

Organic Agriculture in Wisconsin: 2005 Status Report



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Statement on organic agriculture from the CIAS Citizens Advisory Council

Wisconsin has a long tradition of national leadership in agriculture. While much of the University of Wisconsin's focus, resources and research partnerships with agribusiness are grounded in large-scale production agriculture, there is a groundswell of support for alternative agriculture. Many innovative ideas in farming have gained legitimacy and market share in the food production arena. Diverse strategies, philosophies, practices and beliefs are represented: sustainable, grass-based, naturally-raised, antibiotic-free, etc.

The Citizens Advisory Council of the UW-Madison Center for Integrated Agricultural Systems recognizes many approaches to improving access to quality, local/regional and sustainably grown food, including organic agriculture. We believe that organic practices may add value to any agricultural production plan, and strongly support agricultural systems that connect people to their food sources and hold growers accountable to their customers and communities for quality.

Organic agriculture in Wisconsin is a social movement, as well as a system of production practices. It has offered a meeting place and networking vehicle for people who want to embrace agricultural practices, resources and systems that provide public benefits such as pesticide reduction, improved soil quality, fair prices for farmers, mutually respectful relationships between growers and buyers, and social justice. The "Wisconsin Idea" of growing the organic movement has been grounded in these values.

Third party certification and national standards have both legitimized and compromised the organic movement. In the United States, producers and consumers are largely distanced from each other. The certification process provides trust for customers who have little or no contact with farmers and seek quality assurance. The growth of the organic industry improves access to quality food for many more people than a smaller, grassroots movement can serve.

Many producers and consumers are concerned about the possible compromising of the USDA organic standards by the lobbying influences of large food corporations that wish to share in the profits of organic agriculture, without much concern for its public benefits. As with any growth industry, decisions made early on will impact the future. There continues to be serious discussions and concerns voiced as the grassroots organic movement becomes institutionalized, exposing it to a wide range of values and motivators.

The Citizens Advisory Council of CIAS strongly supports the growth of organic food systems in Wisconsin. We believe that, as organic agriculture continues to make its way into the mainstream of American life, it is imperative that "systems" thinking be incorporated into its evolution. We support Wisconsin organic agricultural policies and practices that add value to the organic label,

which certifies that products are grown without prohibited chemicals and with sustainable production practices. We also value:

- Social justice: fair wages, access to health care, quality working conditions and quality of life options.
- Local and regional economic benefit: vibrant and thriving communities.
- Energy impact of practices: expand the integration of renewable and sustainable sources and technologies.
- Water quality and land use: improving water, soil, air quality, esthetics and biodiversity.
- Production practices that respect all life forms.
- Access to quality food across race and class divisions.

The tradition of the grassroots organic agriculture movement in Wisconsin must be supported and continued. This report presents a perspective on the current status of organic agriculture in Wisconsin. The effort to grow organic agriculture in Wisconsin is one approach to revitalizing the state's diverse agricultural industry. Strategies and practices to be implemented must explore and anticipate short and long-term impacts on a variety of agriculture-related systems. We hope that this report provides you with insights and ideas toward continuing to improve the long-term sustainability of Wisconsin organic agriculture.

Sincerely,

Laurel Kieffer

CIAS Citizens Advisory Council Chair

CIAS Citizens Advisory Council

Laurel (chair) and Tom Kieffer, Dream Valley Farm: pasture-based sheep dairy, Strum, Wisconsin

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Dale Secher, Carandale Fruit Farm, Oregon, Wisconsin

Tom and Sue Wrchota, Cattleana Ranch: pasture-finished beef, pastured poultry, and fruit and vegetables, Omro, Wisconsin

Wisconsin continues to be a national leader in organic food production, despite the fact that certified organic farms, acreage and production represent only a small fraction of agriculture in the state. This report provides a snapshot of the current status of organic agriculture in Wisconsin, and summarizes some of the opportunities and challenges in the organic marketplace. It builds on a previous publication, *Organic Agriculture in Wisconsin: 2003 Status Report*, which can be accessed online at <http://www.cias.wisc.edu/pdf/org113.pdf>. The 2003 report summarizes 2001 USDA data on organic agriculture in Wisconsin and the U.S. It also describes the state, federal, university and non-profit organizations that support organic farmers in their production and marketing efforts, and introduces readers to the organic certification process.

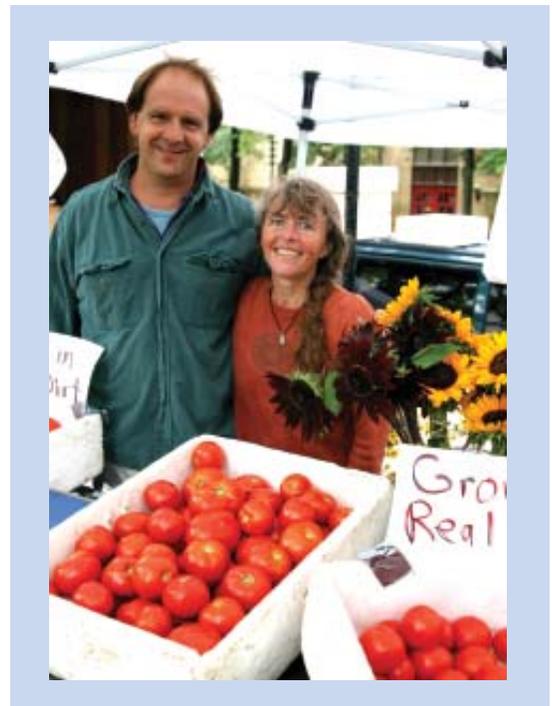
In this, our second status report, we discuss recent state government involvement in organic agriculture in Wisconsin. It also summarizes statistics on organic agricultural production in Wisconsin and presents research on organic processing and marketing.

This report draws on 2003 USDA data on organic agriculture in Wisconsin, and uses USDA data from 2001 as a baseline when making comparisons. It also summarizes supplemental data where available, including studies on certified, transitional and uncertified organic farms by the University of Wisconsin-Madison Program on Agricultural Technology Studies (PATS).

To support the growth of the organic sector, Wisconsin's governor appointed a Task Force on Organic Agriculture in 2004. This task force was charged with forming concrete recommendations for organic food production, processing and marketing in Wisconsin. State agencies have begun implementing its recommendations. These include hiring a dedicated organic specialist at the Department of Agriculture, Trade and Consumer Protection, creating a permanent Wisconsin Organic Advisory Council to advise state agencies, and establishing an interagency implementation team to carry out the recommendations of the Advisory Council. The task force also recommended hiring an organic specialist for the University of Wisconsin System.

Wisconsin's national prominence in organic agriculture justifies state involvement. Wisconsin is now second in the nation for the number of certified organic farms, behind only California. According to the USDA, Wisconsin had 659 certified organic farms in 2003. PATS estimates that Wisconsin had about 880 certified and uncertified organic farms in 2004.

As of 2003, Wisconsin had over 91,000 acres of certified crop acreage and over 28,000 acres of certified pasture. Wisconsin still leads the U.S. in certified organic livestock, with 33% of the nation's organic milk cows and 22% of the nation's organic layer hens. Wisconsin is also a leader in organic crop production, growing 18% of the organic corn and 16% of the organic oats produced in the U.S.



In 2002, \$20,828,000 worth of organic products were sold by Wisconsin farms. Two PATS surveys found that the average 2004 net farm income for certified organic farmers in Wisconsin was 25% higher than the average net income reported for all Wisconsin farms. While organic dairy farms earned average revenues of \$150,000, other organic farms had much lower revenues.

Consumer demand for organic food is growing at a fast pace, and the U.S. organic market is projected to reach a value of \$30.7 billion by 2007. A 2004 study found that seven in ten Americans express at least moderate concern about the health risks of pesticides and antibiotics in food production. International markets also present opportunities. As a result of this increased demand, there is currently an opportunity for more farmers to enter the organic market. Organic dairy production may be a particularly lucrative business direction, as premiums for milk are high and demand exceeds supply at this point in time. While the infrastructure for organic dairy production, processing and marketing is in place, Wisconsin needs to develop this infrastructure for organic produce and other products.

Since the 2003 report, national organic standards have helped cement consumer trust in the organic label and the production practices it guarantees. These standards have also caused some controversy about maintaining the long-term integrity of the organic label. At issue is a rider to the 2006 Agricultural Appropriations bill. Some key players in the organic industry supported this rider because it allows the use of carefully reviewed, non-organic substances like baking soda in organic food processing. Others, however, are concerned that it will lead to the approval of controversial substances without public input. Another standards issue concerns a loophole that allows dairy operations that confine their lactating cows to label their products as organic, without meeting the requirement that their animals have access to pasture.

Of special interest in this report are summaries of work underway at various Wisconsin institutions, both public and private. The summaries of institutional activities supporting organic agriculture (Appendix B) were presented at a December 2005 meeting held at Organic Valley. Participants from both the public and private sectors discussed how public institutions, particularly higher education, might better address the needs of Wisconsin's organic industry. The summary of organic research at the University of Wisconsin System (Appendix C) is the result of a search of the USDA Current Research Information System and updates from researchers. A list of organizations supporting organic agriculture is also provided in Appendix D.

The need for more organic food represents a tremendous opportunity for Wisconsin. We hope that this report will build political and institutional support for organic agriculture. Organic farms and businesses are already providing economic and environmental benefits to Wisconsin's rural communities, and enhanced support for organic agriculture will multiply these benefits. Wisconsin has a strategic advantage because our farms are often small and medium-sized, family owned and operated, pasture-based and committed to producing high-quality goods. This fits the ideal image of organic farms that consumers value. Increased support for organic agriculture in the state can capitalize on this advantage.



State government involvement

The state of Wisconsin recognized the economic potential of the organic industry in Governor Doyle's 2003 "Grow Wisconsin" economic development plan. In March 2004, the governor convened a discussion of the status and future of organic farming and food systems in Wisconsin. Nearly 100 people representing an array of public and private sector institutions participated in the event. The governor then charged a task force to forge concrete recommendations for the state (see Appendix A on page 25 for a list of task force participants). Between October 2004 and January 2005, the task force developed an action plan to secure Wisconsin's leadership position in organic agriculture and food. Wisconsin Secretary of Agriculture Rod Nilsestuen presented this plan at the Upper Midwest Organic Farming Conference in February 2005.

The task force identified four infrastructure needs:

- A dedicated organic specialist at the state Department of Agriculture, Trade and Consumer Protection;
- A permanent Wisconsin Organic Advisory Council that would advise state agencies;
- An interagency implementation team that would act on recommendations of the Organic Advisory Council and coordinate agency work on organic policy and programs;
- An organic specialist within the University of Wisconsin System who would organize research and extension for organic producers and processors.

