

# 2006

## The Status of Organic Agriculture in Minnesota A Report to the Legislature



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## **Executive Summary**

### **Purpose of Report**

The Minnesota Department of Agriculture, in conjunction with its Organic Advisory Task Force, is directed to report to the Legislature on the status of organic agriculture in Minnesota.

Minnesota Statutes §31.92 – 31.94 concern organic agriculture. These are available on the world wide web at: [www.revisor.leg.state.mn.us](http://www.revisor.leg.state.mn.us)

### **Organic Production and Market Trends**

The number of certified organic farms and acres in Minnesota continues to grow, along with domestic and international market demand for organic food. Retail sales of organic food are strong, and averaged just over 18 percent per year between 1997 and 2005 and are driving demand for organic farm products. Consumer interest in organic products is driving demand for raw organic farm products and ingredients. The market is experiencing concentration; a number of large food corporations have purchased established organic brands. Some food companies have introduced organic versions of their existing lines. Industry experts predict the consumer market will continue to grow. All organic categories are expected to continue strong sales growth, particularly meat, poultry, and fish. Pressure from low-cost imports is likely to negatively affect Minnesota producers.

Minnesota had more than 525 certified organic farms in 2006 and with slightly more than 129,000 certified organic acres as of 2005, the last year for which acreage estimates are available. Certified acres in Minnesota grew by 57 percent between 2000 and 2005. The state continues its number one position in organic corn and soybean acres and holds the number seven spot for organic dairy cows. It ranks in the top five for six additional crop and livestock categories.

### **Human Health and Environmental Considerations**

A number of applied research studies have found that organic farms are profitable, even when organic premiums are halved or eliminated. Long term studies are also finding that organic yields may meet or exceed conventional yields. Results of studies comparing the nutritional value of organic food vs. non-organic food are inconclusive, although there is evidence that antioxidant levels may be higher in organic foods. The results of two studies examining children's diets suggest that eating organic food may reduce exposure to pesticides that are metabolized by humans. Researchers are documenting and quantifying conservation and environmental benefits of organic production systems.

### **Grower Perceptions**

By and large, organic growers express optimism about the future of agriculture. In a survey of organic growers conducted in 2004, almost three quarters of the 146 respondents said they thought organic farming was more profitable than conventional agriculture and three quarters expected that they or a family member would still be farming in 20 years. Fully 55 percent of these farmers were age 50 or younger. Although they have a positive outlook, they have encountered production challenges including weed management, pollen drift from genetically modified crops, soybean aphid, and availability of local processing, particularly for meat. Farmers' top research needs are effective weed management strategies, soil fertility, soil health/biology, variety selections, and pest management strategies for organic production. A separate survey of dairy farmers found that around 44 percent had at least some interest in organic dairy production. Their major concerns were livestock health, feed, and profitability.

The Minnesota Department of Agriculture serves organic growers and associated businesses with a variety of programs including organic certification cost share, conferences, workshops, directories, referrals, and farm management programs. Some of these services are delivered by the department alone; others are undertaken in collaboration with the University of Minnesota, nonprofit and farm organizations, and federal agencies. The United States Department of Agriculture (USDA) has contributed financial support to a number of organic projects. A Memorandum of Understanding on Organic Agriculture exists and has been signed by the Minnesota Department of Agriculture, USDA Natural Resources Conservation Service (NRCS), Farm Service Agency, University of Minnesota Extension, and University of Minnesota College of Food, Agriculture and Natural Resource Sciences.

A number of USDA agencies offer organic agriculture programs. In Minnesota, the NRCS offers a per-acre organic transition cost share payment through its Environmental Quality Incentives Program and underwrites several organic educational events each year. Some of the technical assistance NRCS offers to farmers—such as the Web Soil Survey and a number of Tech Notes—are particularly well-suited to organic producers. Resource Conservation and Development Councils have explored collaborative marketing and promotional efforts for organic growers. The Risk Management Agency has funded organic research and projects, as has the Cooperative State Research, Education and Extension Service, particularly through the Sustainable Agriculture Research and Education (SARE) Program. The Economic Research Service collects and publishes organic acreage and market data that allow states like Minnesota to track adoption and trends.

University of Minnesota faculty members have been engaged in applied organic research for well over a decade. They teach courses on organic agriculture and conduct both small plot and on-farm organic research in areas such as soil quality, food safety, weed management, and livestock nutrition. A number of University of Minnesota Extension Educators throughout the state have conducted crop variety trials, organized educational and outreach events, and delivered technical assistance to organic and transitional growers.

## **Recommendations**

With input from the Organic Advisory Task Force as well as stakeholders and peer agencies the MDA recommends the following:

### **New Policies or Programs**

- Technical and financial assistance to help growers during their transition to organic.
- A voluntary registration and affidavit program to provide state documentation to organic growers who are legally exempt from certification requirements under §205.101 of the National Organic Standards (7 C.F.R., Part 205).
- Organic educational materials and presentations for consumers.
- A Minnesota organic buyer directory (processors, brokers, shippers, traders, etc.).

### **Policies or Programs to Continue or Enhance**

- State assistance to defray the cost of certification for certified organic Minnesota farmers and processors.
- Information and technical assistance to help farmers learn about certification requirements, organic practices, and resources available to them.

- Information and technical assistance help organic farmers understand, evaluate, and implement marketing options.
- Assistance to farmer groups to help them evaluate and pursue value-added organic business opportunities.
- Minnesota Organic Conference.
- Low-interest loans to organic farmers through the Shared Savings Loan Program administered by MDA.
- Directory of Minnesota Organic Farms.
- Enforcement of Minnesota state labeling law with regard to organic product claims.
- Farmer-to-farmer networking programs.
- Collaboration, networking, and complementary efforts by federal, state, university, and non-profit stakeholders.
- Learning from efforts and experiences in other states.
- Expansion of the current five-partner Memorandum of Understanding on Organic Agriculture.

### **Current and Future Research Needs**

Assess the current organic processing capacity for organic crops and livestock produced in Minnesota and identify opportunities for, major barriers to, and recommendations concerning the expansion of organic production and processing infrastructures in Minnesota and concomitant economic development impact.

Increase long-term applied organic cropping systems and organic livestock production research by faculty at the University of Minnesota and other post-secondary institutions on topics of importance to Minnesota organic farmers such as: agronomics; soil quality and health; organic crop variety development; composting; compost tea; weed, disease, and insect pest management; economics; food safety and quality; farmer and farm worker safety; and management of flies and parasites.

