ Hummel, R.L., J.F. Walgenbach, M.E. Barbercheck, G.G. Kennedy, G.D. Hoyt, and C. Arellano. 2002. Effects of Production Practices on Soil-Borne Entomopathogens in Western North Carolina Vegetable Systems. *Environmental Entomology* 31:84-91.

Hoyt is also examining the effect of soybean and cottonseed meals on chemical-free tobacco production. Contact Hoyt, phone 828-684-3562, e-mail Greg_Hoyt@ncsu.edu

5. Horticultural researcher Mary Peet received OFRF funding in 2000 for the study, "Maintaining nutrient balances in systems utilizing soluble organic fertilizers." The project compared performance of two commercially available organic fertilizer mixes and one "in-house" nutrient blend on greenhouse tomato production. The report, available from OFRF, contains a useful discussion of problems in developing organic fertility regimes for container-grown greenhouse tomatoes. A related report, *Organic Greenhouse Vegetable Production*, by graduate student Janet Miles and Peet, contains recipes for fertility amendments and is on the web at http://www.ces.ncsu.edu/depts/hort/greenhouse_veg/topics/organic-production-article.htm Contact Peet, phone 919-515-5362, e-mail mary_peet@ncsu.edu.
6. Jeanine Davis with the Mountain Hort. Crops R&E Center in Fletcher received OFRF funding to study "The integration of foliar applied seaweed and fish products into the fertility management of organically grown sweet peppers." A report will be available from OFRF in 2004. Davis, phone 828-684-3562, e-mail Jeanine_Davis@ncsu.edu.
7. Entomologists George Kennedy and Mike Linker studied levels of naturally-occurring biological control of fruitworms (*Helicoverpa zea*), hornworms (*Manduca sexta* and *M. quinquemaculata*) and aphids (*Macrosiphum euphorbae* and *Myzus persicae*) in tomatoes on four commercial organic farms. They monitored levels of pest mortality and catalogued the causes of that mortality. They also conducted a study on the quality of the commercially purchased parasitic wasp, *Trichogramma*. That study revealed numerous quality issues associated with the commercial *Trichogramma* that may have contributed to their lack of effectiveness; however, very high levels of naturally occurring biological control left little room for significant benefit from the wasps to accrue. The project,



called "Assessing the impact of beneficial insect populations on organic farms," was conducted in 1994-1998. Contact Kennedy, phone 919.515.1655, e-mail george_kennedy@ncsu.edu, or Linker, phone (919) 515-5644, e-mail Mike_Linker@ncsu.edu.

RESEARCH, CONSUMER/ECONOMIC

1. Extension economist Ada Wossink and graduate assistant Nick Kuminoff are analyzing data from CEFS to determine the profitability of organic crops. They published a discussion of organic soybean economics along with organic policy analysis in an article, *Organic agriculture in North Carolina*, published in the Sept./Oct. 2002 issue of *NC State Economist*, a Cooperative Extension publication on agricultural economics. http://www.ag-econ.ncsu.edu/VIRTUAL_LIBRARY/ECONOMIST/septoct02.PDF
2. In 2001, CEFS researchers Nancy G. Creamer and Noah N. Ranells received funding for a 3-year project, "Revitalizing Farms and Communities through High Value Organic Production: Demonstration, Education, and Marketing." The project will help farmers develop direct marketing opportunities by demonstrating Community Supported Agriculture, corporate "direct farm to consumer" web-based marketing, institutional food buying, and farmers' markets. Theresa Nartea and Bill Perry have been hired to facilitate this work. Theresa Nartea, program director of education and marketing, phone 919-515-1199, e-mail Theresa_nartea@ncsu.edu

EXTENSION

1. An organic wheat production and marketing meeting was held at CEFS in Dec. 2002 as part of the "Revitalizing Farms and Communities" project described under "Research, consumer/economic" above. Contact Theresa Nartea, program director of education and marketing, phone 919-515-1199, e-mail Theresa_nartea@ncsu.edu.
2. Debbie Roos with Chatham Co. Extension supports organic growers by conducting on-farm research and posting many resources for organic growers on the web. Her organic on-farm trials are:

- ♦ Biological Control of the Mexican Bean Beetle Using *Pediobius foveolatus*
- ♦ No-till Fall Brassica Production
- ♦ Evaluation of Beneficial Insect Habitat for Organic Farms
- ♦ Summer Cover Crop Variety Demonstration (Organic Production)

Roos's website of organic and sustainable agriculture resources is at <http://www.ces.ncsu.edu/chatham/ag/SustAg/resourcelist.html>

and include organic certification resources, <http://www.ces.ncsu.edu/chatham/ag/SustAg/orgcertlinks.html>;

a list of organic seed sources, <http://www.ces.ncsu.edu/chatham/ag/SustAg/seedlist.html> (2003);



sources for natural fertilizers and soil amendments,
<http://www.ces.ncsu.edu/chatham/ag/SustAg/fertlist.html> (2003);

and lists of books, livestock suppliers, sources of equipment and supplies, bulbs and plants, and links to other organizations and websites. Updated April 2003. Roos's overall website with links to general resources is at
<http://www.ces.ncsu.edu/chatham/ag/SustAg/index.html>

Contact Roos, phone 919-542-8202, e-mail debbie_roos@ncsu.edu

3. Web page on organic greenhouse production from the NCSU Greenhouse Food Production site: http://www.ces.ncsu.edu/depts/hort/greenhouse_veg/topics/topics-pages/Organic_Production.html There is also a slide show on Organic Greenhouse Vegetable production by Mary Peet and Janet Miles (pre-Rule) at http://www.ces.ncsu.edu/depts/hort/greenhouse_veg/organic.html
4. Jan.-Feb. 2003 McDowell County Extension web newsletter featuring organic gardening information by Daniel Smith:
http://www.ces.ncsu.edu/copubs/news/hort_mcdowell/2003-01/
Smith, phone 828-652-8104, e-mail daniel_smith@ncsu.edu
5. An up-to-date "Organic agriculture internet resource guide" was created by Jeanine Davis's graduate student Melissa Ann Pline, and is on the web at <http://www4.ncsu.edu/~mapline/ncorganic/index.htm>
6. Cumberland Co. Extension web page on organic fertilizers, 2002, by Kenny Bailey:
http://www2.ncsu.edu/ncsu/univ_relations/news_services/press_releases/01_03/061.htm
Bailey, phone 910-321-6871, e-mail kenneth_bailey@ncsu.edu
7. Watauga Co. Extension web page on organic broccoli information by Frank Bolick, 2002. <http://www.ces.ncsu.edu/watauga/broccoli.html>
Bolick, e-mail Frank_Bolick@ncsu.edu.
8. An on-line "Directory of inputs for organic agriculture," by Mary Peet and Sarah Slover (no date) is posted on NCSU's Organic Farming Systems website at http://www.ncsu.edu/organic_farming_systems/peetintro1.htm
9. The Organic Farming Systems website, site for the Organic Unit at CEFS, is somewhat out-of-date, but includes links to useful resources, including four articles by North Carolina Agricultural and Technical State Univ.'s Keith Baldwin on organic management issues, and a 1,039-entry database of organic research.
http://www.ncsu.edu/organic_farming_systems/index.htm
Baldwin's articles are
 - ♦ Soil quality considerations for organic farmers, 2000
http://www.ncsu.edu/organic_farming_systems/news/soil_quality.PDF;
 - ♦ Composting on the organic farm, 2000, with J.T. Greenfield
http://www.ncsu.edu/organic_farming_systems/news/compost.PDF
 - ♦ Soil fertility for organic farming, 2001
http://www.ncsu.edu/organic_farming_systems/news/soil_fertility.PDF



- ♦ Cover crops for organic farming, ca. 1999, with N.G. Creamer
http://www.ncsu.edu/organic_farming_systems/news/cover_crops.PDF
- 10. A 100+ page report on organic commodities in North Carolina, and a survey of organic food retailers. 1999. *An Overview of the North Carolina Organic Industry*, by Edmund Estes, Tony Kleese, Laura Lauffer, Danielle Treadwell, and Rachel Burton.
<http://www2.ncsu.edu/unity/lockers/users/e/eaestes/are17.pdf>
- 11. *Organic insect control on vegetables*, 1998, by Cabarrus Co. Extension agent David Goforth:
<http://www.ces.ncsu.edu/cabarrus/staff/dgoforth/newsart/og2.html>
Goforth, phone 704-920-3320, e-mail david_goforth@ncsu.edu
- 12. Publication, *Organic sweet corn production*, by Jeanine Davis. 1997.
<http://www.ces.ncsu.edu/hil/hil-50.html>

EDUCATION

Many educational activities are conducted at CEFS, described under “research, production,” above.

CERTIFICATION

The North Carolina Crop Improvement Association is accredited by USDA to perform organic certification. This is one of four non-profit certified seed groups associated with a land grant university that so far has received such accreditation. Call director Myron Fountain at 919-515-2851.

NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY, 1890, GREENSBORO

RESEARCH, PRODUCTION

Extension specialist Keith Baldwin is involved with many organic research projects, including:

- ♦ “Compost: an efficient nutrient management tool for animal waste,” is a project at NCSU’s Organic Unit and at NCA&T. At the A&T Farm, nitrogen availability in poultry waste compost for crop growth will be assessed, and the relationship of compost C:N ratio to the compost nitrogen mineralization are under investigation. Cooperator Noah Ranells, NCSU.
- ♦ “Cover cropping and residue management for weed suppression, soil fertility, and organic production systems,” a SARE-funded project focused on designing organic systems that integrate crop management approaches to compete with weeds, build soil fertility, and produce high-value organic crops. Cover crops were planted in fall 2002 to start the project, and edamame soybeans planted into residues in May. A report on the first year is on the web at
http://www.sare.org/reporting/report_viewer.asp?pn=LS02-132&ry=2002&rf=0



- ♦ pawpaw, peach, and pear variety trials are underway to determine best organic management practices for southeastern growers. This is part of “An initiative for specialty crop production and marketing research for small farmers” project that will develop at least 16 alternative and value-added agricultural enterprises.