State agencies set to work on the task force's plan. DATCP requested a staff position to serve both the organic and grazing sectors. The new position was advertised in December 2005. This staff person will coordinate the Wisconsin Organic Advisory Council and convene the interagency implementation team in 2006.

This interagency implementation team will be a group of people appointed by state agency heads and NRCS to serve as a liaison between the agencies and the task force. A number of specific priorities were outlined for this team.



Among these were:

- Educational and promotional programs for Wisconsin organic products;
- Programs that facilitate networking between farmers;
- Coursework, degree programs and research at UW System schools and the state's technical colleges.

Addressing food processing needs for both organic and non-organic operations was also identified as a priority for the implementation team. This may include changing or developing state regulations that are appropriate for processing facilities of all sizes.

Securing a specialist position within the UW System has proven more difficult. This position would be part of University of Wisconsin-Extension. UW-Extension must make its budget requests as part of a larger UW System budget request, and the UW System budget has been downsized over the past few years. Creating an organic specialist position in Extension will require increased or continued cooperation among educational, private and public sector institutions.

In December 2005, representatives from the University of Wisconsin, UW-Extension, Wisconsin Technical Colleges and government agencies met with farmers and representatives from for-profit and non-profit organizations. The group explored ways to meet the higher education needs identified by the task force, including a strategy to hire the organic specialist. They also discussed establishing and increasing available coursework, degree programs, research and extension emphasizing organic agriculture. Representatives prepared brief statements of their work in organic agriculture, summarized in Appendix B on page 24.

Governor Doyle with three board members and the CEO of Organic Valley. The Organic Valley Board of Directors works with Governor Doyle to promote organic agriculture in Wisconsin.



Organic production in Wisconsin

Organic crops and livestock

Wisconsin has the second highest number of certified organic farms in the U.S. (Figure 1). 2003 USDA data indicate that Wisconsin has surpassed Washington, previously second in the nation for the total number of certified farms. However, between 2001 and 2003, Wisconsin fell from fourth to fifth in the nation for total certified crop acreage (Figure 2), with over 91,000 acres. Certified pastureland in the state increased 130% to over 28,000 acres (Table 1, page 6).

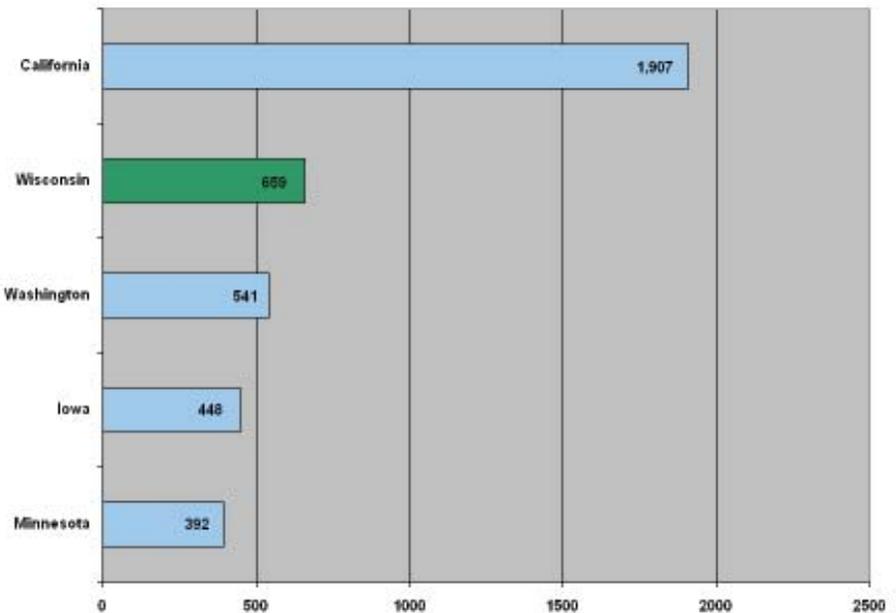
Wisconsin still leads the U.S. in certified organic livestock, with 33% of the nation's organic milk cows (Table 2, page 6).

Wisconsin's organic poultry production increased dramatically between the 2001 and 2003 surveys. The number of layer hens increased more than 2,000%, giving Wisconsin a top ranking. The number of organic turkeys, however, fell by 35% to just over 5,200.

Wisconsin is also a leader in organic crop production.

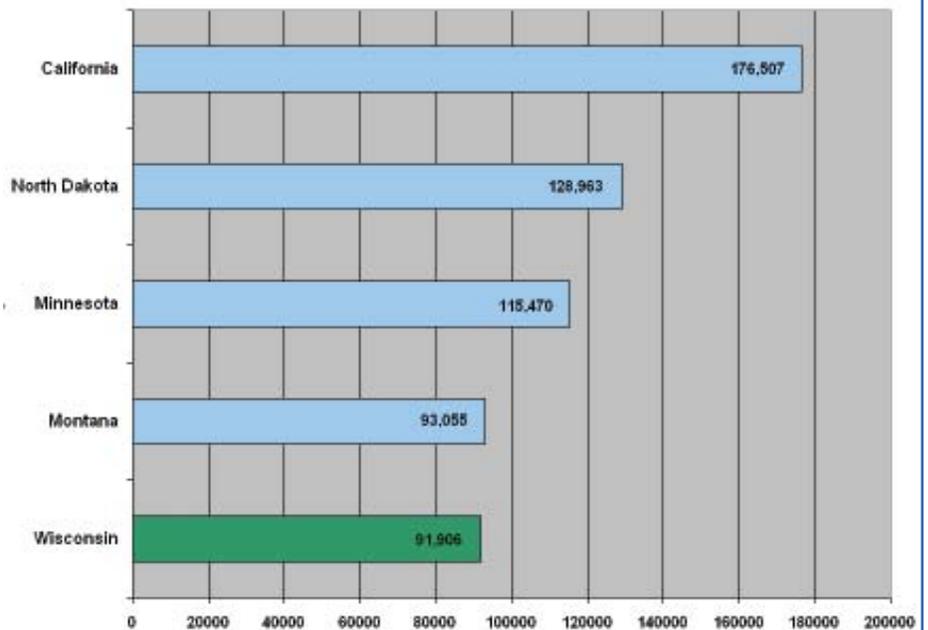
Wisconsin growers supplied 10% or more of the U.S. total for corn (18%), oats (16%), barley (12%), sorghum (10%), rye (15%), soybeans (10%), alfalfa hay (15%), and cultivated and wild mushrooms (28%) in 2003 (Table 1). Pasture and hay acreage increased by over 1,000% between 2001 and 2003. Dry pea and lentil acreage increased by 338%, sunflower production was up 334%, and sorghum acreage increased by 322%. Certified acres in oats were up 126%, and total vegetable acreage increased by 114%. Other crops decreased in certified acreage, including apples (-82%), cultivated herbs (-52%) and soybeans (-45%).

Figure 1. Number of certified organic farms by state, 2003



Source: ERS, 2005; <http://www.ers.usda.gov/Data/Organic/>

Figure 2. Amount of certified organic cropland by state, 2003



Source: ERS, 2005; <http://www.ers.usda.gov/Data/Organic/>

Table 1. Certified organic crop acreage in Wisconsin and US, 2003

	WI Organic Acres	US Organic Acres	% of US Total	WI Rank (total states)	WI % change, 2001-2003
Number of certified operations	659	8,035	8%	2	41%
Cropland	91,906	1,451,601	6%	5 (49)	16%
Pasture and rangeland	28,737	745,273	4%	8 (37)	130%
Total organic acreage	120,643	2,196,874	5%	7 (49)	32%
Corn	19,362	105,574	18%	2 (29)	45%
Wheat	2,522	234,221	1%	18 (28)	37%
Oats	7,468	46,074	16%	2 (26)	126%
Barley	3,535	30,265	12%	3 (22)	40%
Sorghum	409	4,152	10%	4 (13)	322%
Spelt	39	9,719	<1%	11 (12)	-33%
Buckwheat	136	8,086	2%	8 (17)	53%
Rye	1,761	11,616	15%	3 (19)	61%
Other	686	47,087	1%	15 (28)	18%
Total grain acreage	35,965	496,794	7%	5 (39)	57%
Soybeans	12,211	122,403	10%	5 (29)	-45%
Dry beans	272	9,836	3%	7 (18)	-30%
Dry peas and lentils	1,517	16,188	9%	3 (14)	338%
Total bean acreage	14,057	152,757	9%	4 (33)	-38%
Flax	ND	14,940	ND	ND	ND
Sunflowers	317	7,121	4%	7 (11)	334%
Total oilseed acreage	317	28,117	1%	12 (18)	296%
Alfalfa hay	20,809	135,717	15%	2 (28)	28%
Haylage/Silage	3,421	38,188	9%	4 (18)	56%
Pasture and hay	9,356	153,633	6%	7 (34)	1,276%
Total hay and silage acreage	33,586	327,538	10%	2 (37)	24%
Tomatoes	2	3,866	<1%	12 (13)	100%
Carrots	10	7,943	<1%	6 (9)	-62%
Mixed and other vegetables	1,225	55,157	2%	6 (46)	122%
Total vegetable acreage	1,237	78,895	2%	8 (46)	114%
Apples	25	13,902	<1%	9 (17)	-82%
Unclassified/other	117	20,937	<1%	14 (32)	18%
Total fruit acreage	149	77,989	<1%	17 (37)	-38%
Cultivated herbs	136	24,598	<1%	9 (29)	-52%
Cut flowers	4	96	4%	6 (12)	0%
Cultivated and wild mushrooms	38	136	28%	1 (10)	ND
Total herbs and nursery acreage	179	25,074	<1%	10 (32)	-37%

Table 2. Certified organic livestock in Wisconsin and US, 2003

	WI Number of Animals	US Number of Animals	% of US Total	WI Rank (total states)	WI % change, 2001-2003
Beef cows	1,807	27,285	7%	3 (28)	54%
Milk cows	24,884	74,435	33%	1 (20)	130%
Hogs & pigs	232	6,564	4%	5 (14)	33%
Sheep & lambs	ND	4,561	ND	ND	ND%
Total livestock	28,103	124,346	23%	1 (32)	125%
Layer hens	342,122	1,591,181	22%	1 (26)	2,081%
Broilers	132,959	6,301,014	2%	6 (17)	417%
Turkeys	5,248	217,353	2%	5 (13)	-35%
Total poultry	569,429	8,780,152	6%	4 (29)	1,051%

Source: (ERS, 2005) <http://www.ers.usda.gov/Data/Organic/>

Organic farms and farmers

A telephone survey of four organic certification agencies in Wisconsin, conducted in the summer of 2005 by CIAS, indicated that the number of certified farms increased from 512 in 2003 to 640 in 2005. This represents a 25% increase. The southwest corner of the state continues to have the greatest concentration of organic farms (Figure 3), with Vernon County, where Organic Valley is located, claiming 113 certified operations. Monroe County has the next highest number, with 33 certified farms. The greatest gains in certified farms from 2003 to 2005 were in Monroe (16 additional farms), Lafayette (15 farms), Wood (11 farms), and Dane (10 farms) counties. During this time, Sauk County lost the most certified organic farms (13 fewer farms). These figures, however, only account for certified organic farms.