## **Background**

### **What is Organic?**

“Organic” is a labeling claim that describes how an agricultural food or fiber product was grown and handled before it reached the consumer. Organic requirements apply to farmers who grow plants and animals, and to processors and handlers who turn agricultural products into food or other consumer products.

### **National Organic Standards**

United States federal organic standards became effective on October 21, 2002. They address production, processing and labeling, certification, recordkeeping, and inputs allowed in organic farming and processing. The standards were developed over ten years in response to the Organic Foods Production Act of 1990. Proposed rules were published for public comment twice. In 1997, the United States Department of Agriculture (USDA) received 275,603 comments that shaped revisions of the rule (Federal Register, 2000). In 2000, nearly 41,000 individuals and organizations commented on the second proposed rule (Federal Register, 2000a). The Final Rule was published in the Federal Register on December 21, 2000. To conform with federal law, the Minnesota Legislature adopted the National Organic Standards by reference in 2003.

Products that make organic claims must be certified by a USDA-accredited organization. Third-party certification assures consumers that the product was grown and processed in compliance with the National Organic Standards, and assures farmers and organic companies that they are operating on an equal footing, under consistent and uniform guidelines. Violations of the federal rule are punishable by fines of up to \$10,000 per violation.

Farms and processors selling less than \$5,000 per year may be exempt from certification, but must follow and be able to document compliance with the National Organic Standards.

### **Organic Crop and Livestock Production**

Land may be certified 36 months after the last application of any prohibited material. Organic crops must be grown on land managed to reduce erosion and improve soil quality, and fertilized with non-synthetic nutrients. Most synthetic herbicides and pesticides are prohibited, although a few synthetic nutrients and soil additives appear on a special National List and are allowed. There are strict manure and compost guidelines. Sewage sludge is prohibited. Weeds, insects, and other pests are controlled using practices like crop rotation, variety selection, biological control, mulching, and tillage. Organic farmers may not use genetically modified seed.

All organic livestock must eat organic feed and pasture. They must not be given growth hormones, treated with antibiotics, fed urea, manure, or animal by-products. They must be raised in conditions that allow them access to the outdoors (appropriate to the species) and appropriate exercise. Ruminants like cows and goats must have access to pasture. Physical alterations such as dehorning and castration must be done only to promote the animal’s welfare and then in ways that minimize pain and stress. Administration of some medications (e.g., antibiotics) results in automatic decertification of the animal. It is forbidden to withhold medical treatment from a sick animal in an effort to keep it organic.

Slaughter stock must be raised organically from the last third of gestation (except poultry, which must be raised organically from the second day after hatching). When a producer converts an

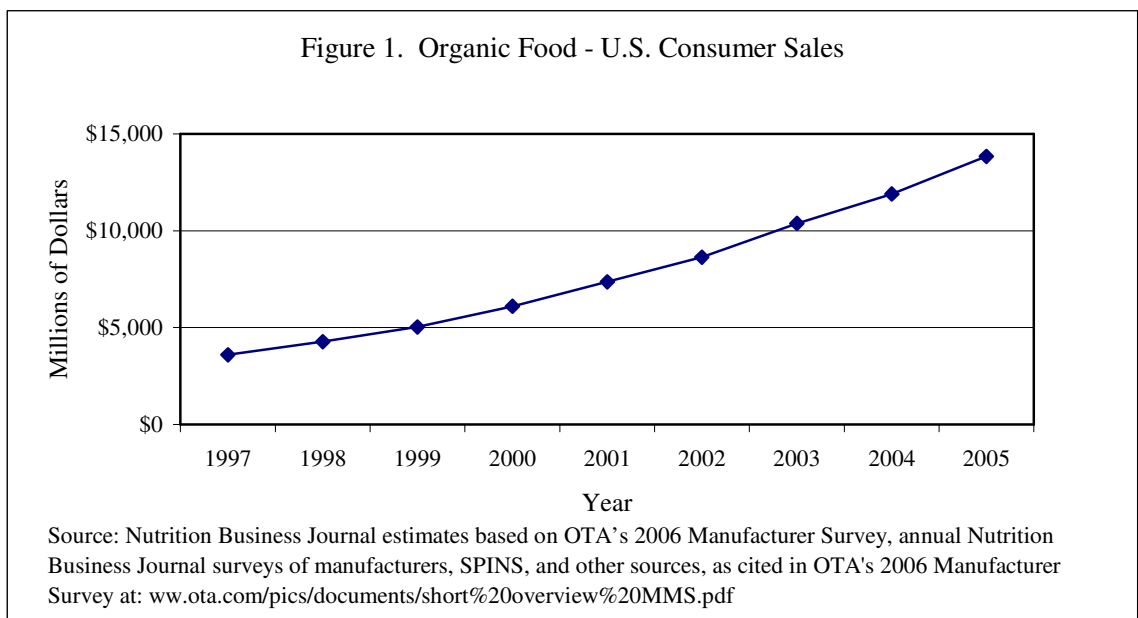
entire, distinct herd of dairy cattle, the milk may be certified after 12 months of continuous organic management, during which time they may consume organic and/or third year transitional feed and forage. This transitional feed and forage must be produced by the farmer; a dairy producer may not buy third year “transitional” feed to use while converting his or her herd.

In addition to production issues, the National Organic Standards (NOS) describe how organically-raised crops and animals must be processed and handled in order to preserve their organic status. Ingredients, processing aids, pest management in the processing facility, and labeling must all follow the NOS. There must be no opportunity for organic products to mix, or “commingle,” with similar non-organic products.

Under the Final Rule, natural substances are permitted unless they appear on the National List of Allowed and Prohibited Substances (Subpart G of the Final Rule) as “prohibited”. “Synthetics” (including antibiotics, hormones, and fertilizers derived from petrochemicals) are prohibited unless they appear on the list as “allowed.”