Contact Baldwin, phone 336-334-7957, e-mail kbaldwin@ncat.edu

EDUCATION

A SARE professional development grant made in 2000, “Training in Alternative Research Strategies for Sustainable Farming Systems,” is supporting a graduate course in participatory on-farm research. Extension agents are attending class sessions, forming partnerships with growers, selecting research projects initiated by these growers, and conducting on-farm experiments this season. Agents are learning appropriate experimental design and analysis and the benefits of the participatory on-farm research model. Keith Baldwin with NCA&T is managing this project, along with NCSU researchers Nancy Creamer, Frank Louws, and Noah Ranells, and Scott Marlow with the Rural Advancement Foundation International. The course is being taught at North Carolina State Univ. Contact Keith Baldwin, phone 336-334-7957, e-mail kbaldwin@ncat.edu

NORTH DAKOTA

NORTH DAKOTA STATE UNIVERSITY, 1862, FARGO

8.5 acres in transition

2.06 acres managed organically

RESEARCH, PRODUCTION

1. Extension center-based researchers Patrick Carr and Steve Zwinger are managing on-farm organic small grain variety trials that began with farmer interest in developing seed varieties suited to their cropping conditions. Galvanized by a workshop at a Northern Plains Sustainable Agriculture Society (NPSAS) meeting, Carr and Zwinger worked with farmers Duane Boehm and David Podoll to conduct preliminary oat, wheat, and barley variety trials in 2001. A report on the first year results from Boehm’s farm in western North Dakota are in the Dickinson Research Extension Center’s 2002 annual report, on the web at

<http://www.ndsu.nodak.edu/dickinso/research/2001/agron01b.htm>

The trial was expanded in 2002 to include more varieties and two additional on-farm sites in Minnesota. OFRF provided funding for some of this work. A report on the second year at Boehm’s is on the web at

<http://www.ag.ndsu.nodak.edu/dickinso/research/2002/PDF/agron02h.pdf>.

Links to individual tables of results from the 2002 organic oat, wheat, and barley variety trials at Boehm’s are at

<http://www.ag.ndsu.nodak.edu/dickinso/02data/organic.htm>



Zwinger, based at the Carrington Research Extension Center, has worked with David Podoll in eastern North Dakota to evaluate oats and hard red spring wheat varieties under organic conditions since 2001. They are also evaluating and increasing approximately 32 older wheat, emmer, einkorn, and spelt varieties. Two-year and 2002 results from these variety trials were published in the 2002 Carrington Annual Report and are on the web at

<http://www.ag.ndsu.nodak.edu/carringt/02data/2002oat.pdf> and

<http://www.ag.ndsu.nodak.edu/carringt/02data/2002ohrsw.pdf>.

An overall description of this project was published in the 2001 Carrington Annual Report and is on the web at

<http://www.ag.ndsu.nodak.edu/carringt/01data/2001%20Annual%20Report/organic.htm>

Specific data from the first-year trial are at

<http://www.ag.ndsu.nodak.edu/carringt/01data/2001OOat.pdf>

<http://www.ag.ndsu.nodak.edu/carringt/01data/2001OHrsw.pdf>

A description of the project from the farmers' point of view is on the NPSAS website at <http://www.npsas.org/OVT.html> This page also contains links to results. See "Of note" below for more about the Northern Plains Sustainable Agriculture Society.

Contact Carr, phone 701-483-2581, e-mail pcarr@ndsuent.nodak.edu;

Zwinger, phone 701-652-2951, e-mail szwinger@ndsuent.nodak.edu

2. Patrick Carr at the Dickinson Research Extension Center started a "Long term organic and tillage study (LOTS)" in 1999 that compares the performance of two 4-year no-till rotations with a 6-year organic rotation that uses tillage. A 2002 report on the first two years of the study is on the web at

<http://www.ag.ndsu.nodak.edu/dickinso/research/2001/agron01d.htm>

An 8.5-acre tract of land at the Dickinson Research Extension Center is under transition to be a certified organic field within the next three years. It will be the first certified organic field within the land grant system in North Dakota that is dedicated exclusively to organic farming research. Contact Carr, phone 701-483-2581, e-mail pcarr@ndsuent.nodak.edu

RESEARCH, ECONOMIC / CONSUMER

1. Projected 2003 organic crop budgets for south central North Dakota may be found on the web at <http://www.ext.nodak.edu/extpubs/agecon/ecguides/2003org.pdf>. Dated Jan. 2003, written by Andrew Swenson, Brad Brummond, and Ron Haugen.
2. A final report dated Feb. 2001 on the 1998 SARE project "Marketing Sustainable and/or Organic Products in Small Metro Areas" is posted on the web at http://agecon.lib.umn.edu/cgi-bin/pdf_view.pl?paperid=2413&ftype=.pdf

The goal of this project was to increase sales of locally grown organic food in the Fargo, North Dakota-Moorehead, Minnesota urban area. Report authors are William



EXTENSION

Brad Brummond with Walsh Co. Extension is the NDSU Extension service organic farming contact. He maintains a website, Organic farming in North Dakota, with links to organic references at <http://www.ag.ndsu.nodak.edu/organic/index.htm>. A particularly useful page is the list of links to ten ND Extension publications on organic: <http://www.ag.ndsu.nodak.edu/organic/extpubs.htm>

Brummond also authored a 1999 Extension publication, *Organic farming: is it for me?* <http://www.ext.nodak.edu/extpubs/plantsci/crops/a1181w.htm>

Brummond is working on a project to attempt to identify strategies for coexistence between organic farmers and farmers who grow genetically modified crops. A 2001 article by him summarizes the issue: <http://www.biotech.iastate.edu/publications/IFAFS/Brummond.pdf>

Contact Brummond, phone 701-284-6624, e-mail bbrummon@ndsuext.nodak.edu

OF NOTE

The Northern Plains Sustainable Agriculture Society (NPSAS) has actively supported organic farmers' interests in North Dakota and the high plains for 23 years. The organization has stimulated land grant participation in organic research, and has functioned as a watchdog over public seed breeding programs and the potential for genetic contamination of public seed by GMOs. NPSAS sponsors an active Farm Breeder Club to develop varieties suitable to local growing conditions. They are coordinating a project to test grower-saved seed for gradual adaptation to its environment. In 2002, NPSAS presented administrators at four regional land grant universities with petitions demanding that planting and handling of genetically modified seed be prohibited at locations where public seed breeding is conducted. NPSAS has released a position paper on agricultural research, endorsing a "marketing the farm instead of farming the market" approach to guiding research priorities. Information on all these projects and more can be accessed through the NPSAS website at <http://www.npsas.org/home.html> Contact executive director Theresa Podoll, phone 701-883-4304, e-mail tpnpsas@drtel.net, or program director Tonya Haigh at phone 605-627-5862, e-mail trhaigh@itctel.com



OHIO STATE UNIVERSITY, 1862, COLUMBUS

32.46 acres certified,

13 acres transitional

RESEARCH, PRODUCTION

1. The Ohio State Organic Food and Farming Education and Research (OFFER) program remains one of the most ambitious organic research programs in the country. Managed by an interdisciplinary team of Ohio State researchers working with local organic farmers, OFFER has outreach, research, and education components. Most of the field research is being conducted on certified or transitional fields at research farms at the Ohio Agriculture Research and Development Center in Wooster. Here is a list of the studies being conducted under the OFFER umbrella:

Transition studies in field crop and vegetable-grain production systems include:

- ♦ a comparison of conventional corn-soybean with a transitional organic corn-soybean-small grain-hay rotation. A farmer advisory board is working with a “multi-disciplinary” team of researchers. Measurements will be made on soil quality, nutrient cycling efficiency, carbon sequestration, crop quality and production, soil invertebrate populations, weed ecology, and profitability. Established spring 2000 at West Badger Farm, Wooster. Contact Deb Stinner.
- ♦ a comparison of five farming systems examining economic costs and benefits to farmer and to society, changes in soil quality, and carbon sequestration. The five systems are a conventional no-till corn-soybean-wheat rotation; integrated corn-soybean-wheat with no- and reduced-till; a transitional organic; a high input transition organic grains and vegetables; and low-input transitional organic multi-crop grains. These systems are being managed in long strips with farm-scale equipment. Established in spring 2001, at the John Hirzel Sustainable Agriculture Research and Education Site at Bowling Green. Contact Deb Stinner.
- ♦ a tomato-cabbage cover crop transition experiment that compares fertility amendments and weed management techniques, initiated in 2001 at the Fry Farm in Wooster. Contact Matt Kleinhenz, phone 330-263-3810, e-mail kleinhenz.1@osu.edu.

Component studies include:

- ♦ organic soybean and corn seed production strategies. Contact Mark Bennett, phone 614-292-3864, e-mail bennett.18@osu.edu
- ♦ a series of experiments comparing the influence of five different fertility sources on corn, soybean, small grain and hay quality. OFRF has funded part of this project, “Investigating relationships between food quality and soil quality in organic farming systems,” that will analyze organic corn grain for protein class and amino acid profiles. The fertility amendments include raw manure, three kinds of compost, and chemical fertilizer. Contact Larry Phelan, phone 330-263-3728, e-mail phelan.2@osu.edu.



- ♦ hard wheat production experiments attempting to improve protein level and baking quality of organic wheat. Contact Deb Stinner.
- ♦ fall/spring tillage experiment that is also testing tine weeder performance compared with a rotary hoe in soybeans and corn. The first year was funded by OFRF for “Evaluation of in-row weed cultivators in organic soybeans and corn,” Athanasios Alexandrou, phone 330-264-1219, e-mail alexandrou.2@osu.edu
- ♦ hot water treatment of organic vegetable seeds to eradicate plant pathogens. Contact Sally Miller, phone 330-263-3678, e-mail miller.769@osu.edu
- ♦ nutrient and weed management interactions in potatoes. Contact Matt Kleinhenz, phone 330-263-3810, e-mail kleinhenz.1@osu.edu.
- ♦ evaluation of alternatives for foliar and fruit disease control in organic processing tomatoes. Contact Sally Miller, phone 330-263-3678, e-mail miller.769@osu.edu
- ♦ production of new crops with markets in urban areas, such as Asian eggplant, bitter melon, huitlacoche, specialty and sweet potato. Contact Matt Kleinhenz, phone 330-263-3810, e-mail kleinhenz.1@osu.edu.
- ♦ matted row transitional strawberry production. Contact Joe Kovach, phone 330-263-3846, e-mail kovach.49@osu.edu.
- ♦ effects and modes of action of vermicomposts on growth of field horticultural crops. Contact Clive Edwards, phone 614-292-3786, e-mail edwards.9@osu.edu.