Many organic farms in Wisconsin are not certified. The University of Wisconsin Program on Agricultural Technology Studies (PATS) estimated that Wisconsin had about 880 certified and uncertified organic farms in 2004 (including dairy farms), over 200 more than the certified farms counted by the USDA (PATS, 2005).

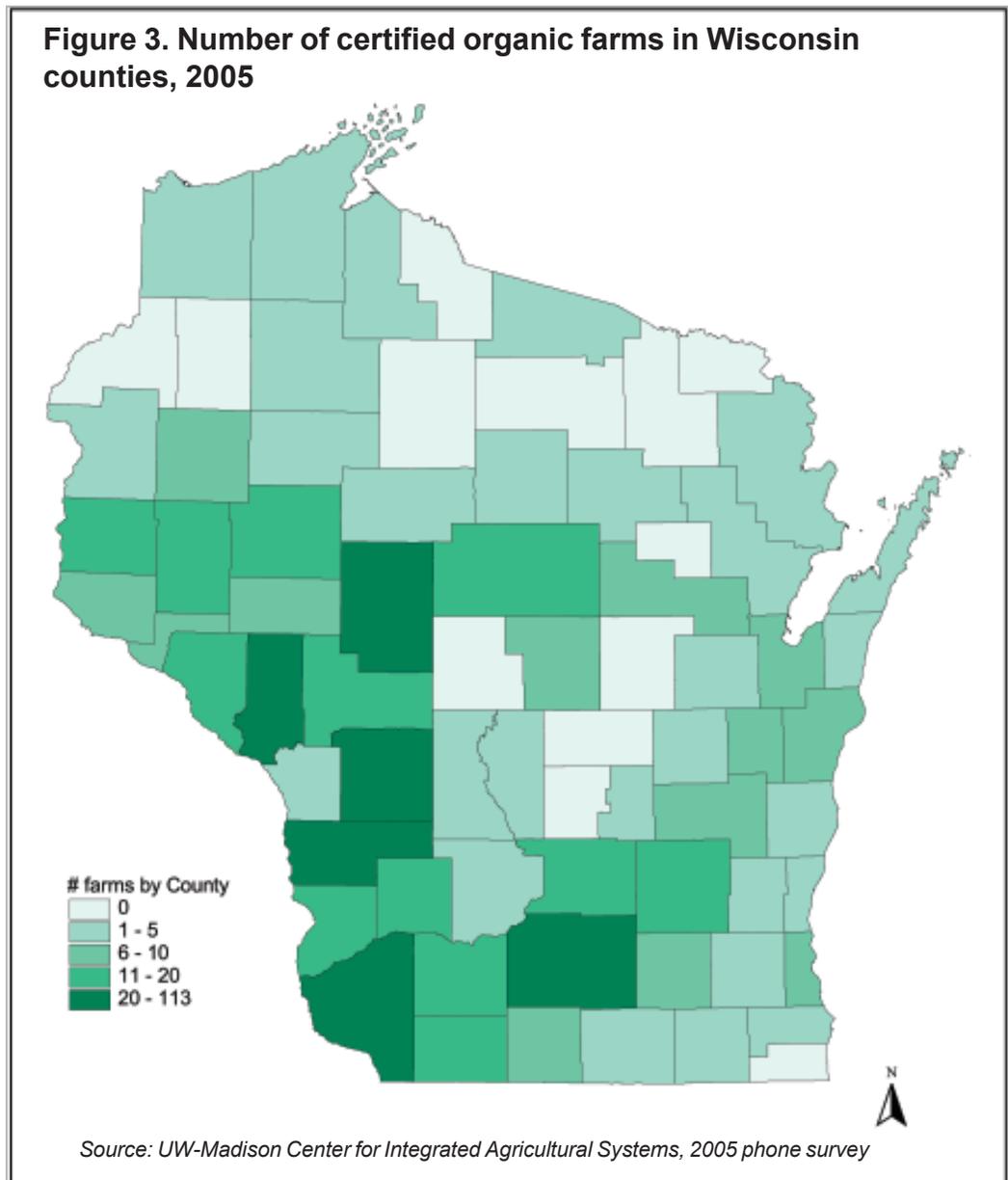
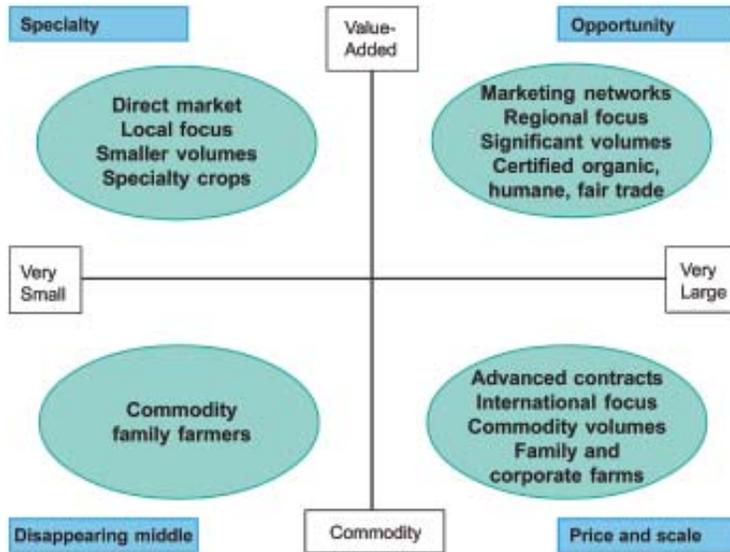


Figure 4: Food system quadrants



Source: Association of Family Farms, Inc. (www.associationoffamilyfarms.org), the business development wing of the national Agriculture of the Middle initiative (www.agofthemiddle.org), 2005.

Figure 4 categorizes all farms according to size (based on gross sales) and value added to products at the farm level. Many specialty farms, represented in the upper left quadrant of this figure, are growing food organically but may choose not to certify if they interact with their customers and inform them directly about their farming practices. Certification is necessary for the larger organic farms identified as opportunity farms in this chart. These farmers do not interact directly with consumers and need third-party assurance of their product quality.

Who manages organic farms in Wisconsin, and what kinds of experience do they bring to their work? PATS surveyed 486 value-added farmers in 2004, including both organic and non-organic farms. This survey did not include organic dairy

farmers, and may not have included a representative sample of organic cash grain farmers. Among the 196 organic farmers—certified and uncertified—who replied, they found that:

- 52% had grown up on a farm
- 41% had worked on a farm
- 37% had parents who farmed
- 26% had no farming background
- 22% had taken agricultural classes
- 10% had a formal agricultural degree
- 8% had completed an apprenticeship

These farmers relied heavily on other farmers for primary information and had a relatively high rate of internet use (PATS, 2005).

Economic impact of organic agriculture in Wisconsin

The most recent economic data available, from the 2002 National Agricultural Statistics Service (NASS) Census of Agriculture, show that \$20,828,000 worth of organic products were sold by Wisconsin farms. Most farms sold between \$1,000 and \$9,999 worth of organic products (Table 3).

Two PATS surveys found that the average 2004 net farm income for certified organic farmers in Wisconsin was \$22,487 (PATS, 2004). This is 25% more than the average net income of \$17,946

Alfalfa—an organic crop particularly at risk in Wisconsin?

Wisconsin is ranked second in the nation for perennial alfalfa production, with over 20,000 certified acres. Wisconsin supplied 15% of the nation's organic alfalfa in 2003 (USDA, 2005). The demand for organic alfalfa is increasing as the demand for organic livestock feeds rises. This crop is also popular as a green manure and a health food ingredient.

While many organic farmers do not grow pure stands of alfalfa, genetically modified RoundUp Ready alfalfa could nevertheless threaten organic alfalfa production. Organic farmers could lose their alfalfa contracts if genetically modified material is detected in their alfalfa (Non-GMO Source, 2004). Specific concerns include cross-pollination by bees and other contamination of pollen and seed.

The sale and use of Monsanto's RoundUp Ready alfalfa was approved by USDA-APHIS on June 14, 2005 (Doll, 2005). The U.S. EPA has approved labels for the application of RoundUp to this genetically modified crop. The current supply of seed is expected to plant between 50,000 and 75,000 acres nationwide.



reported for all Wisconsin farms (NASS, 2004). The average revenue—the value of everything sold from the farm—for all organic farms except dairy farms was \$41,000, with organic dairy farms earning \$150,000 on average. Many of the organic farms that were not dairy farms earned very low revenues, with half of these farms earning less than \$11,000. This suggests that a large number of organic farms are not currently able to support an average-sized family on their own, and many organic farm families supplement their farm earnings with off-farm work (Foltz and Miller, 2005).

Although organic agriculture is growing both in Wisconsin and the U.S., certified organic farms, acreage, and production represent only a small fraction of agriculture. In Wisconsin, the number of organic milk cows is only 2% of the state's total, while the number of certified farms and total certified acreage are each less than 1% of the state's total. Furthermore, the economic contribution of organic agriculture is less than 1% of the total market value of agricultural products sold in Wisconsin (NASS, 2004).

Table 3. Number of farms selling organic products within each sales bracket

Total sales in 2002	Number of farms
\$1 - \$499	96
\$1,000 - \$9,999	196
\$10,000 - \$24,999	91
\$25,000 - \$49,999	58
\$50,000+	120

Source: NASS, 2002

Organic marketing and processing

Markets for organic food have expanded in recent years, but many Wisconsin growers are unable to fully take advantage of these marketing opportunities. With the exception of the dairy industry, lack of established purchasing, processing, storage and distribution infrastructure hinders growers' ability to expand and coordinate production to serve restaurants, grocery stores and institutional buyers (Kremen et al. 2003).

The Governor's Task Force identified processing infrastructure for organically grown produce as a priority. Processing infrastructure is also needed for other fruit and vegetables, such as those grown by small and mid-size farmers using Integrated Pest Management. Improving this infrastructure may include developing or changing state processing regulations for different-sized processing facilities and creating a business climate where small and medium processors can flourish. Wisconsin is fortunate to have some infrastructure in place to support organic dairy and meat producers, although that infrastructure could be improved.