## **Market Trends and Potential for Organic Products**

According to information collected and reviewed by the MDA Agricultural Resources Management and Development Division, consumer demand for organic food continues to be strong. Industry sources estimate that the sales of organic food and beverages grew at just over 18 percent per year between 1997 and 2005, according to data reported by the Organic Trade Association (Figure 1). (OTA, 2006) This compares with annual growth of just over 4 percent per year in retail sales of food purchased for home use during the same period of time. (USDA-ERS, 2006) Sales of organic food reached \$13.8 billion in 2005, according to a survey conducted by Nutrition Business Journal and commissioned by the Organic Trade Association. (Nutrition Business Journal, 2006) Organic foods comprised 2.5 percent of the (non-food service) U.S. food market in 2005, up from 0.8 percent in 1997. (OTA, 2006)



The Organic Monitor reports that with sales increases of 51 percent, organic meat/fish/poultry was the fastest growing organic category in North America in 2005. (Organic Monitor, 2006) The May 2006 edition of the Kiplinger Agriculture Letter also identified meat as the fastest growing



organic food category with sales tripling in two years to reach \$256 million. Kiplinger reported high rates of non-food organic sales in 2005: organic flower sales grew 50 percent; organic pet food by 46 percent; and organic fiber by 44 percent. (Kiplinger Washington Editors, Inc., 2006)

**Table 1. Organic Category Performance 2005**

Category	Sales (\$ Mil)	% Growth
Fruits and Vegetables	5,369	13.2%
Dairy	2,140	23.6%
Beverages (incl. non-dairy)	1,940	13.2%
Packaged/Prepared Foods	1,758	19.4%
Breads and Grains	1,360	19.2%
Snack Foods	667	18.3%
Sauces/Condiments	341	24.2%
Meat/Fish/Poultry	256	55.4%
<b>Total Organic Food</b>	<b>13,831</b>	<b>16.2%</b>
Personal Care	282	28.0%
Fiber (clothes, linens...)	160	44.0%
Pet Food	30	46.0%
Flowers	16	50.0%

Source: OTA's 2006 Manufacturer Survey. Category and growth estimates derived from survey responses, Nutrition Business Journal's organic industry model, SPINS retail data, and other sources.

Top performing categories in 2005 are indicated at left.

A number of products whose raw ingredients Minnesota farmers are skilled at producing outperformed the industry average of 16.2 percent growth in sales. Among these were:

- meat/fish/poultry
- dairy
- breads and grains
- pet food.

A 2004 survey of organic food manufacturers conducted by the Organic Trade Association predicted annual growth rates in a number of categories for 2004-2008. (Table 2)

A number of these categories are already outperforming their predictions. Most offer significant opportunities for Minnesota, whose organic growers excel in production of grain, soybeans, dairy, meat, and poultry products. A flurry of news stories in the summer of 2006 reported that U.S. organic demand continues to outstrip supply.

At the 2006 "All Things Organic Trade Show," Bob Burke, of the Natural Products Consulting Institute, identified the following as "hot organic categories:" organic personal care, organic meat, organic milk, natural and organic pet food, and bagged salads. (Burke 2006) The MDA Agricultural Marketing Services Division has also recognized organic pet food as a potential opportunity for Minnesota's organic sector.

**Table 2. Average annual sales dollar growth forecast for 2004-2008**

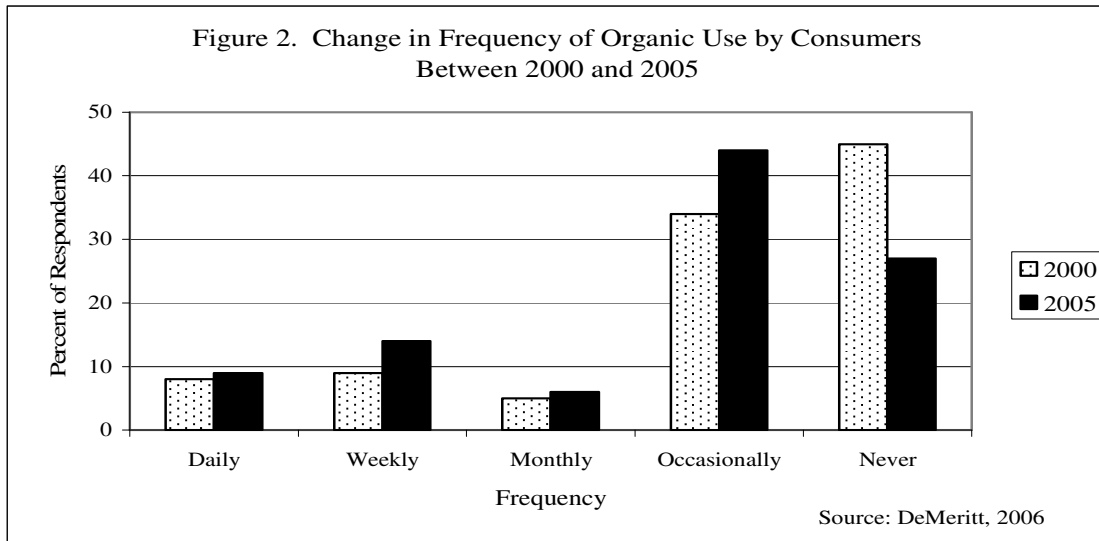
Category	Predicted annual growth
Meat/Fish/Poultry	30.7%
Fruits and Vegetables	20.7%
Condiments/Sauces	14.1%
Packaged/Prepared Meals	16.1%
Snack Foods	15.1%
Beverages	18.8%
Breads and Grains	15.7%
Dairy	15.3%
<b>Total Organic Food</b>	<b>18.4%</b>

Source: OTA 2004 Manufacturers Survey as reported by Blank, 2004.

Forces driving the consistent, rapid growth in consumer organic sales include an aging population, changing consumer attitudes about food and health, concerns about food safety, availability of organic products, improvements in taste and quality, national standards that have eased entry of large brands into the marketplace, more competitive pricing for consumers, and the ability of organic and natural companies to secure investment capital. (Burke, 2006)

Organic food is increasingly available in regional and national conventional and mass market grocery chains such as Lunds/Byerly's, Kowalski's Markets, Rainbow, Cub, SuperValu, Super Target, Costco and Wal-Mart, and from major brands such as Kraft and General Mills.