On-farm studies include:

- ♦ On-farm corn variety trials in 2001 and 2002. OFRF funded this work in 2002 by supporting the project “Evaluating corn varieties for organic crop production.” (See #2 below.) Contact Phil Rzewnicki, phone 614-292-0117, e-mail rzewnicki.1@osu.edu
- ♦ Geographic Information Systems (GIS) analysis of organic farms to characterize flows of nutrients, organisms (including pests), energy, supplies, income/currency, markets, and information. Contact Casey Hoy, phone 330-263-3611, e-mail hoy.1@osu.edu
- ♦ comparing weed communities on organic and conventional vegetable farms across Ohio. Contact Doug Doohan, phone 330-202-3593, e-mail doohan.1@osu.edu

Marketing efforts include:

- ♦ building a relationship between growers and a consumer co-op buyer to sell Ohio-grown transitional soybeans and edamame to Japan. Contact Richard Moore, phone 330-202-3538, e-mail moore.11@osu.edu.
- ♦ helping create a stakeholder-owned distribution system for organic, transitional, and sustainably grown farm products. Contact Shoshanna Inwood, phone 330-202-3527, e-mail inwood.2@osu.edu

Educational efforts include:

- ♦ training graduate students through involvement with organic research projects;



- ♦ presenting an organic farming course at OSU (see under “Education” below).

Outreach efforts have so far included:

- ♦ a 2001 training for Extension and NRCS personnel on the transition to organic livestock production;
- ♦ preparation of an organic field crop transition manual;
- ♦ Holistic Management whole farm planning workshops in 2001 and 2002;
- ♦ an introduction to organic grain production workshop in 2001;
- ♦ two organic grain production seminars were offered in 2002;
- ♦ an annual OFFER field day;
- ♦ a series of workshops presenting research results at the Ohio Ecological Food and Farming Assoc. (OEFFA) annual meetings in 2002 and 2003.

The Proceedings of the March 2003 OFFER Horticulture Workshop, held at the 24th annual OEFFA Conference, features results of the tomato-cabbage cover crop transition experiment; disease control in organic processing tomatoes; flame weed control in cabbage and tomatoes; a comparison of weed communities in Ohio organic and conventional farms; results of new crop studies; organic potato production; marketing strategies to restaurants and retail outlets; hot water treatment of organic vegetable seed to eradicate pathogens; and matted row transitional strawberry production. On the web: <http://www.organicinfo.org/upload/OEFFA03%2Dworkshop%2Epdf>

Numerous additional OSU researchers are involved with this work, including John Cardina, field crop weed ecologist; Parwinder Grewal, nematodes; Brian McSpadden-Gardener, plant pathology; Fred Michel, composting engineer; David Munn, field crop agronomist; Richard Moore, social scientist and marketing; Ben Stinner, soil quality; Robin Taylor, experimental design and statistical analyses; Dave McCartney, agricultural system management and laboratory evaluation measures of soil quality. Farm advisors include Perry Clutz and Asa Chester, Charlie Eselgroth, Harold Hartzler, Joe Hartzler, Art Rigenbach, Harv Roehling and Rex Spray. Contact program director Deb Stinner, phone 330-202-3534, e-mail Stinner.2@osu.edu. OFFER website is at <http://www.oardc.ohio-state.edu/offer/default.htm>

2. Phil Rzewnicki, on-farm research coordinator with OARDC and OSU Extension, has managed an on-farm organic corn breeding effort in Ohio since 2000. He received OFRF funding for the project “Evaluating corn varieties for organic crop production,” which funded the 2001 trials. A report is available from OFRF. A report on the 2000 on-farm trials is in Special Circular 179-01, *Agronomic crops team on-farm research projects 2000*, on the web at http://ohioline.osu.edu/sc179/sc179_17.html

Contact Rzewnicki, phone 919-513-7347, e-mail phil_rzewnicki@ncsu.edu (Rzewnicki is now at North Carolina State Univ.)

3. A major project is underway to assess the potential of organic ecosystems to store more carbon than conventional agroecosystems. Carbon sequestration potential will be measured in organic, transitional organic, and conventional agricultural systems managed for the OFFER project described above (#1). There is also an on-farm component. Contact Deb Stinner, phone 330-202-3534, e-mail Stinner.2@osu.edu



4. Recognizing the particular challenges of the “peri-urban” organic farmer (proximity to urban areas, development pressure, high land costs, neighbor opposition to farm practices), Matt Kleinhenz is coordinating a multidisciplinary, on-station and on-farm project in which eight distinct transition strategies are being compared. Information from the project will help farmers select a strategy appropriate for them. It will also help identify changes that may occur in the physical, chemical and biological components of farming systems when using specific strategies. Contact Kleinhenz, phone 330-263-3810, e-mail kleinhenz.1@osu.edu.
5. Matt Kleinhenz received SARE funding in 2002 for a project “Variety evaluation, selection and management for organic vegetable systems,” targeted at providing information on which crop varieties perform best under organic management systems. Numerous varieties of high-value crops such as cabbage, lettuce, and potato will be grown on certified organic research station land and on grower-cooperator farms. Farmers, consumers, scientists, and produce buyers will participate in evaluating the different varieties. Contact Kleinhenz, phone 330-263-3810, e-mail kleinhenz.1@osu.edu.
6. Ohio State natural resources researchers have studied cottonseed meal as a food source for farm-raised trout in an attempt to facilitate production of certified organic fish. Though cottonseed meal is toxic to some fish, rainbow trout are resistant to the toxin gossypol found in the meal. For more information, contact Konrad Dabrowski, phone 614-292-4555, e-mail dabrowski.1@osu.edu
7. Plant pathologist Brian McSpadden-Gardener is leading an effort to determine the impact of organic amendments on soil microbial communities, and to trace the relationship of these microbes to plants’ ability to resist pathogens. In 2002, he measured the impact of composted and raw dairy manure on crop productivity in a transitional vegetable system at OFFER. Much of the work involves establishing laboratory procedures for assessing the presence of certain classes of organisms. Contact McSpadden-Gardener, phone 330-202-3565, e-mail bbmg+@osu.edu.

MULTI-PURPOSE ORGANIC CONSORTIUM

Ohio State Univ. was the lead institution for a USDA Initiative for Future Agriculture and Food Systems (IFAFS) grant awarded in 2000. Officially titled “Revitalizing small and mid-sized farms: organic research, education, and extension,” the grant established the Organic Agriculture Consortium, a partnership between Ohio State Univ., Iowa State Univ., North Carolina State Univ., Tufts Univ. School of Nutrition, Science and Policy, and the Organic Farming Research Foundation. The \$1.8 million award for the multi-year project was the largest ever single grant awarded for organic research and extension in the U.S.

Consortium activities have ranged from conducting intensive organic production research, to studying consumer perceptions of organic products, to creating a website that accesses a searchable database of organic research around the world (visit www.organicaginfo.org). A 2002 report on project activities is on the web at <http://cris.csrees.usda.gov/cgi-bin/starfinder/?path=fastlink1.txt&id=anon&pass=&search=AN=0186591&format=WEBFMT7>

Contact Sally Miller, phone 330-263-3678, e-mail miller.769@osu.edu



EXTENSION

1. An index to on-line organic crop and livestock production resources is maintained by the Ohio Ecological Food and Farm Association, funded by the Ohio Environmental Education Foundation at <http://www.oeffa.com/extens.html>
2. Extension Fact sheet HYG-1257-02, *Intensive organic gardening*, by Travis Beck and Martin Quigley. <http://ohioline.osu.edu/hyg-fact/1000/1257.html>
3. Phil Rzewnicki, on-farm research coordinator with OARDC and OSU Extension, conducted a survey of Ohio organic farmers in 1999. The results are summarized in Special Circular 174-00, *Ohio organic producers: final survey results*, on the web at http://ohioline.osu.edu/sc174/sc174_2.html

EDUCATION

A 3-credit course, Principles of organic farming and gardening, is taught by soil scientist David Munn. Syllabus on web at <http://www.ag.ohio-state.edu/~ag-soils/t220syl.htm>

Munn, phone 330-264-3911, e-mail munn.1@osu.edu

OKLAHOMA

OKLAHOMA STATE UNIVERSITY, 1862, STILLWATER

no organic found

LANGSTON UNIVERSITY, 1890, LANGSTON

no organic found

OREGON

OREGON STATE UNIVERSITY, 1862, CORVALLIS

2.5 acres transitional

RESEARCH, PRODUCTION

1. A 2 ½ acre block of cherries is slated to be certified organic by Oregon Tilth at the Mid-Columbia Agricultural Research and Extension Center in Hood River. Research on fertility management and weed control will be conducted by horticulture professor and extension pomologist Anita Azarenko. Another organically managed block is planned for the future. Contact Azarenko, phone 541-737-5457, e-mail azarenka@science.oregonstate.edu



2. Soil scientist Alexandra Stone received an OFRF grant in 2001 to study “Organic soil management and induced systemic resistance in vegetable crops.” It involves taking soil samples from a “chronosequence” of farms that have been under organic management for varying amounts of time and measuring the induced systemic resistance in plants growing in each soil type. Other variables measured are soil light fraction content, microbial activity, texture, and soil and plant nutrient status. Stone, phone 541-737-5461, e-mail stonea@bcc.orst.edu

EXTENSION

Organic fruit production website:

<http://oregonstate.edu/dept/hort/orchardnet/organic/index.html>

EDUCATION

The OSU Organic Growers Club is a group of students who got together to gain hands-on experience growing organic vegetables. They manage a small CSA. The group pays rent for their land and purchases all their own materials. Information is available on their website: http://www.css.orst.edu/organic_grower/ Faculty advisor: John Bassinette, e-mail John.Bassinette@orst.edu

PENNSYLVANIA

PENNSYLVANIA STATE UNIVERSITY, 1862, UNIVERSITY PARK

RESEARCH, PRODUCTION

Plant pathologist James Travis with the Fruit Research and Extension Center in Biglerville received SARE funding in 2001 to work with organic grape growers to investigate compost for suppressing disease and improving vine and soil health. The project has both experimental and educational objectives. After 19 months, compost appeared to have a significant effect on soil microbial activity. A 2002 annual report is on the SARE database at http://www.sare.org/reporting/report_viewer.asp?pn=LNE01-150&ry=2001&rf=0

Other data are available from the Northeast SARE office by calling 802-656-0471. Contact Travis, phone 717-677-6116, e-mail jwt2@psu.edu

EXTENSION / EDUCATION

Since Feb. 2000, Extension Agent Mena Hautau with Berks County Cooperative Extension has held a series of meetings on organic production and marketing in Southeast Pennsylvania. Contact Mena Hautau, mmh10@psu.edu, phone 610-378-1327.