Growing consumer demand

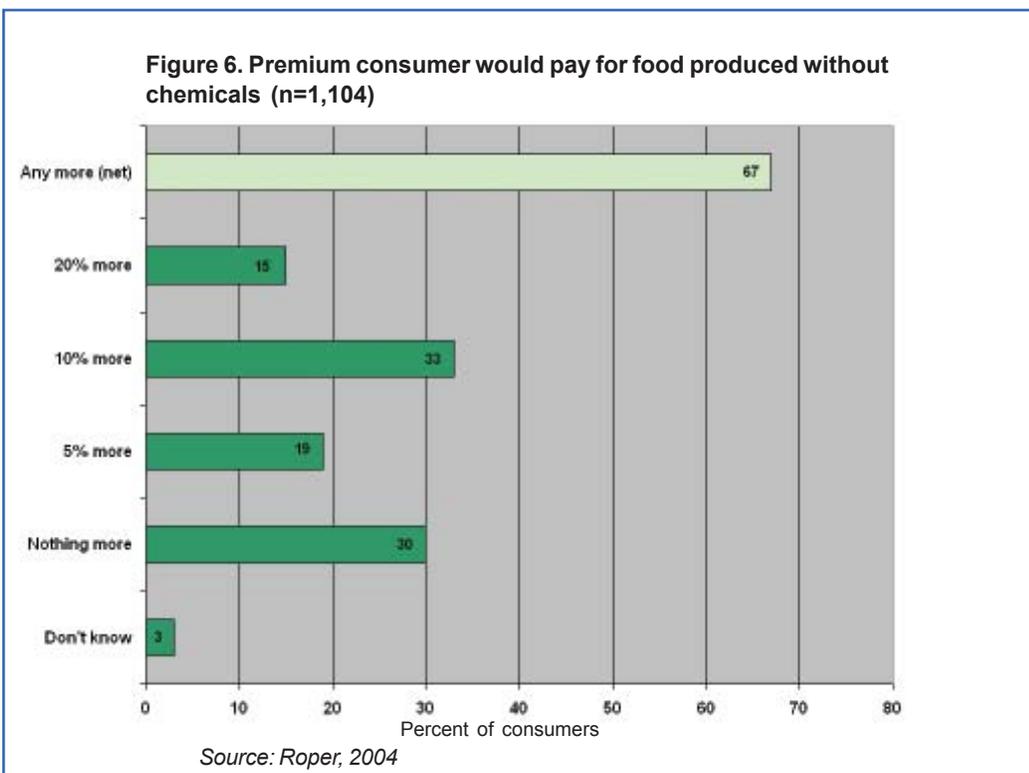
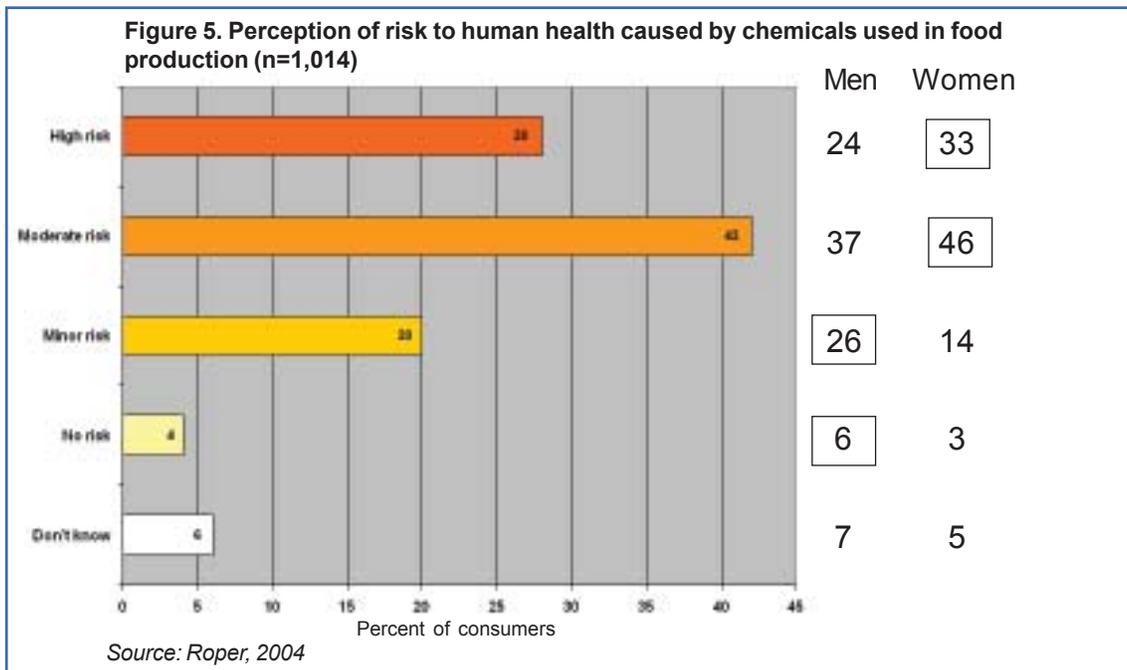
Organic agriculture is expanding rapidly in the United States as consumer interest gathers momentum and new production and marketing systems evolve. The U.S. organic market is projected to reach a value of \$30.7 billion by 2007. A five-year compound annual growth rate of 21.4 percent is expected between 2002 and 2007, compared to the 21.2 percent rate observed from 1997 to 2002 (Datamonitor, 2003). Organic products are now available in nearly 20,000 natural food stores and 73 percent of conventional grocery stores, and account for approximately one to two percent of total food sales in the U.S. (Greene and Dimitri, 2003).

Demand for and sales of organic food are also growing in Europe. The European Union's organic sector—particularly Western Europe—had the fastest worldwide growth in the 1990s.¹ Growth in organic retail sales, however, has slowed in some countries, with recent growth rates across the EU averaging 7.8 percent per year. Forecasts of annual growth for organic sales in the next few years range from 1.5 percent for Denmark to 11 percent for the United Kingdom. In 2003, retail organic sales in the EU, at almost \$13 billion, exceeded the \$10.4 billion of U.S. sales. However, per capita retail sales were nearly equal, approximately \$34 in the EU and \$36 in the U.S. (Dimitri and Oberholtzer, 2006).

A survey conducted in August 2005 for Whole Foods Market found that 65 percent of Americans had tried organic food and beverages, up from 54 percent in similar surveys conducted in 2003 and 2004 (Whole Foods Market, 2005). Of those polled, 27 percent reported consuming more organic food and beverages now than a year ago. Ten percent ate organic food several times per week, up from seven percent a year ago. The top reasons for buying organic food and beverages were to avoid pesticides (70.3 percent), freshness (68.3 percent) and health and nutrition (67.1 percent). More than half (55 percent) said they bought organic food to avoid genetically modified food. More than half of all respondents agreed that organic food is better for their personal health and the environment.

¹There were fifteen countries in the European Union in 2003.

A 2004 study on food and farming prepared for Organic Valley found that seven in ten Americans expressed at least moderate concern about the health risks of pesticides and antibiotics in food production (70%) with just over one in four (28%) saying these chemicals pose a high risk to human health (Figure 5). Women (81%) were significantly more likely than men (64%) to say that food labels indicating the use of pesticides, hormones, antibiotics or genetically modified ingredients would affect their purchases. This survey indicated that two-thirds of Americans would pay more for food grown without synthetic chemicals (Figure 6), and 51% would pay more for food produced with the humane treatment of animals.



Consumers may benefit from the increased competition resulting from the introduction of organic milk in the marketplace. A 2003 study by PATS examined retail scanner data on weekly milk prices and sales in twelve major metropolitan cities across the U.S. from 1997-2002. This research found that the competitive effect of adding labeled, certified organic and rBST-free milk to the choices available to consumers reduced the price of conventional, unlabeled milk by two cents per gallon. This decrease was six or seven times higher than the effect of another unlabeled brand entering the marketplace and it represents a benefit of about a \$130 million per year for all consumers.

More significantly, having a broader range of milk choices (organic and rBST-free) in the marketplace was valued at an average of 17 cents per week for each consumer in four of the cities in this study.

Extrapolated to the national level, the consumer benefit from organic and rBST-free milk in the marketplace equals \$2.53 billion per year. The study showed that consumers receive a higher benefit from introducing organic milk into the marketplace than rBST-free milk. Weakening organic standards could detract from this advantage to consumers (Foltz and Dhar, 2003 [1]).

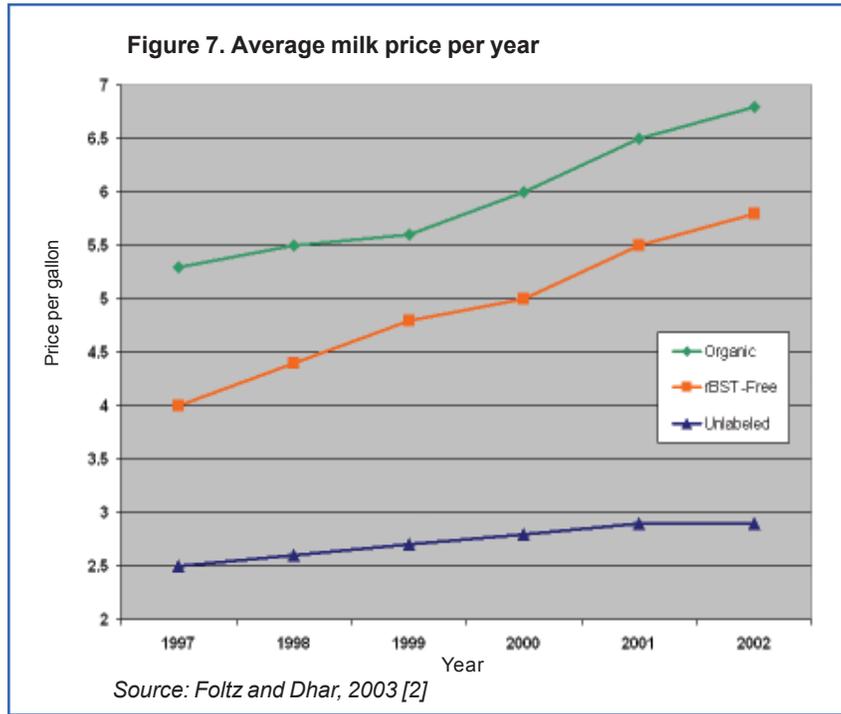
During this study, the price of organic milk increased by 24%, while rBST milk increased 25% and unlabeled milk increased 13% (Figure 7). Despite steeper price increases, organic and rBST milk captured up to four percent of the market in some of the cities in this study. The researchers found that, once consumers switched to rBST and organic

milk, they usually did not switch back to unlabeled milk even if prices changed significantly (Foltz and Dhar, 2003 [2]).