Since 2000, organic use has increased across the board, with the biggest gains by occasional users. About 44 percent of U.S. food shoppers buy organic at least occasionally; while 14 percent buy organic products at least weekly. (Figure 2) Organic purchasing is not limited by income level or by ethnicity – in fact, Asian Americans, and Latino/Hispanic Americans are the most likely ethnic groups to purchase organic foods. (DeMeritt, 2006) Since 2000, consumer concerns about hormones used in agriculture and food production have grown, particularly with regard to children's health. (The Hartman Group, 2006)

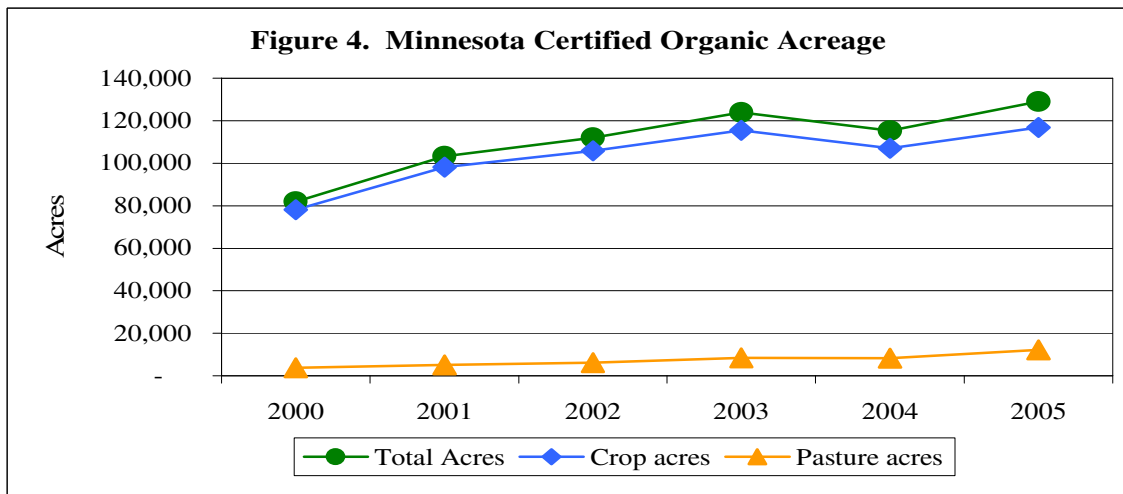
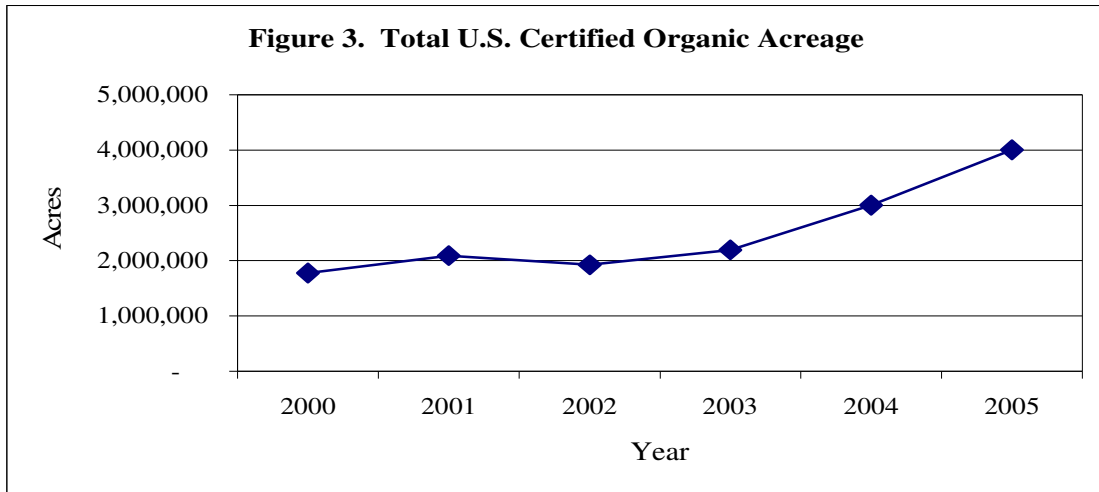


Strong international export markets for organic foods also exist. Minnesota Agriculture Commissioner Gene Hugoson has commented that during trade missions to Asia, questions about organic products are frequently raised by buyers. (Gene Hugoson, personal communication, 2006) Two of the world's major organic importers, the European Union and Japan, require compliance with standards in addition to certification under USDA's National Organic Program. Growers and processors who wish to export to these countries must obtain additional certifications. Domestic growers report that they are beginning to feel competitive price pressure from countries like China, where organic acreage and certification are on the rise and which is increasingly exporting product certified to the United States Department of Agriculture National Organic Program (NOP) standards into the U.S. (Mei et al., 2006)

### **Growing For and With the Market: Organic Farm Production**

In December 2006, the USDA Economic Research Service (ERS) released updated estimates of organic farm numbers and acreage for all 50 states and the nation as a whole. ERS collects these numbers by requesting information from accredited certifying agencies (ACAs) operating in the U.S. Although the information is self-reported, these estimates reflect what is likely the most consistently collected and reliable organic production data available. The data are available for review and download at [www.ers.usda.gov/data/organic](http://www.ers.usda.gov/data/organic)

U.S. and Minnesota organic acreage trends are shown in Figures 3 and 4. Between 2000 and 2005, total U.S. organic acreage grew by 125 percent, despite a slight dip in 2002 that ERS economists speculate may have been connected with implementation of the National Organic Program Final Rule. Minnesota's total certified organic acres grew by 57 percent during the same five-year period, increasing from 81,953 acres to 129,064 acres. Minnesota farmers were early adopters of organic practices and certification compared to other states, and higher U.S. growth during this period was weighted by spectacular increases a number of states, such as Alaska, which went from 0 organic acres in 2002 to 1.4 million in 2005, and Connecticut, which went from 1 certified acre in 2002 to nearly 24,000 acres in 2005.