Leon Weber with the Rodale Institute received SARE funding in 2000 to provide training to Cooperative Extension personnel on organic grain production and marketing. Three training sessions were held in 2001 at Rodale and nearby farms in Pennsylvania and Maryland. A handbook, *Organic grain: cropping system and marketing*, was produced and distributed to Extension agents. A final report on the project and its follow-up evaluation is on the SARE database at

http://www.sare.org/reporting/report_viewer.asp?pn=ENE00-058&ry=2002&rf=1

For more information, contact Bill Liebhardt, phone 610-683-1416, e-mail bill.liebhardt@rodaleinst.org

R H O D E I S L A N D

UNIVERSITY OF RHODE ISLAND, 1862, KINGSTON

The W. Alton Jones environmental education center in West Greenwich has two certified organic gardens located at the Historic Woodvale Farm and Gardens, site of a day camp for 5-8 year-olds. <http://www.wdg.uri.edu:3304/camp/summer/farm/woodvale.html>

S O U T H C A R O L I N A

CLEMSON UNIVERSITY, 1862, CLEMSON

**20 acres transitional,
2 acres managed organically**

R E S E A R C H , P R O D U C T I O N

Clemson's Sustainable Agriculture Program conducts organic research, demonstration, education, and marketing programs. Twenty acres at the Calhoun Field Laboratory are in the transition to organic certification, and a pilot CSA project in summer 2002 has become a regular program there. Seasonal vegetables, culinary herbs, cut flowers and free-range poultry are produced at the site. Work has been done to evaluate cover crops and mulches for weed and nematode suppression. Formal research trials were initiated in 2002 and include studies to evaluate velvetbean in rotation with vegetables to enhance soil quality and suppress weeds and nematodes, evaluation of compost extract for control of fungal diseases on tomato, and biofumigation with brassica crops for weed control in vegetable and cut flower production. There are also four research studies on free-range poultry production. Local farmers and extension agents have input into project planning, and a range of research scientists participate as well. Led by Sustainable Agriculture coordinator Geoff Zehnder, phone 864-656-6644, e-mail zehnder@clemson.edu



EDUCATION

1. A series of six in-service trainings on sustainable/organic farming is being held through 2003 to provide Extension agents with resources with which to advise growers interested in adopting more sustainable production practices, and/or transitioning to organic. Funded by the SARE professional development program. Contact Janet Scott, jscott@clemson.edu, or Geoff Zehnder, zehnder@clemson.edu.
2. The South Carolina Botanical Gardens, located on the Clemson Univ. Campus, has approximately 2 acres devoted to evaluation/demonstration of heirloom vegetables grown using organic production practices. For more information on the heirloom vegetable program, contact Dr. David Bradshaw at dbrdshw@clemson.edu.

CERTIFICATION

The Dept. of Fertilizer and Seed Certification Services also offers organic certification services. Contact David Howle, phone 864-646-2140, e-mail dhowle@clemson.edu. On the web at <http://fscs.clemson.edu/Organic/Organic.htm>

SOUTH CAROLINA STATE UNIVERSITY, 1890, ORANGEBURG

no organic found

SOUTH DAKOTA

SOUTH DAKOTA STATE UNIVERSITY, 1862, BROOKINGS

RESEARCH, CONSUMER / ECONOMIC

Agricultural economist Thomas Dobbs continues to generate analyses of economic issues affecting organic markets in the U.S. and Europe, including:

- ♦ Prices of crop products grown organically in the Northern Plains and the Upper Midwest. April 4, 2003. South Dakota State Univ. Economics Commentator.
- ♦ French Quality and Eco-labeling Schemes: Do They Also Improve the Environment? 2003. with Genevieve Nguyen, Sherry Bertramsen, and Bruno Legagneux. On the web at <http://agecon.lib.umn.edu/cgi-bin/detailview.pl?paperid=8795>
- ♦ "Quality" and "Eco-labeling" of Food Products in France and the United States. Nov. 2002. with Sherry Bertramsen and Genevieve Nguyen. SDSU Econ Staff Paper 2002-7. On the web at <http://agecon.lib.umn.edu/cgi-bin/detailview.pl?paperid=6539>
- ♦ U.S. and European trends and policies regarding organic agriculture. Nov. 1, 2002. South Dakota State Univ. Economics Commentator.



Past issues of the Economics Commentator may be requested from Dobbs,
phone (605) 688-4874, e-mail thomas_dobbs@sdstate.edu

T E N N E S S E E

UNIVERSITY OF TENNESSEE, 1862, KNOXVILLE

no organic found

TENNESSEE STATE UNIVERSITY, 1890, NASHVILLE

no organic found

T E X A S

TEXAS A&M UNIVERSITY, 1862, COLLEGE STATION

154.3 acres certified

RESEARCH, PRODUCTION

The Texas Rice Improvement Association is funding organic rice research at the Texas Agriculture Research Center in Beaumont, Texas. Research station land used for this research is expanding from 32 certified acres in 2002 to 154.3 certified in 2003. A time-released fertility material has been studied, and researchers are developing rice varieties that perform well under organic management. Robert Weatherton, the Foundation Seed manager for rice, reports that they plan to begin producing organic rice foundation seed that will be available in spring 2004. Robert Weatherton, phone 409-752-2741, e-mail rweather@taexgw.tamu.edu

EXTENSION

A guide to marketing organic produce, by Charles Hall, Richard Edwards, and Jeff Johnson. ca. 1990. On the web at

<http://aggie-horticulture.tamu.edu/sustainable/publications/organicproduce/organic.html>

PRAIRIE VIEW A&M UNIVERSITY, 1890, PRAIRIE VIEW

no organic found



UTAH STATE UNIVERSITY, 1862, LOGAN
RESEARCH, CONSUMER / ECONOMIC

Economist Lynn Hunnicutt has written a paper with colleagues John Keith and Ruby Ward, *If you can't trust the farmer who can you trust? The effect of certification types on purchases of organic produce*. It has been submitted for publication. An abstract is on the web at <http://www.econ.usu.edu/Research/02/ERI2002-18.pdf> Hunnicutt is currently working on a survey of Utah consumers regarding their attitudes toward the safety of fresh produce. Organically grown is one of many attributes they are examining that may influence consumer views of food safety. This project is being done jointly with Ruby Ward. Contact Hunnicutt, phone 435-797-2317, e-mail hunnicut@econ.usu.edu.

EXTENSION

1. San Juan County Extension agent Jim Keyes organized a meeting for organic crop growers in 2001. Industry representatives were on hand to inform the farmers about market potential. Contact Keyes, phone 435-587-3654.
2. Publication *Selecting and using organic fertilizers*, by Rich Koenig and Mike Johnson. 1999. <http://extension.usu.edu/publica/gardpubs/organic.htm>

UNIVERSITY OF VERMONT, 1862, BURLINGTON
4.5-acre student farm managed organically**RESEARCH, PRODUCTION**

1. An heirloom tomato variety trial conducted in 2000 and 2001 was managed organically and generated information on which heirloom varieties produce marketable yields under Vermont growing conditions. The results were presented at the 2002 American Society of Horticultural Science meeting. For more information, contact graduate student Nathaniel Sands, nsands@zoo.uvm.edu, or Buddy Tignor, phone 802-656-0466, e-mail mtignor@zoo.uvm.edu
2. Two varieties of potato were grown under three organic fertility regimes (injectible liquid fertilizer, dairy manure compost, and a combination of the two) to assess potato production. The results were presented at the 2002 American Society of Horticultural Science meeting. For more information, contact graduate student Nathaniel Sands, nsands@zoo.uvm.edu, or Buddy Tignor, phone 802-656-0466, e-mail mtignor@zoo.uvm.edu



3. Crop and Soils Science Dept. researcher Bill Murphy has conducted a 3-year research project, "Controlling pests of pastured livestock on organic farms," which scrutinized the effectiveness of garlic cloves, wormwood capsules, supplemental protein, nicotine, an herbal wormer mixture, pumpkin seed extract, and a fungal suspension on internal and external parasites of young sheep, calves, and goats. None of the herbal or fungal materials or protein supplementation affected fecal worm egg levels. Once-through grazing management in 1999 and 2000 maintained low worm egg levels in lambs, compared to rotational grazing in 1998. A 2001 SARE report on this project is on the web at http://www.sare.org/projects/san_db_viewer.asp?id=1312

A general guide, "Managing parasites of grazing livestock on organic farms," based on grower experience and Murphy's research is on the web at <http://pss.uvm.edu/vtcrops/?Page=research/pasture/Parasites.html>

Murphy is preparing an article for publication on the project. Contact him at phone 802-656-0485, e-mail wmurphy@zoo.uvm.edu

4. Horticulturist Leonard Perry studied organic powdery mildew control in beebalm in 2000 and in phlox in 1999. Reports are on the web at <http://www.uvm.edu/~pass/perry/susres.htm>

Scroll down to 1999 scientific article and 2000 scientific article.

Contact Perry, phone 802-656-0479, e-mail lperry@zoo.uvm.edu

5. Tree fruit specialist M. Elena Garcia and plant pathologist/IPM specialist Lorraine P. Berkett are conducting a three-year trial of kaolin clay's effect on apple tree vigor, productivity, fruit quality, and disease and bird damage control. A description of the project was published in their July 25, 2001 Vermont Apple Newsletter, on the web at <http://orchard.uvm.edu/uvmapple/newsletter/2001/VAN072501.pdf>

They also conducted a 3-year trial between 1996-1998 on scab-resistant apple cultivars' performance under no-fungicide conditions. A slide show that presents the results of their work is on the web at <http://pss.uvm.edu/PSS221/WEB/Organic%20apples.pdf>
Contact Garcia, phone 802-656-2824, e-mail elena.garcia@uvm.edu, or Berkett, phone 802-656-0972, e-mail lorraine.berkett@uvm.edu.

RESEARCH, CONSUMER

A project, "Organic Food Industry and Its Potentials for Improving Farm Profitability and Food Safety," is being funded by the Vermont Agricultural Experiment Station. Planned outputs from the project include a detailed database of consumer preference for organic food and a producer survey to be conducted in June 2003. Contact Qingbin Wang, phone 802-656-4564, e-mail qwang@zoo.uvm.edu

EXTENSION

1. Extension coordinator Vern Grubinger organized a 2002 conference, "Working with organic farmers: enhancing agency involvement," that brought together university-based



and Extension researchers, farmers, and other agency personnel from throughout the Northeast region. A proceedings from this conference is available:

Grubinger, Vernon P. (ed) "Working with Organic Farmers: Enhancing Agency Involvement in the Northeast." Sept. 2002. Conference Proceedings. \$8 postpaid.