Organic dairy processing and marketing

Wisconsin has the infrastructure to support organic dairy production, processing and marketing. Small processing plants are scattered throughout the state, transportation of milk from farms to processing plants is available, and experienced cheesemakers and other food processors can create new product lines.

With this infrastructure in place, organic dairy processors in Wisconsin need milk and pay a premium for it. Growth in the market for organic dairy products continues to outpace domestic production. Organic Valley, located in La Farge, currently buys milk from 311 organic dairy farmers in the Midwest, including 204 Wisconsin farmers. According to Jerry McGeorge, cooperative coordinator for Organic Valley, "The growth in demand for organic products remains



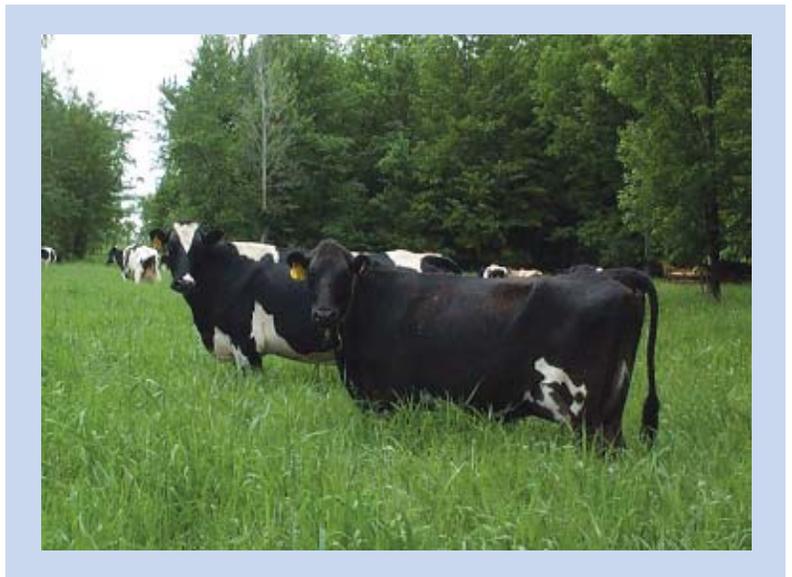
very high. We believe that over the next 5 years we could as much as double the number of dairy farmers in our co-op. The bigger question to me is whether the number of farmers converting to organic dairy production will keep pace with the growing consumer demand.”²

In a September 2005 phone survey for *The Country Today*, Ann Hansen explored organic milk marketing options (Hansen, 2005). She interviewed six milk buyers—all but one based in Wisconsin—seeking more organic dairy producers. In addition to **Organic Valley**, these buyers are:

- **Horizon Dairy**, owned by Dean Foods since 2003, is the largest marketer of organic dairy products in the U.S. Horizon sources milk from company-owned farms and about 350 private, family farms across the country. It purchases milk directly from three organic producers in Wisconsin and also from Wisconsin cooperatives including Organic Valley;
- **Cedar Grove Cheese** of Plain, owned by Bob Wills, makes cheese from organic milk bought directly from 15 area producers;
- **Wisconsin Organics**, markets fluid milk and its own line of cheese, with an emphasis on grass-based production, through more than 150 regional retail outlets;
- **Organic Choice**, based in Prescott, has about 50 participating producers;
- **Scenic Central Milk Producers Cooperative Association** in Prairie du Sac buys milk from 15-20 producers. This milk is ultimately sold under the Stonyfield label owned by Group Danone, the French-based maker of Dannon yogurt.

Hansen found that base pay ranged from \$20 to \$23 per hundredweight, which is a substantial premium over conventional milk prices. Federal Milk order class III prices for 2005 (3.5% butterfat) averaged \$14.05 per hundredweight and ranged from \$13.35 to \$14.70 per hundredweight (Dairy Market News, 2006). Organic milk prices are typically higher and more stable than non-organic milk prices, and have been on a gradual upward trend. The financial performance of organic dairies is, therefore, relatively better when the national average milk price is low (Kriegel, 2006).

The premiums paid for organic milk do not guarantee profitability for organic dairy farms. A study by the University of Maine found that, in 2004, thirty organic dairy farms in Maine and Vermont were losing money despite being paid \$22.97 per hundredweight for their milk. While their gross revenues averaged \$3,589 *per cow*, net revenue was listed at \$3,878 *per farm*. Poor weather, expensive grain and high land costs all contributed to these lower profits. However, management issues also played a part. More than half of these dairies hired labor for an average of 23 hours a week, in addition to an average of 5,042 hours of family



² Jerry McGeorge, Organic Valley, personal communication on 1/23/06.

Meeting the need for organic feed

Short supply and high costs of organic feed are stumbling blocks to getting started and staying profitable in organic livestock production, including dairy production. The Wisconsin Organic Marketing Alliance (WOMA) is addressing these issues by linking organic livestock producers directly with organic feed producers.



It can be difficult for certified organic livestock growers, particularly those on small- and medium-sized family farms, to acquire spot loads of organic grain at reasonable prices. Wisconsin has fewer than a dozen large organic grain farms. Most farms producing organic grain in Wisconsin have fewer than 200 acres of cropland, grow feed mainly for their own use, and sell the surplus. WOMA links these smaller grain producers with nearby organic livestock farms, reducing transportation costs for organic grain and making organic feed more affordable.

WOMA currently has about 30 members and was formed in September 2004. It received a 2005 Agricultural Development and Diversification Grant from the Wisconsin Department of Agriculture, Trade and Consumer Protection for inventory management. WOMA is one of eight organizations that make up the national Organic Farmers' Agency for Relationship Marketing (OFARM), which helps the group evaluate grain markets (Brown, 2006).

labor—113 hours per cow—on the studied farms. Total cash expenses, not including depreciation, averaged \$19.77 per hundredweight. It's not surprising that, in 2005, organic dairy farmers in New England demanded and received a \$27 per hundredweight base price for their milk (McNair, 2006).

Organic dairy farmers in Wisconsin are able to produce milk at a lower cost than their New England counterparts, partly because of our lush, cool season pasture. Grazing helps keep feed costs down, and land costs are lower. Most Wisconsin organic producers raise most of their own grain and forage, which is not the case in the Northeast. In 2004, Wisconsin's organic dairy farmers had significantly higher net farm income from operations (NFIFO)—that is, the income that is left over after all costs except opportunity costs have been accounted for—than organic farmers in New England. NFIFO per hundredweight equivalent³ was \$4.21 for Wisconsin organic farmers and \$2.00 for New England organic farmers in 2004 (Kriegel, 2006). At some point in the future, the organic milk supply may increase enough to meet demand and farm gate prices may go down. Under this scenario, Wisconsin's efficient organic dairy farms will be in a good position to continue competing in the marketplace.

³ Hundredweight equivalent is an indexing procedure that focuses on the primary product that is sold and standardizes farms in terms of milk price and many other variables for analysis purposes.

Markets for other organic products

The organic dairy sector is not alone in experiencing high consumer demand, inadequate supply and high farm gate prices. Increased demand for organic soy products, including soy milk and livestock feed, drove the 2005 price of organic Vinton soybeans up to \$18-20 per bushel. This is significantly higher than the \$6.00 per bushel currently paid for conventional beans and the \$8.24 per bushel paid for organic soybeans four years ago (Organic Business News, 2006). The organic produce market now seems better able to meet consumer demand (Dimitri and Oberholtzer, 2006).

In Wisconsin, many organic growers market their finished products directly to customers rather than selling raw commodities. In 2003, direct sales accounted for 9% of total organic sales in the U.S. (Dimitri and Oberholtzer, 2006). According to the National Agriculture Statistics Service, over 4,900 Wisconsin farms sold \$29.1 million of products directly to customers in 2001. The number of these operations that are certified organic is unknown. Furthermore, organic farmers who sell their products directly to customers may not certify, as they can directly communicate details about their production systems.

The 2004 PATS survey of value-added farmers in Wisconsin found that they used diverse marketing methods. This survey did not include organic dairy farmers, and may not have included a representative sample of organic cash grain farmers. Thirty-five percent of the 196 certified, uncertified and transitional organic farmers in the study sold through wholesale markets. Other marketing strategies used by these growers include:

- Farmers' markets (55%)
- On-farm sales (48%)
- Natural food and specialty stores (30%)
- Restaurants (22%)
- Home delivery (19%)
- Grocery stores (19%)
- Community Supported Agriculture (19%)
- Internet (14%)
- U-pick (14%) PATS, 2005

Nearly a third of these growers marketed food wholesale to supermarkets, restaurants, and institutions. Several projects in Wisconsin are helping link growers and institutional buyers to create the necessary infrastructure for institutional marketing of organic products. As part of the College Food Project, six college campuses in Wisconsin bought some of the food for their dining services directly from local farms and farmer cooperatives, as of the 2001-2002 school year. Four of them bought from farms and cooperatives that used organic and sustainable farming practices. The University of Wisconsin-Madison now purchases organic products for its cafeterias, including hamburger from Organic Valley. Organic food purchasing by the UW-Madison food service has been facilitated by an *a la carte* meal plan, where students can decide to pay a premium for higher quality organic products, and a food service director who is enthusiastic about offering organic menu options (CIAS, 2004).

Wisconsin Homegrown Lunch (www.reapfoodgroup.org/farmtoschool) is piloting a farm-to-school program that provides local, and some organic, produce to Madison elementary schools. Wisconsin Homegrown Lunch works with the school district's food service, local growers and processors to identify barriers and opportunities for purchasing and preparing local, fresh products that are consistent with National School



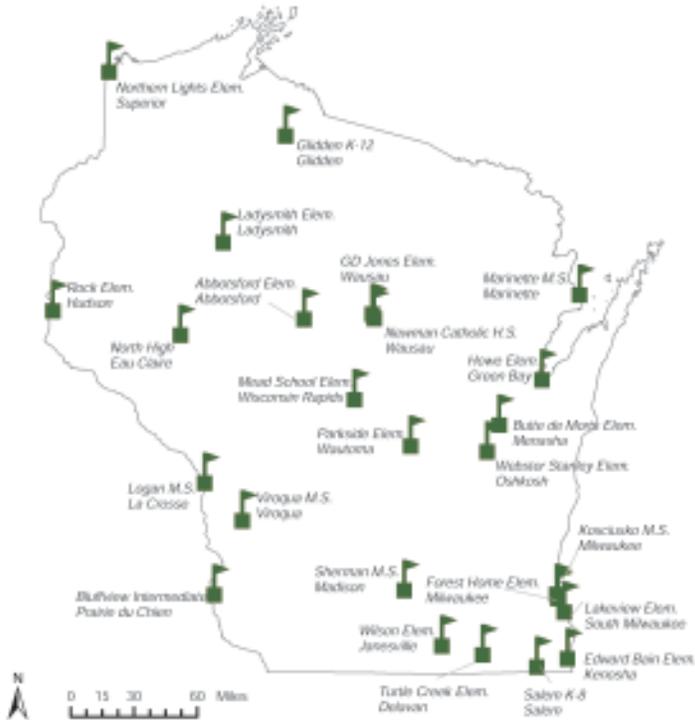
Lunch Program nutritional requirements. Other school districts around the state, including Verona, Mt. Horeb and Appleton, are purchasing and serving locally or regionally grown—and sometimes organic—food to their students.