According to ERS estimates, Minnesota had 129,064 certified organic acres in 2005, comprising 3 percent of the U.S. total of 4.4 million certified acres. The state's rank in terms of total certified acres has held steady at number six since 2003. While most of Minnesota's organic acreage is cropland, the state dropped to number four in certified organic crop acres after holding the number three position between 2001 and 2003. (Table 3)

	2000	2001	2002	2003	2004	2005
# Certified Organic Acres in MN	81,953	103,297	112,047	123,923	115,298	129,064
Total Certified Organic Acres - U.S.	1,776,073	2,094,272	1,925,534	2,196,874	3,008,337	4,003,973
MN % of U.S. Total Certified Acres	5%	5%	6%	6%	4%	3%
MN Rank:						
<b>Total</b> Certified Acres	7	6	7	6	6	6
MN Rank:						
Certified <b>Crop</b> Acres	5	3	3	3	4	4

*Source: USDA-ERS*

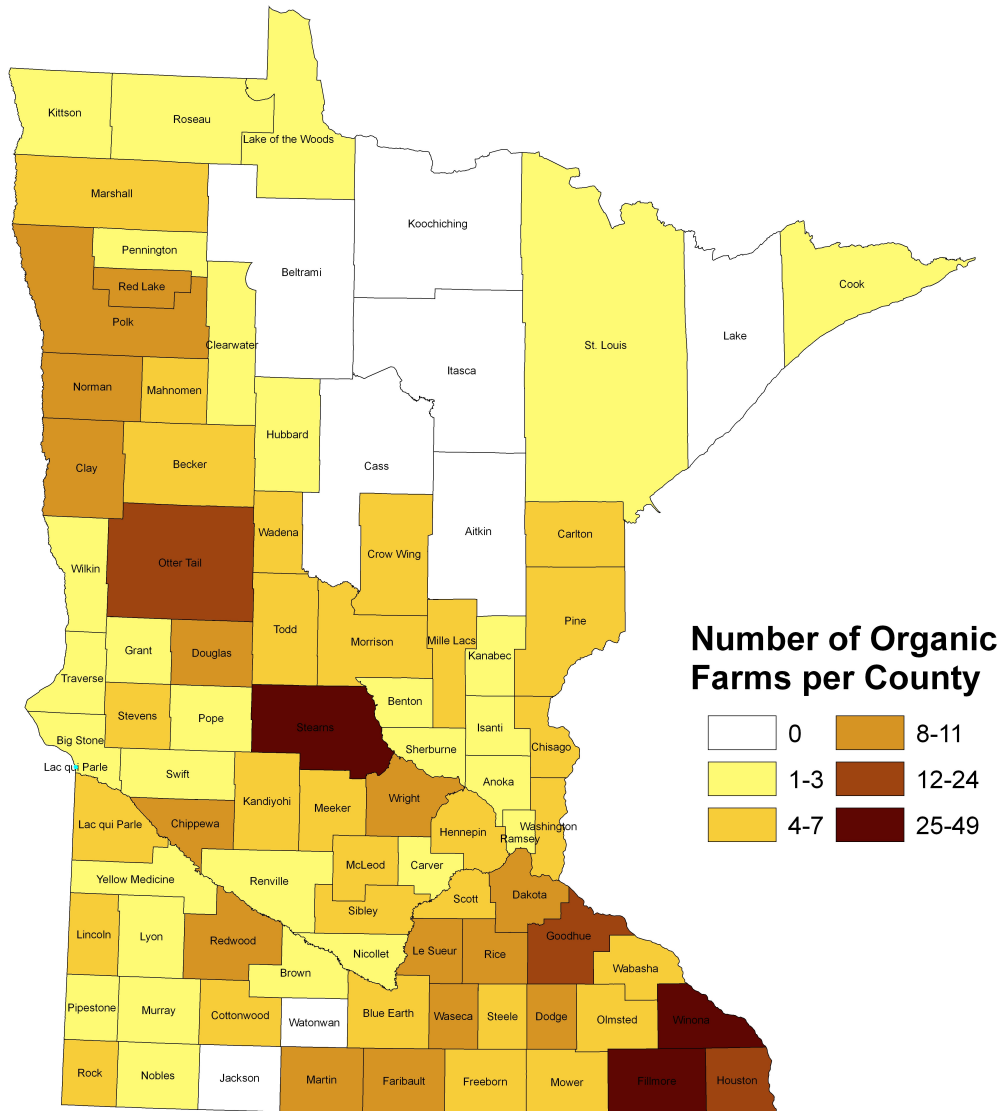
Table 4 shows the number of certified organic farms in Minnesota compared to U.S. numbers. ERS estimates ranked the state's percentage of organic farms at 6 percent in 2000 and 2001, and 5 percent since 2002. Minnesota ranked fourth in the number of certified organic farms in 2000 and 2001, and has ranked fifth since 2002.

	2000	2001	2002	2003	2004	2005	2006*
# Certified Farms: MN	382	421	371	392	422	433	530
# Certified Farms: U.S.	6,592	6,949	7,323	8,035	8,021	8,445	
MN % of Total U.S. Organic Farms	6%	6%	5%	5%	5%	5%	
MN Rank - # of Certified Farms in U.S.	4	4	5	5	5	5	

*Source: USDA-ERS. \*2006 estimate is based on MDA data.*

As noted above, Minnesota farmers were early adopters of organic practices and certification compared to other states, so it is reasonable to see an adjustment in the state's percentage rankings for acres and farm numbers as farmers in other states gain organic certification.

**Figure 5. Location of 507 Certified Organic Farms in Minnesota, by County**



Total number of certified operations: 507  
 Source: Minnesota Department of Agriculture, 2006  
[www.mda.state.mn.us](http://www.mda.state.mn.us)

Based on information provided by certifying agencies and on participation by certified organic farms in programs offered by the state, the MDA estimates there are approximately 530 certified organic farming operations in Minnesota in 2006. See Figure 5 for a map that shows the distribution of most of the organic farms in the state. Extrapolating from data provided by about organic farms that applied to be listed in the 2006 *Directory of Minnesota Organic Farms*, the average organic farm size in the state is 324 acres, similar to the state average farm size of 345 acres, and organic farms comprise about 0.7 percent of the 79,600 farms in Minnesota. (USDA-NASS, 2005)

Minnesota's ranking for a number of important organic crops and livestock is shown in Table 5. The state consistently ranks as a top 10 producer of organic corn and most other grains, soybeans, oilseeds, and dairy and beef cattle. By and large, Minnesota's rankings have remained fairly

consistent over the past few years for acres of organic grains (except wheat), beans, oilseeds, and forages. Between 2004 and 2005, state's rank for organic dairy and beef cows rose slightly. Minnesota rose from number ten to number six in organic broiler production but lost ground in organic hogs and pigs as well as sheep and lambs.