2. Vern Grubinger has produced many materials over the years that are useful to organic farmers, including:

- ♦ Grubinger, Vernon P. 1999. Sustainable Vegetable Production from Start-Up to Market. NRAES-104. This text contains 30 in-depth grower profiles, many of them organic. It also covers organic topics such as soil fertility, composting, covercropping, as well as non-chemical disease, insect and weed control. \$38 retail, discounts available.

Videos. Each video costs \$15 postage paid.

- ♦ Vegetable Farmers and their Weed Control Machines. 1996.
- ♦ Farmers and their Diversified Horticultural Marketing Strategies. 1999.
- ♦ Farmers and their Ecological Sweet Corn Production Practices. 2000.

All of the above books and videos are available from the UVM Center for Sustainable Agriculture, 63 Carrigan Dr., Burlington VT 05405-0004, phone 802-656-5459, e-mail susagctr@zoo.uvm.edu, website <http://www.uvm.edu/~susagctr/>

Grubinger has also written a variety of fact sheets for organic growers. Specific publications on organic:

- ✧ *Ten Steps Toward Organic Weed Control* by Vern Grubinger.
<http://www.uvm.edu/vtvegandberry/factsheets/orgweedconrtol.html>
- ✧ *Sources of nitrogen for organic farms* by Vern Grubinger. 2001.
<http://www.uvm.edu/vtvegandberry/factsheets/organicN.html>
- ✧ *Organic vegetable production: managing nutrients and pests* by Vern Grubinger. 2002.
<http://www.uvm.edu/vtvegandberry/factsheets/organicveg.html>

Other fact sheets that may be applicable to organic growers may be found at <http://www.uvm.edu/vtvegandberry/factsheets/welcome.html>

Finally, Grubinger's Vermont Vegetable and Berry page links to organic resources: <http://www.uvm.edu/vtvegandberry/organiclinks.html>

3. The Univ. of Vermont Center for Sustainable Agriculture is a sponsor of the Northeast Organic Farming Association-Vermont (NOFA-VT) annual winter conference. See under "Of note" below for more on NOFA-VT. Center for Sustainable Agriculture, phone 802-656-5459, e-mail susagctr@zoo.uvm.edu, website <http://www.uvm.edu/~susagctr/>

EDUCATION

1. Common Ground Student-Run Educational Farm is an organically managed, student run organic farm. Students have established a viable CSA enterprise that has grown



from 9 shares in 1997 to 36 shares in 2001. The students also donate produce to a local food pantry. In 2001, they donated 16,000 pounds of fresh produce. For more details on this operation, see their website at <http://www.uvm.edu/~cgsref/> Contact faculty advisors Wendy Sue Harper, phone 802-656-0482, e-mail wharper@zoo.uvm.edu, or Buddy Tignor, phone 802-656-0466, e-mail mtignor@zoo.uvm.edu

2. A youth horticulture program under the auspices of Univ.Vermont Extension Southern Region enabled 69 young people to participate in creating an organic educational farm from two acres of unused field and greenhouse space. Started in 2002, this impressive project produced approximately 9,000 lbs. of vegetables, flowers, and herbs, half of which was sold, and half of which was donated to local food shelves and schools. Plans are to continue job training, community outreach, and vegetable production activities. For more information, contact coordinator Sara Coblyn, phone 802-257-7967 x 18, e-mail sara.coblyn@uvm.edu

OF NOTE

The Northeast Organic Farming Association-Vermont continues to generate many useful resources for organic dairy producers. The Northeast Organic Dairy Producers Alliance is sponsored by NOFA-Vermont and includes dairyfolk from the entire Northeast region. They maintain a website with unique organic dairy resources, including average price based on a producer poll. Go to <http://www.organicmilk.org/>

They also sponsor a listserv for organic dairy producers. For more details, visit the website or contact Bill Casey at bill5308@aol.com. NOFT-VT has conducted research on organic dairy practices, and holds many educational events throughout the year. Contact NOFA-VT at 802-434-4122, e-mail info@nofavt.org, website <http://www.nofavt.org/>

VIRGINIA

VIRGINIA POLYTECHNIC INSTITUTE & STATE UNIVERSITY, 1862

5 acres managed organically

RESEARCH, PRODUCTION

1. Ronald Morse received OFRF funding to investigate “High-residue cover crop mulches to manage weeds in no-till organic potatoes.” He has conducted similar work with broccoli and has found both systems to be promising. The research is conducted on 5 acres managed organically at the Kentland Agricultural Research Farm in Blacksburg. A report will be available from OFRF in 2005. Ron Morse, phone 540-231-6724, e-mail morser@vt.edu.
2. Greg Evanylo has recently completed a 3-year SARE-funded project investigating the effects of compost, manure, and fertilizer on pumpkin production and on soil properties, nutrient leaching and runoff, and economic analysis of the results. A summary of



one year of the project may be found at
http://www.sare.org/projects/san_db_viewer.asp?id=1589

During the course of the project, 0.08 acre at Virginia Tech's Northern Piedmont Agricultural Research and Education Center was managed organically. The project was also conducted on two organic farms. Evanylo is continuing work on soil quality impacts of compost use, though not specifically in organic systems. Greg Evanylo, phone 540-231-9739, e-mail gevanylo@vt.edu

EXTENSION

1. Virginia Cooperative Extension co-sponsors the annual conference held by the Virginia Association for Biological Farming (VABF). Find details on the VABF website: <http://www.vabf.org/vbconf.php>, or contact VABF at address P.O. Box 503, Buena Vista, VA 24416, or e-mail biofarmingconf@hotmail.com
2. Organic fruit IPM web page with organic links:
<http://www.ento.vt.edu/Fruitfiles/VAFS-organic-ipm.html>

VIRGINIA STATE UNIVERSITY, 1890, PETERSBURG

EXTENSION

Andy Hankins, alternative agriculture extension specialist, has created a publication, *Producing and marketing wild simulated ginseng in forest and agroforestry systems*. It is available on the web at <http://www.ext.vt.edu/pubs/forestry/354-312/354-312.html>

Though not explicitly organic, someone could certify their ginseng using this approach. Andy Hankins, phone 804-524-5962, e-mail ahankins@vsu.edu.

WASHINGTON

WASHINGTON STATE UNIVERSITY, 1862, PULLMAN

**13.3 acres certified,
6 acres in transition**

RESEARCH, PRODUCTION

1. A new organic systems study is getting started in spring 2003 at the Washington State Univ.-Puyallup/Western Washington Research & Extension Center comparing the costs and benefits of organic management systems in small-scale vegetable crop production. System components include organic amendment (low vs. high organic matter addition), cover crop (relay planted, fall planted, multi-season) and tillage (conventional vs. spader). Treatments are based on grower advice. This project is being done on 6



transitional acres at Puyallup. Lead investigators are Craig Cogger, Andy Bary, David Muehleisen, and Liz Myhre. A description of the project is on the web at <http://www.puyallup.wsu.edu/soilmgmt/SustainAg.htm>

Contact Craig Cogger, phone 253-445-4512, e-mail cogger@wsu.edu

2. A study on biodynamic grape production is being conducted by John Reganold and his graduate student Jennifer Reeve at McNab Ranch in Hopland, California. The effect of biodynamic preparations on compost quality, soil quality, wine grape quality and wine quality are being measured. Early results showed a higher proportion of bacteria to fungi in the finished biodynamic compost than that made without the preparations. Wine grapes grown under biodynamic and organic management are being assessed. Contact Reganold, phone 509-335-8856, e-mail reganold@wsu.edu
3. Originally funded by an OFRF grant in 1994 to John Reganold, an on-farm, grower/scientist managed project is entering its 10th growing season comparing the performance of organic, conventional, and integrated apple systems. After 5 years, the organic system produced equivalent yields, sweeter and less tart apples, higher profitability, and greater energy efficiency than the other two systems. A 2001 cover story in Nature magazine brought national media attention these results, indicating the benefits of organic farming:

Reganold, J. P., J. D. Glover, P. K. Andrews, and H. R. Hinman. 2001. Sustainability of three apple production systems. *Nature*. 410:926-930.

A slide show on the web by Preston Andrews and John Reganold presents some of the study's data, including soluble solid levels:

<http://impact.wsu.edu/research/proposals/pdf/AndrewsP01.pdf>

Additional researchers involved in the project include Gregory M. Peck with the Dept. of Horticulture and Landscape Architecture, Jerry D. Glover with the Land Institute in Kansas, and Herbert R. Hinman with the WSU Dept. of Agricultural Economics. Contact Reganold, phone 509-335-8856, e-mail reganold@wsu.edu; or Andrews, phone 509-335-3603, e-mail andrewsp@wsu.edu

4. David Granatstein has studied "Mulching Systems for Weed Control, Water Conservation, and Nitrogen Management in Organic Apple Production" in a 3-year trial that compared 8 mulching treatments (including some living mulches) on tree growth, nutrient status, yield, fruit quality, and soil properties. Another 2-year trial compared the effect of wood chip mulch versus no mulch in the tree row. Granatstein has been doing organic research for many years, and has written numerous articles and made many presentations on the status of organic production in Washington state. See listings under "Extension" below. Contact Granatstein, phone 509-663-8181, e-mail granats@wsu.edu
5. Agricultural systems Extension specialist Carol Miles has been conducting on-farm organic trials for many years. In 2001 she received organic certification of 2.1 acres at the WSU Vancouver Research and Extension Unit. The area is now 2.3 certified organic acres. Miles's organic projects include:
 - ♦ A dry bean variety trial was grown in 2001 on certified organic research land and was repeated in 2002. A report on the 2001 trial is on the web at



<http://eastafriacrsp.wsu.edu/beans/BeanVarietyReport2001.pdf> Results were also published in the Tilth newsletter: Miles, C.A. and H. Kato. 2002. Dry bean research in western Washington. *Washington Tilth Journal*, 10(3):14-15.