Wisconsin Homegrown Lunch is also providing local procurement assistance to the 25 school districts around the state that are participating in the USDA Fresh Fruit and Vegetable Snack Program. Wisconsin has been awarded over \$1 million for the 25 selected schools to provide fresh fruit and vegetable snacks to students for free from February 2006 to June 2007 (Figure 8). The Wisconsin Department of Public Instruction and the Wisconsin Homegrown Lunch project are encouraging these schools to purchase local produce, including organic produce, when available and feasible.

Home Grown Wisconsin (www.homegrownwisconsin.com) is a grower cooperative that has supplied fresh organic produce to restaurants since

1996, when 25 farms in the southern region of the state formed this cooperative. The co-op now sells to restaurants in Chicago, Madison, Milwaukee, Sheboygan and Washington Island. In 2004, the co-op added a CSA program to market produce in the Chicago area from mid-June through the end of October.

Figure 8. Wisconsin schools participating in the USDA Fresh Fruit and Vegetable Snack Program, 2006-2007.



Source: USDA. Map by Larry Cutforth.

Increasing the supply of organic food

Demand for organic food outstrips supply nationally and internationally. Several organizations in Wisconsin and the U.S. have initiated programs to help people get started in organic farming:

- Organic Valley is actively seeking members through a program called “Generation Organic,” which is a campaign to bring new farmers into organic agriculture;
- Wisconsin’s Midwest Organic and Sustainable Education Service (MOSES) launched a “Help Wanted: Organic Farmers” campaign in 2005. MOSES staff developed an information packet to help farmers explore the potential of organic production. MOSES will hire an organic technical specialist in the spring of 2006 to coordinate this effort. See Appendix D on page 33 for more information about MOSES.
- MOSES also coordinates the Upper Midwest Organic Farming Conference and Organic University, which provide a wealth of information for people wanting to start farming organically. The UMOFC is the largest organic farming conference in the U.S.
- On a national level, Rodale has initiated a “100,000 organic farms by 2013” campaign. To achieve this, about 5% of the 2 million farmers in the U.S. would need to transition to certified organic farming by 2013.



Internationally, many EU member states have established targets for organic production. The EU also supports organic farmers through green payments and other federal policies that recognize the environmental and social benefits of organic agriculture. In June 2004, the European Commission adopted an Action Plan for Organic Food and Farming aimed at facilitating ongoing developments in the organic sector (Dimitri & Oberholtzer, 2006).

Imports and exports

With demand for organic food outstripping supply, the United States is importing more organic produce, dairy products, grains and herbs than it exports. Organic products valued at an estimated \$1.5 billion are imported into the U.S., compared to about \$150 million in organic exports. With demand for organic food expected to increase into the future, the organic trade gap will continue to widen unless domestic production increases (Organic Monitor, 2005). Exports accounted for 9% of total U.S. organic sales in 2003 (Dimitri and Oberholtzer, 2006).

There are no data to report on Wisconsin's international organic exports. But we can make some assumptions about where organic exports may be going. Canada is the largest export market for U.S. organic products (\$75 - \$150 million annually), followed by Japan, the European Union, Taiwan, South Korea, New Zealand and Australia (Oberholtzer et al., 2005). The international market for organic products continues to grow, led by the European Union and Japan. Within the European Union, leaders in organic food consumption include Germany, Great Britain, France, Italy and Spain (Non-GMO Source, 2004).⁴ Sales of organic food in major European nations have doubled in the past five years.

A number of Wisconsin-based companies have begun exporting organic products to international markets. Ciranda (www.ciranda.com) of Hudson, Wisconsin, supplies certified organic oilseeds, beans and ingredients to markets throughout the Americas, Europe and Asia. The DeLong Company (www.delongcompany.com) of Clinton, Wisconsin, exports food and animal feed grade organic corn (whole and cracked), and organic soybeans to Japan and Taiwan. Organic Valley currently exports a limited number of dairy products such as cream cheese to Japan and

Canada, and is developing export markets for dairy and meat products to Japan, South Korea, and the Caribbean. The Dramm Corporation (www.dramm.com or www.fishfertilizer.com) of Manitowoc, Wisconsin, has exported organic fish-based liquid fertilizer to South Korea, Israel and Hong Kong since 2004, and is seeking to expand its exports.



⁴There were fifteen countries in the European Union in 2003.

The integrity of organic standards

In 2005, 320,000 e-mail letters and calls to Congress asked lawmakers to reject a last-minute rider to the 2006 Agricultural Appropriations bill. This rider could potentially weaken the control and review of the organic community's traditional watchdog, the National Organic Standards Board (NOSB), over what synthetic substances and non-organic ingredients can be used in processed organic food. It gives the Secretary of Agriculture authority to write rules that will permit the use of prohibited synthetic substances in emergency situations where organic substances are deemed unavailable.



This issue has been divisive within the organic community. The Organic Trade Association, which supports the rider, says that it restores the original intent of the NOSB by allowing the use of carefully reviewed, non-organic substances like baking powder and pectin. Other key players in the organic industry, however, assert that this rider opens the door for the approval of controversial substances and ingredients in organic production without input from the NOSB and the public (Organic Trade Association, 2005 [1]; Arnold et al, 2005).

The House/Senate Conference committee ignored the outpouring of public concern and passed the rider in late October. The Organic Consumers Association and other groups have vowed to renew the fight to reverse this rider and restore organic community control over strict organic standards.

Another issue of 2005 concerned a loophole in the organic standards that allows very large dairy operations that confine their lactating cows to label their products as organic, despite the requirement that all organic livestock have access to pasture. This loophole allows confinement of lactating animals during "stages of production" such as birthing and the first six months of life. Some organic dairy producers have confined lactating animals as well, claiming this "stage of production" loophole (Martin, 2005). More than 30,000 letters to the USDA and National Organic Standards Board (NOSB) were received in less than a month, expressing concern that animal welfare standards be upheld. The NOSB met in November and recommended that the USDA should begin the rulemaking process that could close this loophole in the organic standards. The process will begin in early 2006.

The Cornucopia Institute, located in Cornucopia, Wisconsin is working to protect organic standards through the Organic Integrity Project. This project aims to assure that the credibility of organic farming methods and the food it produces are not compromised by the pursuit of profit. The Institute opposes the weakening of organic standards. For more information, visit <http://cornucopia.org>.

Forecast for the future

In 2006, we expect to see a continued increase in the number of organic farmers in Wisconsin, particularly dairy farmers and growers raising feed for organic livestock. This will be largely in response to increased market demand. In addition, we anticipate increased state support for organic agriculture. The Department of Agriculture, Trade and Consumer Protection will have a half-time staff member working on organic agriculture issues and a permanent advisory council to guide agency staff. We should see more cooperation on organic issues between state agencies, including an interagency Memorandum of Understanding. Similar MOUs in other states have helped state and federal agencies delineate tasks and work together. We also may see a budget request from the University of Wisconsin System to support the hiring of an organic agriculture specialist through Extension.

At the national level, we anticipate strong growth in organic food markets, especially in major urban centers such as Minneapolis and Chicago. We also expect a strong market for organic livestock feed. The USDA debate over closing a loophole regarding animal welfare in the national organic standards promises to be lively. And there will probably be an organized grassroots effort to ensure tight oversight of non-organic substances that can be permitted in organic food processing. Ultimately, increased support for organic agriculture at the state level will position Wisconsin to take better advantage of growth in national and international markets.



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Members

Tom Wrchota, Omro, beef producer
Altfred Krusenbaum, Elkhorn, dairy farmer
Steve Pincus, Evansville, vegetable farmer
Mike Hansen, Milladore, beef, poultry and pork producer
Deirdre Birmingham, Mineral Point, apple grower
Gene Becker, Madison, beef processor
Jerry McGeorge, La Farge, Organic Valley / Coulee Region Organic Produce Pool
Kim Erdman, Madison, Natural Farms, Inc.
Ron Doetch, East Troy, Michael Fields Agricultural Institute
Faye Jones, Spring Valley, Midwest Organic and Sustainable Education Services
David Engel, Viroqua, Midwest Organic Services Association
Miriam Grunes, Madison, Research Education Action Policy (REAP) Food Group
Horst Rechelbackher, Osceola, Aveda Corporation

Ex-Officio Members

Perry Brown, Wisconsin Department of Agriculture, Trade and Consumer Protection
Carla Wright, Wisconsin Department of Natural Resources
Don Balon, USDA-Natural Resources Conservation Service
Paul Dietmann, University of Wisconsin Extension
Michelle Miller, University of Wisconsin-Madison, Center for Integrated Agricultural Systems

Appendix B

Summary of institutions attending the December 1, 2005 meeting at Organic Valley Headquarters, and their work supporting Wisconsin organic agriculture

USDA-Natural Resources Conservation Service – Pat Leavenworth, State Conservationist

There are a number of federal conservation programs for organic farmers offered through the state USDA-Natural Resource Conservation Service (NRCS) office. These include:

- Conservation Innovation Grants for individuals or organizations;
- Conservation Partnership Initiative for organizations;
- Environmental Quality Incentives Program through its standard for Conservation Crop Rotation (organic) 328, a \$50/acre incentive payment for growers to go organic on up to 40 acres. A total of 56 Wisconsin growers have contracted with NRCS under 328 since 2004.

Also of note is the Resource Conservation and Development (RC&D) program that helps people protect and develop their economic, natural and social resources. Wisconsin has seven RC&D areas with staff who can work with organic growers to build opportunities for organic production and marketing.

Wisconsin Technical Colleges – Bill Brendel, Dean, Western Wisconsin Technical College

There are ten technical colleges offering programs that serve the organic sector. All ten offer the Farm Business and Production Management Program with more than 30 instructors assigned to 80 students each. The program has sections devoted to organic production. At Western Technical College, about 25 students (8% of course enrollment) in this program are currently organic or planning an organic farm. Nicolette Technical College is working with the Midwest Organic and Sustainable Educational Services (MOSES) to develop an eight-hour organic gardening program. Five colleges offer an Agribusiness and Science Technology program that includes specialty courses on organic and value-added issues and offers core courses with an organic component. This program is responsible for seminars at the MOSES Organic University. Gateway Technical College offers seminars in conjunction with Michael Fields Agricultural Institute. The Northeast Technical College plans to offer an Organic Crop and Livestock Production course in 2007, delivered through distance education. Madison Area Technical College is planning a program in sustainable agriculture.