	<b>1997</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Barley	7	4	6	7	7	6	6
Buckwheat	1	2	2	1	2	2	2
Corn	1	3	1	2	1	1	1
Oats	5	4	4	3	4	4	2
Rye	5	6	1	1	2	2	1
Wheat	10	10	6	4	9	5	11
Flax	2	4	5	4	no data	5	4
Sunflowers	4	5	8	3	2	3	3
Dry Beans	11	4	10	10	6	16	7
Soybeans	2	1	1	1	1	1	1
Alfalfa Hay	6	7	5	5	5	4	3
Beef Cows	12	12	9	7	10	13	10
Broilers	5	9	11	12	10	6	6
Milk Cows	3	7	7	4	4	9	7
Hogs and Pigs	0	4	8	7	5	6	9
Sheep and Lambs	no data	1	5	3	4	4	6
<b>Total Beans</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Total Forage</b>	<b>6</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>4</b>
<b>Total Grain</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>
<b>Total Oilseeds</b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>5</b>
<b>Total Livestock</b>	<b>11</b>	<b>12</b>	<b>15</b>	<b>15</b>	<b>13</b>	<b>9</b>	<b>6</b>

The figures below summarize USDA-ERS acreage estimates for Minnesota's principal organic crops and livestock between 2000 and 2005.