- ♦ Organic on-farm and on-station edamame variety trials. Report from 2001: <http://agsyst.wsu.edu/EDVarietyReport2001.pdf>
- ♦ Organic on-farm asparagus variety trial.
- ♦ Organic on-farm bamboo variety trials. Report from 2000 is on the web at <http://agsyst.wsu.edu/BambooReport2000.pdf>
- ♦ Cover crops for weed management on organic farms. 2000. Report on web at <http://agsyst.wsu.edu/CoverCropReport.htm>. OFRF-funded.
- ♦ Organic on-farm pea vine variety trial. Report from 1998-1999 on-line at <http://agsyst.wsu.edu/peareport.htm>
- ♦ Organic methods of raspberry production and root rot control. 1999-2001. Builds upon earlier work by Pete Bristow. Report on the web at <http://agsyst.wsu.edu/RaspberryReport2001.pdf>. OFRF funded the first year (1999), and a report is on the web at <http://agsyst.wsu.edu/raspberry.htm>

Miles is co-author of a 2000 Extension publication, PNW544, *Using beneficial nematodes for crop insect pest control*, written with Caitlin Blethen and Randy Gaugler, on the web at <http://cru.cahe.wsu.edu/CEPublications/pnw0544/pnw0544.pdf>

Contact Carol Miles, phone 360-576-6030, e-mail milesc@wsu.edu, website <http://agsyst.wsu.edu/>

6. In 2000, 2% of Washington's carrot crop was grown organically. Carrot rust fly caused significant yield losses, so researchers began to work on "Alternative Management Strategies for the Carrot Rust Fly." Building on 1996 on-farm trials conducted by Carol Miles, field experiments were carried out in three locations, WSU-Puyallup Research and Extension Center (REC), WSU-Vancouver REC, and Terry's Berries organic CSA farm. For the experiments performed at WSU-REC sites, four different cover crops were compared for their ability to reduce rust fly damage and their impact on carrot development and yield. Row covers were tested at Terry's Berries. The research team has consequently developed a carrot rust fly management strategy that incorporates both cover crops and row covers and doesn't decrease yields. A report is on the web at http://www.puyallup.wsu.edu/soilmgmt/Current_CarrotRustFly.htm

Researchers include D. P. Muehleisen and M.R. Ostrom with the WSU--Puyallup Small Farms Program, A. Bary and C. Cogger with the WSU--Puyallup Dept. of Soil Science, C. A. Miles, A. Johnson, and M. Nicholson with WSU--Vancouver Dept. of Horticulture, and T. Carkner with Terry's Berries Organic Farm. Contact Muehleisen, phone 253-445-4597, e-mail muehleisen@wsu.edu.

7. Researchers conducted surveys of ground-dwelling beetles and spiders in organic and conventional fields for the study, "Evaluating arthropod activity in organic and conventional fields: the role of field margins." Results from 2002 showed that in-field predator activity occurred earlier in the season in organic fields with vegetative field margins.



Grassy margins did not enhance predator activity in conventional fields where pesticides were used. Contact Renée Priya Prasad and William E. Snyder, Dept. of Entomology, Washington State Univ., Pullman, phone 509-335-3724, e-mail prasad@wsu.edu.

8. William Snyder received an OFRF grant for the project “Integrating conservation of generalist predators and specialist parasitoids in Pacific Northwest organic vegetables,” which will monitor established beetle banks for ground and rove beetle population build-up, and study whether floral plantings will increase density of two different parasitoid wasps. Cole crops are the main focus of the study. Contact Snyder, phone 509-335-5504, e-mail wesnyder@mail.wsu.edu
9. Another project, “Predator conservation in organic and conventional potatoes,” involved sampling generalist predator communities in potato production fields managed organically, conventionally with broad-spectrum pesticides, and conventionally with selective pesticides. Predator densities were 5-10 times higher in organic fields than in conventional fields treated with broad-spectrum pesticides. Experiments were also done to test whether field-size populations could effectively control the potato pests green peach aphid and Colorado potato beetle. Predator density typical of organic fields was effective at controlling both pests. Contact William E. Snyder and Amanda M. Koss, Dept. Entomology, Washington State Univ., Pullman, phone 509-335-5504, e-mail wesnyder@wsu.edu.
10. A group of wheat breeders has started an Organic Wheat Breeding Program at Washington State that is evaluating old wheat varieties that have been grown in the Pacific Northwest for performance under organic management. The “historical wheats” are being crossed with modern varieties and evaluated. OFRF has provided funding for two years of this breeding work. The work is being done on 11 certified organic research acres at the Spillman Experimental Farm. The Organic Wheat Breeding Program is managed by Kevin Murphy, Stephen Jones, and Doug Lammer of the Crop and Soil Sciences Dept. at WSU Pullman, and Tim Murray, Dept. of Plant Pathology, WSU Pullman. Contact Jones, phone 509-335-6198, e-mail joness@mail.wsu.edu; or Murphy, e-mail kmurphy2@wsu.edu.
11. The Peshastin Creek Growers Association initiated an Areawide Organic Management Program on 310 acres of pears in 2002. Advised by tree fruit researcher John Dunley of the Wenatchee Tree Fruit Research & Extension Center, the group’s overall objective is to “establish an areawide insect pest management program based on the use of organic insect control tactics.” The project’s website is at <http://entomology.tfrec.wsu.edu/pear-ent/pcg%20home%20page.htm> Contact Dennis Nicholson, phone 509-548-4207, e-mail nichorch@rightathome.com; or Dunley, phone 509-663-8181, ext. 236, e-mail dunleyj@wsu.edu
12. Weed scientist at Pullman Robert Gallagher received a 2002 USDA organic transitions program grant for the project “Various strategies to achieve ecological and economic goals in the transition phase of eastern Washington organic dryland grain production.” The study will examine a series of 3-year crop rotations producing combinations of cash grains, perennial and annual forages, and various green manure crops. The rotations are designed to minimize short-term economic losses and maximize gains during the transition. Multiple weed control strategies will be used, and soil quality goals set.



Education and outreach will involve integrating results into the local high school curriculum. Contact Gallagher, phone 509-335-2858, e-mail gallagh@wsu.edu

13. Weed scientist at the Mt. Vernon REC Tim Miller has studied various methods of weed control in organic strawberries, including flaming, corn gluten meal, wheat gluten, and mustardseed meal. He is also investigating production of organic vegetable seed. Contact Miller, phone 360-848-6138, e-mail twmiller@wsu.edu.
14. Entomologist Terry Miller with the Pullman Entomology dept. has done work on biological control of pea aphid in organic pea and sweet pea cropping systems, managing natural enemy banks to control aphids in organic potatoes, and suppressing various leafrollers in organic caneberries. Contact Miller, phone 509-335-5815.

RESEARCH / EDUCATION

The WSU Center for Sustaining Agriculture and Natural Resources (CSANR) developed the BIOAg program in 2002 to coordinate research and education in biologically intensive and organic agriculture. BIOAg encompasses four linked components: research, teaching, outreach, and Washington State Univ. infrastructure. This last component is specifically directed at obtaining “a base of organically certified and managed research land.” Specific research priority areas are:

- ♦ developing certified organic experimental land for major crops
- ♦ producing organic seed protection and production technology
- ♦ sustainable livestock production and marketing
- ♦ new marketing strategies, economic analysis, and organic crop statistics
- ♦ assess the effect of production practices on food quality
- ♦ understory management for tree fruits, vines, and berries
- ♦ pest management practices

One of BIOAg’s first activities was to convene the Northwest Symposium on Organic and Biologically Intensive Agriculture: Advances in Research and Education, held in Nov. 2002 in Yakima. This day-long symposium featured researcher presentations and an interactive poster session. It was sponsored jointly by CSANR, Oregon State Univ., Tilth Producers of Washington, and Oregon Tilth. A proceedings is available on the web at <http://csanr.wsu.edu/programs/Proceedings.pdf> This document provides summaries of many organic research projects in Washington and Oregon states, and results of many of the research projects listed under “Research, production” above.

BIOAg has submitted funding requests for its programs to state and federal agencies and to the WSU College of Agriculture and Home Economics. These grant proposals are posted on-line and are a good outline of the scope of activities planned for BIOAg. Visit <http://csanr.wsu.edu/programs/bioag.htm> For more information on BIOAg, contact David Granatstein, phone 509-663-8181, ext. 222, e-mail granats@wsu.edu. WSU Center for Sustaining Agriculture and Natural Resources, phone 253-445-4539, e-mail csnar@wsu.edu, website <http://csanr.wsu.edu/>



1. In March 2003, WSU Extension produced a nationwide satellite broadcast on the national organic agriculture standards intended to help Extension workers, other agricultural professionals, and growers understand the key points of the National Organic Standards. Nearly 70 sites in over 20 states participated. The broadcast is available on-line as a video stream at <http://ext.wsu.edu/noas>. Click on "handouts and resources" for a list of the questions and answers from the broadcast, an outline, and copies of the PowerPoint presentations made during the broadcast.

2. The Washington State Univ. Tree Fruit Research and Extension Center Organic & Integrated Fruit Production Home Page is on the web at <http://organic.tfrec.wsu.edu/OrganicIFP/Home/Index.html> This page contains links to numerous publications on organic tree fruit production, including *Tree Fruit Production with Organic Farming Methods* by David Granatstein (ca. 1999), and *Current trends in organic tree fruit production* by D. Granatstein and E. Kirby (2002). It also links to two new reports on organic crop acreage in Washington: one report details all the certified and transitional acres in Washington State in 2002 by crop, and the other report provides the 2002 acreages for organic apples, pears and cherries in Washington State. These reports complement the more detailed analysis in *Current trends in organic tree fruit production*, that covers national and international trends as well. All reports are in PDF format. Produced by D. Granatstein, phone 509-663-8181, ext. 222, e-mail granats@wsu.edu

3. The Sept. 2002 edition of Washington State Univ.'s Agrichemical and Environmental News contains a comprehensive article written by David Granatstein on the new USDA federal regulation: *A new standard in organics: National Organic Program launches in October*. On the web at <http://aenews.wsu.edu/Sept02AENews/Sept02AENews.htm#Organics>

In the July 2002 edition of the same publication, Granatstein's article, *Organic farming continues to expand*, was printed:
<http://aenews.wsu.edu/July02AENews/July02AENews.htm#Organic>

4. A report on organic activity at Washington State was released in 2002, based on a survey of WSU College of Agriculture and Home Economics faculty. Titled *An assessment of organic farming, research, teaching and extension at Washington State University*, it was written by Carol Miles, David Granatstein, Thomas Koskinen. The report may be read on the web at <http://csanr.wsu.edu/resources/OrganicReport.pdf>

5. The WSU Center for Sustaining Agriculture and Natural Resources (CSANR) and Washington State Dept. of Agriculture (WSDA) sponsored a series of workshops across the state in 2003 on "Adapting to the National Organic Program." The workshops were developed by David Granatstein, CSANR, and Miles McEvoy with WSDA's Organic Food Program (see under "Of note" below). The workshops were co-sponsored by Washington Tilth Producers and Spokane Tilth, and funded by the New Priorities Foundation, the USDA Risk Management Agency, and the U.S. Environmental Protection Agency Region X. For further information, contact David Granatstein at 509-663-8181 x 222, e-mail granats@wsu.edu.