UW-Extension – Richard Klemme, Associate Dean of Extension

Extension contains four divisions including Cooperative Extension. Cooperative Extension consists of both county-based and campus-based faculty and academic staff working across four program areas, including the Agriculture and Natural Resources Extension program area. There are 12 self-directed teams that carry out the work of this program area as well as a Sustainable Agriculture Task Force, co-lead by Diane Mayerfeld from the UW-Madison Center for Integrated Agricultural Systems and Fred Madison, UW-Madison Department of Soil Science. The Sustainable Agriculture Task Force provided scholarships for 17 Extension faculty and staff and 12 students to attend the Upper Midwest Organic Farming Conference in 2005. The Task Force also sent eight Extension faculty members to the annual Wisconsin Grazing Conference to learn more about managed grazing. Several county agents have contacts with organic agricultural producers, primarily as part of their ongoing programs. Many other agents have only a few contacts per year. The organic farming topics addressed by county agents cover many mainstream areas, with a primary focus on marketing issues. Several county agents have worked with the Sustainable Agriculture Task Force or with the Midwest Organic and Sustainable Education Service (MOSES) to provide training opportunities to their fellow Extension faculty and growers. These programs rarely focus on production methods, however.

UW-Madison – A.J. Bussan, Department of Horticulture

Campus-based Extension faculty hold joint Extension and research positions in various departments on the UW-Madison campus. These faculty members are engaged in research and extension activities relevant to organic growers. Much of the research takes place on-farm, but there is a growing trend toward establishing organic acreage at university research stations. Arlington Research station has organic acreage, as do the Hancock, West Madison, Spooner and Peninsular stations. Marshfield Research Station is considering some organic acreage. Research on organic systems is concentrated in the plant sciences, despite the fact that animal systems are a large part of the organic agriculture scene in Wisconsin. Much of the Extension work with organic growers is conducted by a few state specialists in the plant sciences. There are also faculty members at UW-Madison with teaching appointments dedicated to providing coursework in agroecology, with attention to organic systems. There is now college support for the F.H. King Students of Sustainable Agriculture, a student group first started in 1979, including support for a student-managed, market-scale organic garden.

UW-Platteville – Duane Ford, Dean of Business, Industry, Life Sciences and Agriculture

There are no specific degree programs or courses, research or extension in organic agriculture at Platteville. There are some organic agriculture components within certain courses in agribusiness, animal science, soil and crop science, ornamental horticulture, and reclamation, environment and conservation. The University sponsors occasional guest speakers from the organic industry and occasional field trips to organic farms. The University is developing research on grazing that may be of interest to organic producers and houses a state Extension specialist in direct marketing. There is capacity to do more work on organic agriculture, and the University is open to new initiatives in organic agriculture should there be evidence of significant need and funding available to hire new staff to address this issue.

Wisconsin Department of Agriculture Trade and Consumer Protection – Perry Brown, Marketing Division

One full-time staff person spends 5% of his time working on market development and policy issues related to organic agriculture. He works with a limited term employee who spends 30% of her time managing the organic certification cost-share program. About 450 growers apply for this program every year. Organic growers are using pest surveys and pest management bulletins statewide. The Department is an annual sponsor of the Upper Midwest Organic Farming Conference. The Department played a lead role in organizing the Governor's Task Force on Organic Agriculture and will implement many of its recommendations, including the hire of a staff person to work on organic and grazing issues.

Midwest Organic and Sustainable Education Services – Jody Padgham

MOSES has eight core programs to serve growers. The Upper Midwest Organic Farming Conference (UMOFC) brought together 1800 participants in 2005. Preceding the conference was the Organic University that served 390 participants in 2005. MOSES launched a new campaign entitled "Help Wanted: Organic Farmers" in 2005 that provides free resources to assist growers in going organic. MOSES offers a number of important print resources for growers, including:

- The *Organic Broadcaster*, a bi-monthly newsletter that serves hundreds of farmers in the Midwest
- The 6th edition of the *Upper Midwest Organic Resources Directory*
- A website at www.mosesorganic.org
- *Guidebook to Organic Certification*

-
- Organic Dairy Farming book
 - *Organic Fact Sheets*

MOSES sponsors Organic Basic Trainings in conjunction with the UW-Extension Emerging Agricultural Markets Team to train farmers on the organic certification system. MOSES also sponsors the Midwest Organic Tree Fruit Growers Network and hopes to secure funding for an annual Organic Research Symposium at the UMOFC.

Organic Farming Research Foundation – Deirdre Birmingham

OFRF provides grants to support organic research and education projects. Since 1990, 230 grants totaling \$1.5 million have been given to such projects. OFRF has conducted four National Organic Farmer Surveys, five biennial Organic Business and Regulatory Conferences (1993-2001), two *State of the States* reports documenting land-grant university activity to support organic farming, a website and an information bulletin released one to three times per year. OFRF is finishing a National Organic Research Agenda, based on meetings OFRF hosted of the Scientific Congress on Organic Agricultural Research around the country. This agenda is an integral part of OFRF's work on Capitol Hill to obtain and maintain federal organic programs such as the Certification Cost Share program and organic crop insurance. OFRF is gearing up for the 2007 Farm Bill, launching a major communications program and initiating the Organic Farmers Action Network to help farmers make their voices heard on policy matters affecting them.

The meeting was hosted by:

Organic Valley – Jerry McGeorge

Organic Valley is committed to creating a “premier regional organic economy” in Southwest Wisconsin. Organic Valley’s Farmer Ambassador program employs farmer-members to tell the Organic Valley story. There is also a big push to expand the co-op through “Generation Organic,” a campaign to save the family farmer from extinction by bringing new farmers into organic agriculture. Organic Valley serves Wisconsin organic dairy producers at the national level by participating in the National Organic Standards Board, the Organic Trade Association, the Organic Center Board and other national efforts.

The following information was gathered through a search of the USDA Current Research Information System and updates from researchers. This list may not include all organic research occurring at UW-Madison. If you are engaged in or know of other projects we should include, please contact Michelle Miller at mmmille6@wisc.edu

Researchers: Michael Bell (Rural Sociology), Tom Kriegl (Center for Dairy Profitability), Sarah Lloyd (Rural Sociology) and George Stevenson (Center for Integrated Agricultural Systems)

Project Title: The Social Impact of Grass-Based Farming: A Study of Qualities of Life

Project Description: Different forms of farm organization entail human social consequences well beyond the field and the barn. This project compares how different management approaches on Wisconsin dairy farms influences the qualities of life that farm operators report as advantages and disadvantages of their farm organization, contrasting grass-based dairy farms with traditional confinement and large modern confinement dairy farms. The study also compares reported qualities of life on organic and non-organic farms.

Researcher: Michael Bell, Rural Sociology

Project Title: Enhancing Wisconsin's Rare Local Foods: A Study of Social Networks and Meanings

Project Description: The idea that rare local foods may have cultural, economic, and environmental value is still in its infancy, especially in terms of research. This project seeks to grow this knowledge through four objectives: 1) Document Wisconsin's rare local foods. 2) Study the social networks which form around and give meaning to these foods, from farm to kitchen. 3) Build a theory linking food, place, and the "agriculture of the middle" that is sensitive to the complexities of localism, ethnicity, and cultural valuation. 4) Contribute to the economic and cultural development of farming, food processing, and food consumption in Wisconsin. One emphasis of the project is on organic production of rare, local foods.

Researcher: Jeremy Foltz, Agricultural and Applied Economics

Project Title: Specialty Labeled Milk and Consumer Buying Behavior

Project Description: The study analyzed consumers' actual buying behavior during a five-year period. By studying milk purchases in 12 key metropolitan markets, it was found that consumers pay up to \$1.50 per gallon more for milk labeled rBST-free and \$3 per gallon more for milk labeled organic. The most recent update of this project is available in the February 2005 issue of the *Journal of Agricultural Economics*. The work demonstrated the importance to consumers of labeling policies for both the organic and GMO-free markets. Current research on this project is expanding the focus to investigate the market for organic soy milk.

Researcher: John Hendrickson, Center for Integrated Agricultural Systems

Project Title: Profit by Planning: Helping Fresh Market Vegetable Growers Meet Financial Goals and Improve Their Quality of Life

Project Description: This participatory project engaged 20 organic and low-input vegetable growers in a process of on-farm data collection, analysis and multi-farm comparison from 2002 to 2004. The centerpiece of the project was a set of ratios based on economic and labor data. This was augmented with a discussion of quality of life issues and goals. The project enabled farms to make improvements based on year-to-year comparisons of their own numbers and data from farms of similar scales.

Researcher: John Hendrickson, Center for Integrated Agricultural Systems

Project Title: Soil Fertility Management on Organic Vegetable Farms.

Project Description: This project will examine fertility management practices on organic vegetable farms in Wisconsin and Illinois. Information on current practices will be gathered via a mailed survey. This will be coupled

with a detailed three-year analysis of specific management practices on eight case study farms. Input on farming methods and research questions will be integrated into emerging organic research programs at the University of Wisconsin and University of Illinois. This will be achieved via a farmer advisory panel that will meet with University faculty as they begin to convert University research farm plots to organic management systems.

Researcher: Jack Kloppenberg, Rural Sociology

Project Title: Wisconsin Homegrown Lunch: Piloting a Midwestern Model for Farm-to-School Initiatives.

Project Description: Wisconsin Homegrown Lunch is a grassroots program whose goal is to enhance the Madison public schools' existing meal programs and classroom snack programs by introducing fresh, nutritious, local and sustainably grown food to children, beginning in the city's elementary schools.

Researcher: Kevin Kosola, Horticulture

Project Title: Cranberry Research

Project Description: Nitrogen fertilizers for cranberries, blueberries, and rhododendrons are susceptible to leaching and are readily available to common weeds. We are investigating the ability of cranberries, blueberries, and rhododendrons to utilize alternative fertilizers that are predicted to be stable in the environment and less available to weeds, but still provide nitrogen to the crop. Significant levels of mycorrhizal colonization have been measured in cultivated cranberries, and cranberries with this association have been reported as having the capacity to utilize protein as a nitrogen source. Experimental field plots in conventional and organic cranberry marshes have been established, and several alternative nitrogen treatments have been applied, including whey proteins and feather meal.