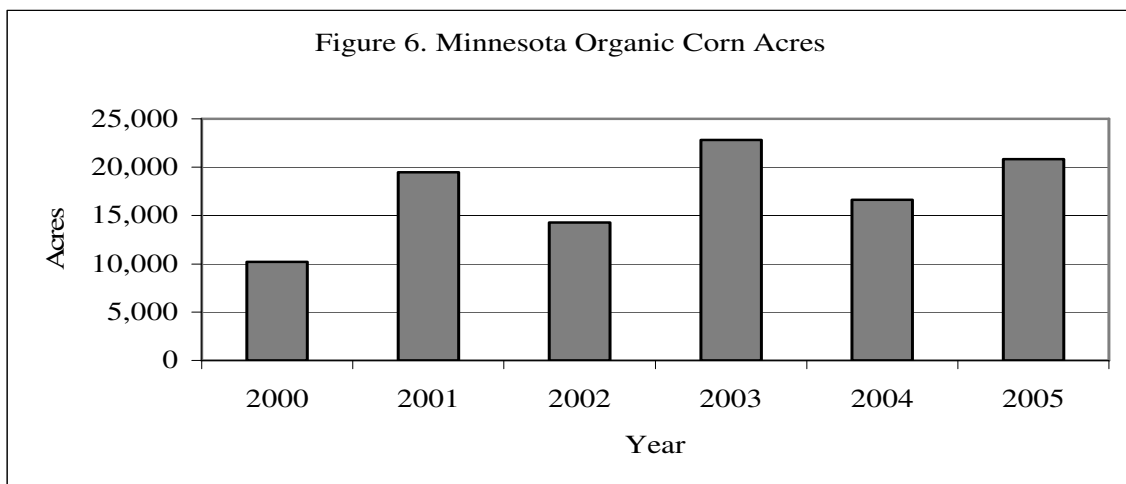


Figure 7. Minnesota Organic Bean Acres

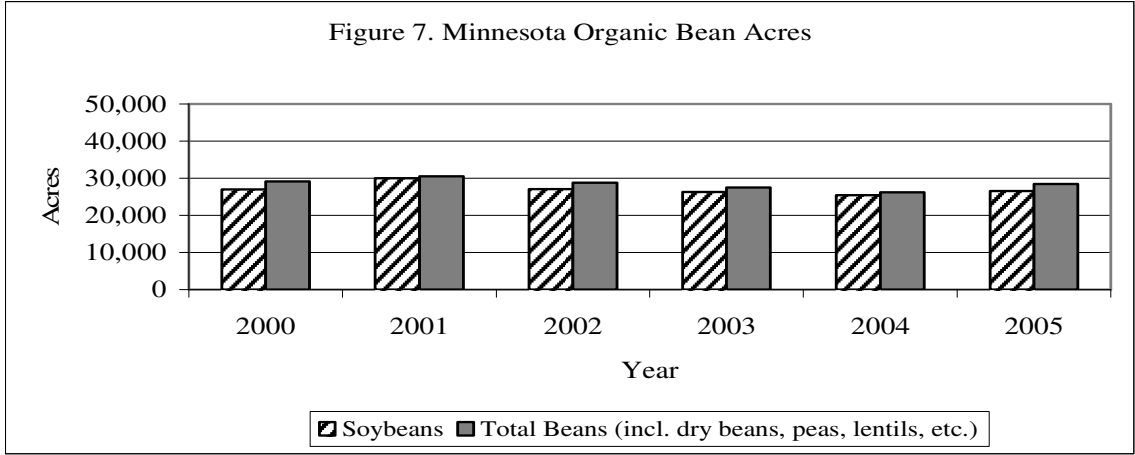


Figure 8. Minnesota Organic Small Grain Acres

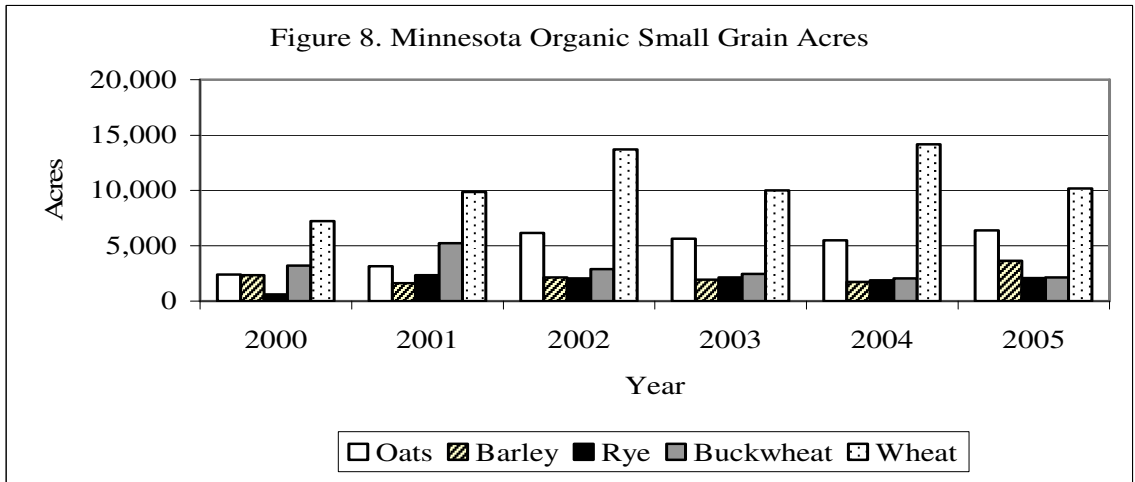


Figure 9. Minnesota Organic Forage Acres

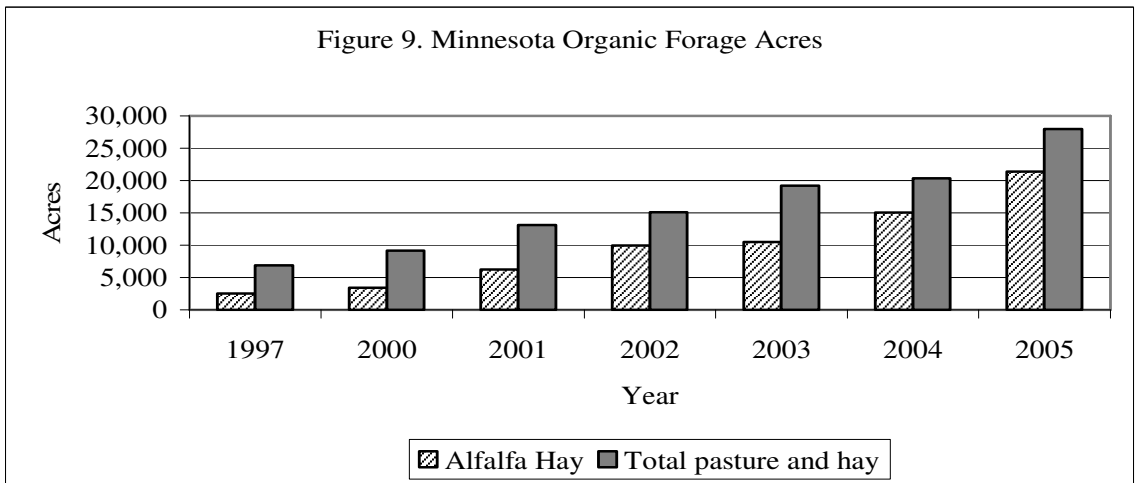


Figure 10. Minnesota Certified Organic Cattle

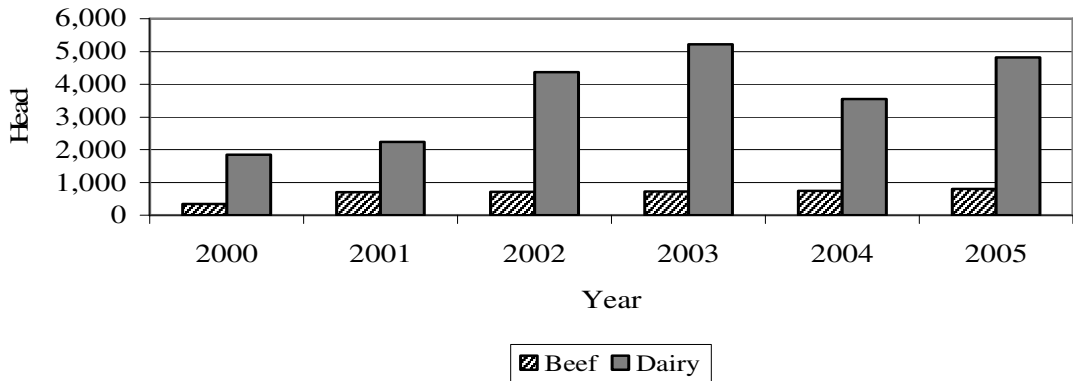


Figure 11. Minnesota Certified Organic Hogs, Sheep, Lambs

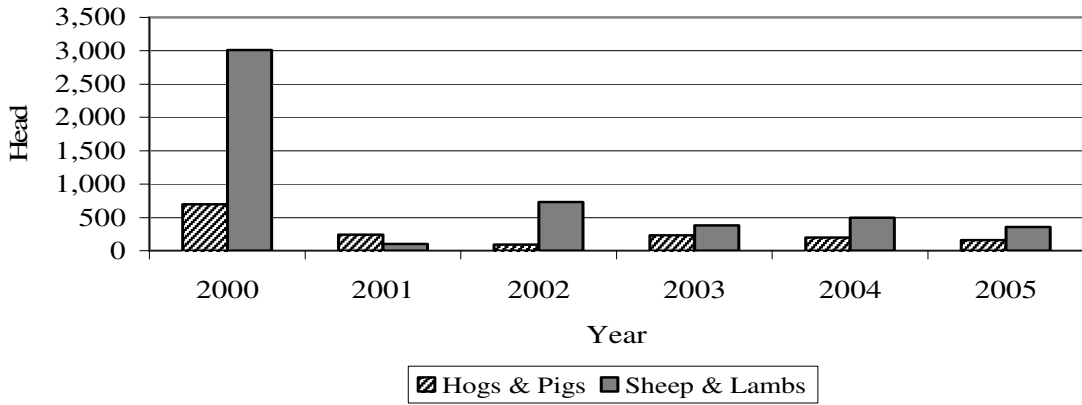
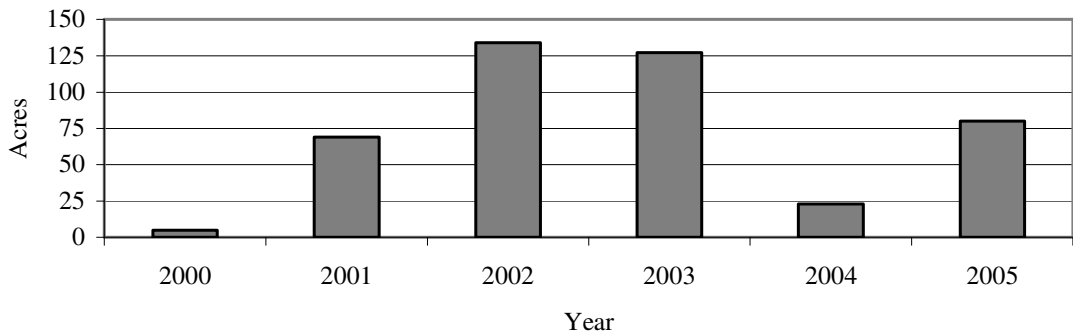
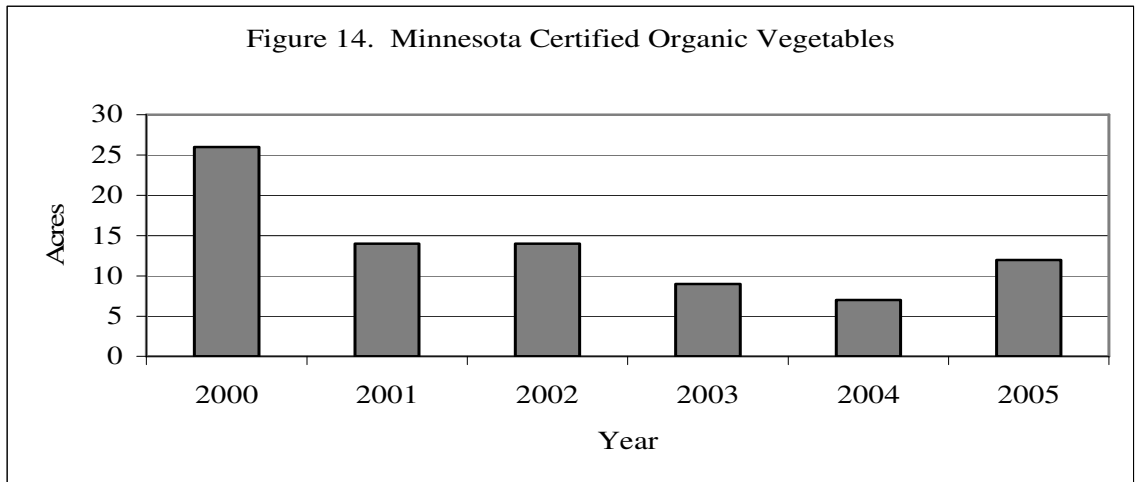