6. The report *Survey of IPM practices in Washington Tree Fruit* gives preliminary results from a 2000 producer survey on apple, pear, and cherry practices. The proportion of Washington apple growers producing organic fruit has increased from 1.4% in 1989 to 10.5% in 2000. In 2000, 5.8% of cherry growers reported being organic. By J.F. Brunner, Wendy Jones, Elizabeth Beers, and John Dunley. On the web at <http://entomology.tfrec.wsu.edu/jfbhome/growerarticles/surveyhort2001.pdf>
7. The Washington State Pest Management Resource Service has a web page with resources on organic, including a list of five Washington State-based organic researchers. <http://wsprs.wsu.edu/Organics.html>
8. The Food and Farm Connection team, part of the WSU Small Farms program, has a website listing many organic resources: <http://foodfarm.wsu.edu/Organics.htm>

Organic goldenseal and ginseng enterprise budgets, contributed by a successful grower and based on his experience, are also posted there. By Roger Segó, 2001.
<http://foodfarm.wsu.edu/OrganicGoldenseal.htm>

<http://foodfarm.wsu.edu/OrganicGinseng.htm>
9. A 1999 publication, *Organic food production and certification in Washington state*, by Carol Miles, Tamera Flores, and Miles McEvoy, on the web at <http://cru.cahe.wsu.edu/CEPublications/eb1888/eb1888.pdf>
10. A 24-page extension publication, *Organic gardening*, that was revised in 1998 is available for \$2 from the Washington State Bulletin Office, phone 509-335-2857 or 1-800-723-1763, e-mail bulletin@wsu.edu Publication #EBO648.
11. A 2002 article on Carol Miles's organic research, in 4-H newsletter Focus: <http://caheinfo.wsu.edu/focus/three/organic.html>

RESEARCH, CONSUMER / ECONOMIC

1. Alternative markets for fruit: organic and integrated fruit production, by David Granatstein. 2000. From 16th Annual Postharvest Conference, Yakima. <http://postharvest.tfrec.wsu.edu/pgDisplay.php?article=PC2000M>
2. Jill McCluskey with the WSU Dept. of Ag and Resource Economics has published the following articles on organic issues:
 - ♦ McCluskey, Jill J. 2000. A Game Theoretic Approach to Organic Foods: An Analysis of Asymmetric Information and Policy. *Agricultural and Resource Economics Review* 29:1-9.
 - ♦ Loureiro, Maria L., Jill J. McCluskey, and Ron C. Mittelhammer. 2001. Assessing Consumers Preferences for Organic, Eco-labeled and Regular Apples. *Journal of Agricultural & Resource Economics* 26:404-416.

Contact McCluskey, phone 509-335-2835, e-mail mcccluskey@wsu.edu
3. A Jan. 2002 Extension publication, XB1041, *A Cost of Production Analysis of Conventional vs. Integrated vs. Organic Apple Production Systems*, is based on the results of Reganold et



al.'s work described under Research, production, #3 above. Call 1-800-723-1763 to order a free copy.

EDUCATION

1. A course, Organic gardening and farming, is being offered in spring 2003 through the Dept. of Crops and Soils at WSU-Pullman. Taught by John Reganold and Kathi Peck. Description on web at <http://classes.css.wsu.edu/soils101/>
2. A full-fledged bachelor's degree in organic agriculture is being developed in time for fall 2004. The degree will be offered from the Dept. of Crops and Soils at WSU-Pullman. For more information, contact John Reganold, phone 509-335-8856, e-mail reganold@wsu.edu

OF NOTE

1. The Washington State Dept. of Agriculture (WSDA) has long had an organic certification program and other resources for organic growers. Directed by the state legislature, WSDA conducted a survey of organic producers and of commodity groups in 2000 to determine their interest in forming an organic food commission. In 2002 an Organic Food Commission Work Group was formed to report back to the legislature. Details on the WSDA Organic Food Commission Project and links to survey results and the report to the legislature are on the web at <http://www.wa.gov/agr/FoodAnimal/Organic/comproj.htm>

For more information on the commission, contact Miles McEvoy, WSDA organic program manager, phone 360-902-1924, e-mail mmcevoy@agr.wa.gov

The WSDA also published the *Organic resource manual* in Dec. 1999, which provides information on organic resources in Washington, Wyoming, Montana, Oregon, Idaho, and Utah. Somewhat dated now that the federal rule is in place, this publication is available through the CSANR website at

<http://csanr.wsu.edu/resources/Organic%20Resource%20Guide.pdf>

Plans are to develop an updated edition. Contact Leslie Zenz, WSDA, phone 360-902-1884, e-mail: lzenz@agr.wa.gov

The text of a 1998 presentation by Miles McEvoy, *Handling organic fruit*, is on the web at <http://postharvest.tfrec.wsu.edu/pgDisplay.php?article=PC98U> It is notable for expressing the state certification agency's reservations about the National Organic Rule.

2. The Washington Sustainable Food & Farming Network and the Northwest Coalition for Alternatives to Pesticides (NCAP) released a study in Nov. 2002, *Digging for Alternatives: An Analysis of Potato Pest Management Research at Two Northwest Land Grant Universities*. Only a few researchers in Washington and Idaho were found to be pursuing non-chemical pest control methods for commercial potato production. Research funding sources are also analyzed. The report can be obtained on the web at www.pesticide.org/DiggingForAlternatives.pdf.



or contact the Northwest Coalition for Alternatives to Pesticides, phone 541-344-5044.

3. Joel Kingsolver, formerly with the Univ. of Washington in Seattle, received an OFRF grant for the project, "Use of cover crops to control insect pests in Brassicaceae crop production." A final report, written by then-graduate student Brad Gaolach, is available from OFRF. Gaolach is now with Cooperative Extension in Renton. Gaolach, phone 206-205-3135, e-mail gaolach@wsu.edu
4. An article showing that school children who ate organic fruit had lower levels of pesticide metabolites in their bodies than children who ate conventional fruit was published by Univ. of Washington researchers Cynthia Curl, Richard Fenske, and Kai Elgethun.

Curl, C.L., R.A. Fenske, and K. Elgethun. 2002. Organophosphorus pesticide exposure of urban and suburban pre-school children with organic and conventional diets. *Environmental Health Perspectives* 111:377-382.

An abstract can be obtained on the web by going to <http://ehpnet1.niehs.nih.gov/docs/2003/5754/abstract.html>

WEST VIRGINIA UNIVERSITY, 1862, MORGANTOWN

35 acres in transition

RESEARCH, PRODUCTION

The organic research, education, and extension effort continues at the West Virginia Univ. Organic Research Project, being conducted on 35 transitional acres at the WVU Horticulture Farm. A large farming systems transition study started on the farm in 1999 is comparing a low-input and high-input transition strategy for each of two replicated farming systems, a market garden and field crop/grazing system. Nematologist James Kotcon leads the transition study and directs the interdisciplinary Organic Research Project. An orchard on the farm is being managed organically, and insect monitoring is being done in the blocks of apples and pears. Specific research areas are:

- ♦ horticulture: the market garden was established to study low-input or high-input approaches to converting to organic production. Lead investigator is Sven Verlinden, in collaboration with William Bryan, Linda Butler, Gerard d'Souza, James Kotcon, and William McDonald. Contact Verlinden, phone 304-293-6023, e-mail Sven.Verlinden@mail.wvu.edu
- ♦ agronomy, soil science, animal science: A field crop/grazing trial compares a 4-year rotation of potato, soybeans, wheat, and brassicas, with a 7-year rotation integrating these crops with 3 years of clover pasture and sheep grazing, in systems with varying levels of compost amendments
- ♦ soil biology: earthworm populations are being monitored and biocontrol agents assessed for effectiveness against root-infecting nematodes;



- ♦ plant pathology: studies include an OFRF-funded project, “Intercropping with resistant varieties to manage plant disease in organic tomato,” cover crops to suppress nematodes in orchards, compost application rates, disease suppressiveness of compost tea, and effectiveness of commercial preparations for apple and potato disease control;
- ♦ entomology: pest management strategies for the orchard, squash, and potato are being studied, and nectary plantings to attract beneficial insects investigated. Mulches, row covers, biocontrol, and organic sprays are being assessed for effectiveness. Insect monitoring is conducted on all areas of the farm. Contact Linda Butler, phone 304-293-6023 ext. 4305, e-mail lbutler@wvu.edu.
- ♦ weed science: a study was done in 2000 and 2001 to evaluate the effectiveness of hand cultivation, plastic mulch, and three levels of straw mulch in organic pepper production. Contact Rakesh Chandran, 304-293-6023 ext. 4225, e-mail RSChandran@mail.wvu.edu
- ♦ agricultural economics: Gerard D’Souza is gathering data from the market garden, field crops, and sheep operations and developing enterprise budgets for making the transition. Contact D’Souza, phone 304-293-4832 ext. 4471, e-mail gdsouza@wvu.edu

A Cooperative Extension Demonstration Garden to educate Master Gardeners, extension personnel, and anyone else interested in organic gardening practices is maintained near the market garden research plots. Here, vegetable variety trials will be conducted to discern varieties that perform best under organic management, and seed will be collected from a popular WV-bred tomato variety whose seed stocks are running low. Fact sheets are also being prepared for distribution through Extension.

The farm’s website contains more information on all research projects. The Farm Plan linked to the site contains detailed summaries of the transition strategies being studied and lists all the market garden crops being grown along with their potential insect and disease pests. The website is at <http://www.caf.wvu.edu/plsc/organic/>

A farmer advisory team works with researchers to determine management strategies, and an annual field day is held. Contact Jim Kotcon, phone 304-293-3911 ext. 4334, e-mail James.Kotcon@mail.wvu.edu.