Researcher: Tom Kriegl, Center for Dairy Profitability

Project Title: The Economics of Grazing and Organic Dairy Farms

Project Description: Ten Land Grant Universities in the Great Lakes area plus Ontario standardized accounting rules and data collection procedures to gather, pool and analyze actual whole farm financial performance from grazing and organic dairy farming systems which previously lacked credible financial data that producers needed for decision-making. Although still fairly small, this may be the largest and most comprehensive financial dataset of organic dairy farms on the continent. Most of the organic data is a subset of the largest and most comprehensive financial dataset of grazing dairy farms on the continent. Because most organic producers experience a multi-year transition into organic production, the stages of progression of individual organic farms was analyzed separately in this project to better understand and fairly compare the financial performance of organic dairy farms. The average dairy farm that was receiving organic prices and has supplied data was economically successful.

Researcher: Dan Mahr, Entomology

Project Title: Using Perennial Flower Plantings to Attract Beneficial Insects to Control Pests in Organic Apples

Project Description: Thousands of row feet of perennial flowers like Echinacea were planted between rows of trees at an organic apple orchard. The plants bloomed throughout the season, providing food and shelter for ladybugs, lacewings, and parasitic wasps from early spring until late fall. Findings showed that the presence of habitat plantings correlated with increased diversity and numbers of natural enemies, and, in some cases, reduced the populations of certain pests. But other factors were also important in determining pest abundance. This study could not differentiate between the effects of habitat plantings and those of organic management and disease-resistant apple cultivars. However, a combination of these factors appeared to substantially enhance natural enemies and reduce populations of some apple insect pests. Future work is needed to identify the most important insect control factors and incorporate them into a viable management system for growers. A briefing on this project is available at <http://www.cias.wisc.edu/catalog.php> (Research Brief #71).

Researcher: Dan Mahr, Entomology

Project Title: Biological Control for Insects and Mites

Project Description: From 2006-2008, Mahr will work with growers and others to revise and reprint the book “Biological Control for Insects and Mites.” This book will then be distributed to farmers in eight states where teams of entomologists will offer grower workshops on the topic. MOSES will host one of the workshops, tailored specifically for organic growers, at its 2008 Upper Midwest Organic Farming Conference.

Researcher: Brent McCown, Horticulture

Project Title: Breeding Low-Input Cranberry Genotypes

Project Description: Wisconsin cranberry growers are not only the world’s leading producers, they have been exemplary in adopting IPM and other low-impact practices for this intensively managed native fruit crop. McCown has been developing strategies for selecting new genotypes of cranberries tolerant of low-input practices that will complement general production and may be critical in making organic production of cranberries economically feasible. A report summarizing grower-initiated production systems for cranberries is available on the CIAS website: www.cias.wisc.edu.

Researchers: Brent McCown (Horticulture), Dave Combs (Dairy Science), Ken Albrecht (Agronomy), Randy Jackson (Agronomy), Mike Bell (Rural Sociology), Claudio Gratton (Entomology), Jeff Lehmkuhler (Animal Science), Anita Thompson (Biological Systems Engineering), Fred Madison (Soil Science), Jim Peterson (Biological Systems Engineering), Tom Kriegl (Center for Dairy Profitability), Geoff Brink (USDA Dairy Forage Research Center), Nancy Turyk (UW-Stevens Point Water Resources)

Project Title: Strengthening Wisconsin’s Pasture-Based Farming Industry Through Directed Research

Project Description: The goals of this project are to a) gather data and report on the extent that pasture-based farming is used in Wisconsin; b) determine and document the economic and sociological impacts of pasture-based farming under Wisconsin conditions; c) improve formal links between UW-Madison researchers and the pasture-based farming community; and d) stimulate directed research on critical pasture-based farming needs through research grants. Project researchers closely cooperate with practicing graziers, some of whom are using organic production systems.

Researcher: Patricia McManus, Plant Pathology

Project Title: Validating a Comprehensive IPM Program to Manage Sooty Blotch and Flyspeck on Apples

Project Description: Apple growers have limited options for economical control of flyspeck and sooty blotch diseases, and our knowledge of the pathogens in the Upper Midwest is limited. This project explores new, cost-effective approaches to managing flyspeck and sooty blotch and will shed light on the environmental conditions that favor the growth of newly-discovered flyspeck and sooty blotch pathogens. Major findings from this research include a potential decrease of up to four fungicide sprays per season by using on-site leaf/fruit wetness sensors. Strobilurin fungicides are very effective against the FSSB complex; Kaligreen is moderately effective, but not as good as conventional fungicides. These findings were released in the journal of *Horticulture Technology* in 2004.

Researcher: Josh Posner, Agronomy

Project Title: Wisconsin Integrated Cropping Systems Trial

Project Description: The Wisconsin Integrated Cropping Systems Trial (WICST) compares three cash grain cropping systems and three forage systems at two southern Wisconsin sites. One of the three grain systems (CS3 — corn-soybeans-wheat/red clover) has been managed organically since 1999. The project blends systems research with strong farmer guidance to measure profitability, productivity and environmental impacts of these six cropping and forage systems.

Researcher: Douglas Rouse, Plant Pathology

Project Title: Identification and Characterization of Potato Clones for Organic Production Systems

Project Description: The project is evaluating whether heirloom potato cultivars perform as well or better

than modern varieties for pest and disease resistance and tolerance under organic conditions. Approximately 330 potato varieties were screened, including heirloom varieties dating to the 1880s, on two certified organic farms. Among the best performing varieties were a number of heirlooms. The next phase of research will assess the response of varieties to nitrogen fertility and disease pressure.

Researcher: Pamela Ruegg, Dairy Science

Project Title: Mastitis Resistance to Enhance Dairy Food Safety

Project Description: The use of long-acting antibiotics in every cow at dry off is an essential component of controlling contagious mastitis, but has been questioned in recent years due to concerns of the development of antibiotic resistant bacteria. Volunteer herds under both organic and conventional management are being studied to determine if mastitis pathogen concentrations differ between herds that use antibiotics and those that do not. This study will provide important practical information about the use of antibiotic therapy on dairy farms, and will lead to additional areas of research.

Researcher: Kevin Shelley, Nutrient and Pest Management Program

Project Title: Production Practices on Organic Cash Grain Farms

Project Description: This project is currently interviewing producers of certified organic agronomic crops such as corn, soybeans, small grains and hay. Researchers are collecting information about growers' fertility management, seed selection, seeding rates, planting dates, weed management and other pest management practices. The objective is to combine this information with existing, research-based knowledge pertaining to organic crop production, as well as standard agronomic practices, for conducting educational outreach on organic farming systems. It is also intended to compile a list of research and educational needs in the area of organic crop production. A proposal was submitted in 2005 to the USDA CSREES Integrated Organic Program to conduct further work on crop plant nutrition and insect response in organic field crops.

Researchers: Bill Tracy and Camilla Vargas, Agronomy

Project Title: A Participatory Research Project on Cover Crops and Soil Amendments on an Organic CSA Farm

Project Description: The establishment of Troy Community Farm, a community supported agriculture (CSA) vegetable farm, began in 2001. A participatory research project was initiated to target the main concerns of the farmer which were: weed management; building and maintaining soil organic matter; and testing the efficacy of free woodchips and decomposed leaves as soil amendments. An experiment was established to compare two types of green manures and different economical amendments on subsequent vegetable yield, subsequent weed populations and soil factors. Treatments in 2003 and 2004 consisted of replicated green manures strips of red clover (*Trifolium pratense*) mixed with oats (*Avena sativa*) and sorghum sudangrass (*Sorghum bicolor*). In the fall replicated strips of compost, leaves supplemented with alfalfa meal, woodchips supplemented with alfalfa meal and a check were spread perpendicular to green manure strips. Tomatoes, carrots and squash were grown in the subsequent year in a Latin square design and data was collected on yield, weed populations and soil factors.

Researcher: Lydia Zepeda, Human Ecology

Project Title: The Demand for Alternative Foods: Perceptions and Characteristics of U.S. Shoppers

Project Description: The goal of this research project is to determine the characteristics and motivations of U.S. consumers for buying alternative foods. Alternative foods are defined for this project as organic, eco-label, and/or local foods, including farmers' markets and direct buying. The purpose is to identify the potential size of the market for alternative foods in the U.S. and determine the characteristics of customers who buy these foods. Several manuscripts are in press or have been published detailing organic and local food demand in both the U.S. and Australia.

University Programs

The University of Wisconsin has seen a modest but growing interest in research and outreach that supports organic farmers. Examples include:

Organic Research by Individuals

See Appendix C on page 27 for a list of researchers in both the natural and social sciences conducting recent or ongoing projects with organic agriculture components.

University of Wisconsin Center for Cooperatives

UWCC strives to study, promote and research cooperative action as a means of meeting the economic and social needs of people. (608) 262-3981; <http://www.wisc.edu/uwcc>

Center for Integrated Agricultural Systems (CIAS)

CIAS is a sustainable agriculture research center at the UW-Madison. (608)262-5200; <http://www.cias.wisc.edu>

Program on Agricultural Technology Studies (PATS)

PATS is a research and extension unit at UW-Madison that examines the implications of new agricultural technologies. (608) 265-2908; <http://www.pats.wisc.edu>

Wisconsin Integrated Cropping Systems Trial (WICST)

This long-term trial compares six Wisconsin cropping systems for productivity, profitability and environmental impact. (608) 262-0876; <http://www.cias.wisc.edu/wicst>

Non-profit Organizations

The state of Wisconsin is home to a number of non-profit organizations that research or promote organic agriculture and food, or have information that would be useful for organic farmers. Some of these organizations include:

Cornucopia Institute

The Cornucopia Institute engages in educational activities and investigation supporting the ecological principles and economic wisdom underlying sustainable and organic agriculture. (608) 625-2042 ; <http://cornucopia.org>

Friends of the Dane County Farmers' Market

Friends of the DCFM provides information and education about local food and farms to consumers, growers and educators. <http://www.dcfm.org/friends.asp>

GrassWorks, Inc.

GrassWorks links farmers through local networks and promotes grass-based farming to increase the number of successful graziers in Wisconsin. (715) 261-6009; <http://www.grassworks.org>

Madison Area Community Supported Agriculture Coalition (MACSAC)

MACSAC promotes and supports local Community Supported Agriculture (CSA) farms that provide organically grown produce to people throughout southern Wisconsin. (608) 226-0300;
<http://www.macsac.org>

Michael Fields Agricultural Institute

MFAI is devoted to developing an agriculture that can sustain the land and its resources and seeks to revitalize farming with research, education, technical assistance and public policy. (262) 642-3303 ;
<http://michaelfieldsagainst.org>

Midwest Organic and Sustainable Education Service (MOSES)

MOSES promotes sustainable and organic agriculture through information, education and research. MOSES is best known for organizing the largest organic farming conference in the country, the Upper Midwest Organic Farming Conference. 715-772-3153; <http://www.mosesorganic.org>

REAP Food Group

REAP promotes a local food system that is healthful, sustainable and just.
<http://www.reapfoodgroup.org>