EDUCATION

In spring 2002, a special topic course on organic production was offered by instructor Michael Bomford. The class is being repeated in spring 2003. An article on the 2002 course is on the web at <http://www.caf.wvu.edu/plsc/organic/frontpage/ocprod.htm> Contact Bomford, phone (304) 284-8821, e-mail m_bomford@yahoo.com



WEST VIRGINIA STATE COLLEGE, 1890, INSTITUTE

no organic found

UNIVERSITY OF WISCONSIN, 1862, MADISON

12 acres in transition

8.5 acres managed organically

R E S E A R C H , P R O D U C T I O N

1. The Wisconsin Integrated Cropping Systems Trial (WICST) is a joint endeavor among faculty from the university's College of Agricultural Life Sciences, Extension agents, Michael Fields Agricultural Institute agronomists, and farmers. (See under "Of note" below for more on Michael Fields.) This project is notable largely for its systems approach. It is a comparison study with organic as one of the three cropping treatments. Started in 1990, WICST compares the productivity, profitability and environmental impacts of three cash-grain systems and three dairy forage cropping systems. One cash-grain cropping system has been organic at the Arlington site since 1996. The area currently covered with the organic treatments is 8.5 acres. Last season was the final year for the second site, Lakeland. Another 12 acres are in transition to organic certification by harvest 2004. Weed seed bank, nitrogen availability, microbial diversity, and soil quality studies are also done on the plots. Technical reports are published which compile the data collected. A case summary of the WICST project prepared by graduate student Caroline Brock is on the web at <http://208.55.48.17/cases/wicst.htm>

The WICST website is

<http://www.uwex.edu/ces/cty/walworth/Ag/WICST/Main%20Page.htm>

Contact Joshua Posner, Agronomy Dept., phone 608-2262-0876, e-mail jlposner@facstaff.wisc.edu, or John Hall, Michael Fields Agricultural Institute, phone 262-642-3303, e-mail mfai@michaelfieldsagainst.org

2. Plant pathologist Douglas Rouse received a 2002 USDA Organic Transitions Program grant for "Identification and characterization of potato clones for organic production systems." The project will evaluate a large number of older and heirloom potato cultivars for pest and disease resistance and tolerance under organic conditions. The study will be conducted on two organic farms. A website featuring potato varieties for organic production will be part of the outreach effort. Contact Rouse, phone 608-262-1395, e-mail dir@plantpath.wisc.edu
3. Research on organic controls for fly speck and sooty blotch in organic apples was conducted on-farm in 1998-1999 and 1999-2000. A methionine-riboflavin (MR) formulation was used, as well as potassium bicarbonate in an oil base, wettable sulfur, and water as a control. Three cultivars were investigated: Prima, Jonafree, and Freedom. Researcher Patricia McManus was quoted as saying, "In every year and on every cultivar, the methionine-riboflavin treatment significantly reduced flyspeck and sooty blotch as well as or better than sulfur." Co-investigators were John Andrews and Jessica O'Mara. A research brief on the project is on the web at <http://www.wisc.edu/cias/pubs/briefs/060.html>

An article on the work was published in the on-line journal Plant Health Progress (available only by subscription; see <http://www.plantmanagementnetwork.org/php/>):



Andrews, J.H., O'Mara, J.K., and McManus, P.S. 2001. Methionine-riboflavin and potassium bicarbonate-polymer sprays control apple flyspeck and sooty blotch. *Plant Health Progress*. Doi:10.1094/PHP-2001-0706-01-RS.

Contact Patricia McManus, phone 608-265-2047, e-mail psm@plantpath.wisc.edu

4. Entomologist Dan Mahr has conducted in-orchard work on using perennial flower plantings to attract beneficial insects to control pests in organic apples. Though there are not yet any publications associated with this work, Mahr reports that the most important finding was that it's useful to have a diversity of flowering plants in the orchard throughout the growing season to provide food resources for beneficial insects. The project received OFRF funding in 1994. An article describing this work and the research described above is on the web at <http://www.wisc.edu/cias/news/apples.html>

For more information, contact Mahr, phone 608-262-3228, e-mail dmahr@entomology.wisc.edu

RESEARCH, CONSUMER

1. Professor emeritus Robert Bradley assisted a Vernon County entrepreneur develop a certified organic ice cream, which started being marketed in 2001. An article on the project is at <http://www.news.wisc.edu/view.html?get=7292>
2. The University Housing Food Service has had a Seasonal Regional organic dinner annually since 1996, and has added organic and locally grown food to the residence hall food service menus. A 2001 press release by Cris Carusi on the organic and local food offerings is on the web at http://www.wisc.edu/cias/news/organic_dorm.html

Contact Carusi, phone 608-262-8018, e-mail cecarusi@facstaff.wisc.edu

RESOURCES

The Center for Integrated Agricultural Systems (CIAS) is a useful resource for growers, particularly newcomers. They have sponsored research on grazing dairy systems and alternative marketing studies focused on local sales of organic produce. The CIAS web page on produce production and marketing includes links to information on CSAs, the farmer-restaurateur collective Homegrown Wisconsin, the Wisconsin School for Beginning Market Growers, and results of a study "Selling certified organic produce to retail markets in the Upper Midwest" (report: *Selling Certified Organic Produce to Retail Markets in the Upper Midwest* by Laurie S. Z. Greenberg, Jan. 2000. On web at <http://www.wisc.edu/cias/pubs/greenberg.PDF>. For a print copy, contact Ruth McNair at ramcnair@facstaff.wisc.edu). Go to <http://www.wisc.edu/cias/research/freshpro.html>

CIAS distributes four research briefs on organic production issues that are available on-line or in print (contact the office to order):

- ♦ Research Brief #17, Land stewardship practices on the Krusenbaum organic dairy farm <http://www.wisc.edu/cias/pubs/briefs/017.html>;



- ♦ Research Brief #16, An organic dairying overview from the Krusenbaum farm studies.
<http://www.wisc.edu/cias/pubs/briefs/016.html>;
- ♦ Research Brief #4, Organic potatoes: they can be grown, but can they be profitable?
<http://www.wisc.edu/cias/pubs/briefs/004.html> (1990 study)
- ♦ Research Brief #45, Composted manures offer yield and disease resistance benefits
<http://www.wisc.edu/cias/pubs/briefs/045.html> (Report on 1997-98 study by growers Richard DeWilde and Linda Halley on compost use in organic vegetable production.)

Finally, the publication *New markets for producers: selling to retail stores* contains information on marketing organic produce to retail outlets:

<http://www.wisc.edu/cias/pubs/briefs/038.html>

CIAS is one of the sponsors of the annual Upper Midwest Organic Farming Conference (see under “Of note” below for more on this conference). Center for Integrated Agricultural Systems, 1450 Linden Drive, University of Wisconsin, Madison, WI 53706, phone 608-262-5200, website <http://www.wisc.edu/cias/>

2. Univ. of Wisconsin Center for Cooperatives page of links to organic cooperatives:

http://www.wisc.edu/uwcc/info/i_pages/organic.html

O F N O T E

1. Michael Fields Agricultural Institute (MFAI) is a private non-profit that “seeks to revitalize farming with research, education, technical assistance and public policy.” Its dynamic programs on organic, biodynamic, and sustainable agriculture research and policy have had impact beyond Wisconsin. Director of research Walter Goldstein has received OFRF funding to conduct organic, open-pollinated corn breeding trials. A report on this project is available from OFRF. MFAI has an internship program for beginning farmers and numerous other educational programs. Contact MFAI, phone 262-642-3303, e-mail mfai@michaelfieldsagainst.org, web page <http://michaelfieldsagainst.org/>
2. The Midwest Organic and Sustainable Education Service (MOSES) provides numerous services to organic producers in the upper Midwest and is perhaps best known for organizing the annual Upper Midwest Organic Farming Conference (UMOFC), which has attained legendary status amongst growers, researchers, activists, and consumers nationwide. In the year 2000, the Organic University was first presented at UMOFC, an intensive series of workshops that presents advanced information on organic production and marketing issues. Contact MOSES, phone 715-772-3153, e-mail moses@mosesorganic.org, website <http://www.mosesorganic.org/index.html>



UNIVERSITY OF WYOMING, 1862, LARAMIE

E D U C A T I O N

An upper-division course, Organic Food Production, is offered every other year through the Plant Science Dept. The course is a complete review of the federal organic production guidelines, methods and applications for organic production facilities, alternative marketing principles, concepts of organic fertilizer use, organic pest control and concepts for using environmentally friendly methods to reduce chemical, petroleum and synthetic inputs for more sustainable agricultural systems.

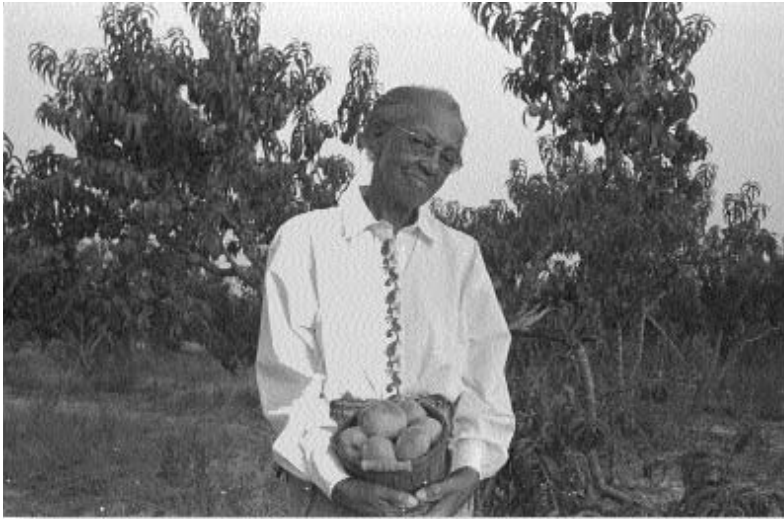
O F N O T E

An educational conference on organic agriculture was organized by the Wyoming Business Council (WBC) and held in Laramie Feb. 2003. Univ. of Wyoming Cooperative Extension and the Wyoming Dept. of Agriculture co-sponsored the two-day event. Contact Renee King, organic specialist for the WBC, phone 307-777-6319, e-mail rgking@state.wy.us



Native American boys
on the Oneida Reservation, Oneida, Wisconsin





Opal Ragsdale - Jacksonville, Texas



Rufus Ragsdale - Jacksonville, Texas



WE WANT TO HEAR FROM YOU

OFRF makes every effort to locate all the organic activity going on in the land grant system; however, we are bound to miss something. To ensure that future editions of this report are as complete and accurate as possible, we ask for your help in reporting errors, omissions, updates, and information on new projects.

Please send us any information you have on organic research, education, or extension in the U.S.

We also invite you to submit your organic research or educational resource to the website www.organicaginfo.org, a comprehensive database of organic research in the U.S.



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ORGANIC FARMING

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