Figure 13. Minnesota Certified Organic Fruit







## **Economic Performance**

Some individuals posit that yield decreases are inevitable with organic farming and that premiums may only partially compensate for loss of productivity. However, a number of academic research studies have found organic farming to be equally or more profitable compared to conventional farming. When analyzing these conclusions, it is important to keep in mind the context and location in which each study was conducted, whether or not organic price premiums were taken into account, and eligibility for federal farm support programs<sup>1</sup>, as well as sales, transportation, and processing infrastructure.

A 2003 University of Minnesota study, “Profitability of Organic Cropping Systems in Southwestern Minnesota,” found that over ten years, yields and costs were lower in the organic rotations, and that even without price premiums, the net returns of organic and conventional systems were equal. (Mahoney et al., 2003) With premiums, a four-year organic rotation was significantly more profitable than conventional corn/soybean systems. Authors concluded that lower input costs in the organic treatments were important to the profitability of that system.

Similarly, researchers conducting a 22-year farming systems trial at the Rodale Institute in Pennsylvania in which they compared one conventional and two organic cropping systems found that even in the absence of a price premium, net returns to the conventional and organic systems were similar. They observed higher yields for the conventional system during the first five years of the experiment. After the initial five years, organic corn yields exceeded conventional corn yields, and organic and conventional soybean yields were similar. Energy inputs (including fuel and purchased inputs such as fertilizer and pesticides) for corn were at least 25 percent lower in organic than in conventional systems, and similar for soybeans in both conventional and organic systems. The organic systems required more labor than the conventional. (Pimental et al, 2005)

Another study conducted by Martin Kleinschmit at Nebraska’s Center for Rural Affairs concluded that yields on a northern Nebraska farm were within 90 percent of conventional yields and net return was 40 percent greater than conventional net returns. (Kilde, 2002)

Long-term studies conducted by Iowa State University researchers led by Kathleen Delate (Table 6) compared a conventional corn/soybean rotation with two different organic rotations and found the

<sup>1</sup> While organic farmers are eligible to participate in federal farm programs, organic farms are required to use extended crop rotations. Many organic producers contend that while they recognize the legal and ecological need to plant non-program crops, extended rotations reduce their base program acres.

organic yields were comparable or higher than yields in a conventional system. Delate et al. found that both organic rotations were more economical than the conventional rotation, even when organic price premiums were excluded. Production costs of organic rotations averaged 74 percent lower than conventional and net returns were higher. On average, organic net returns were \$105 per acre, whereas the conventional treatment averaged net returns of \$73 per acre. (Delate et al., n.d.)

Rotation	Corn yield			Soybean yield		
	2003	2004	2005	2003	2004	2005
1. Conventional c-s	137.72a	200.41a	173.74	32.82	39.36c	51.67b
2. Organic c-s-o/a	111.63b	180.09b	192.54	32.11	45.35a	56.15a
3. Organic c-s-o/a-a	126.68a	202.34a	195.99	35.42	43.72ab	55.48ab
LSD (.01)	12.51	9.50	10.01	NS	3.19	4.19

*Within the same column, yields followed by the same letter are not statistically different.*

*About the treatments:*

- 1. Conventional corn/soybean rotation*
- 2. Organic corn/soybean, followed by oat underseeded with alfalfa*
- 3. Organic corn/soybean, followed by oat underseeded with alfalfa, followed by alfalfa*

Data source: Iowa State University Organic Program <http://extension.agron.iastate.edu/organicag/rr.html>

Farm-level production and profitability data are available in the University of Minnesota Center for Farm Financial Management FINBIN database. A collaborative effort led by MDA and funded by USDA Risk Management Agency is currently underway to increase the number of Minnesota organic farms participating in and reporting their data through the Farm Business Management Program and is described later in this report. Based on the number of organic farms reporting, enrollment by organic farmers may have more than quadrupled in 2006. The 2006 data will be available in late Spring, 2007.

Although there are currently a limited number of certified organic Minnesota farms participating in the statewide Farm Business Management program, their data are informative. (Table 7)

	Non-organic farms	Organic farms
<b>Corn production</b>		
Farms reporting	1,641	11
Yield per acre (bu)	179	142
Cost of production/bu*	\$1.76	\$2.32
Net return per acre (with govt. payments)	\$74.97	\$161.72
Estimated labor hours per acre	2.57	2.77
<b>Soybean production</b>		
Farms reporting	1,611	8
Yield per acre (bu)	47	24
Cost of production/bu*	\$4.73	\$7.75
Net return per acre (with govt. payments)	\$65.24	\$181.58
Estimated. labor hours per acre	1.89	3.28

**Note: Dairy financial analysis reported in Table 8.**

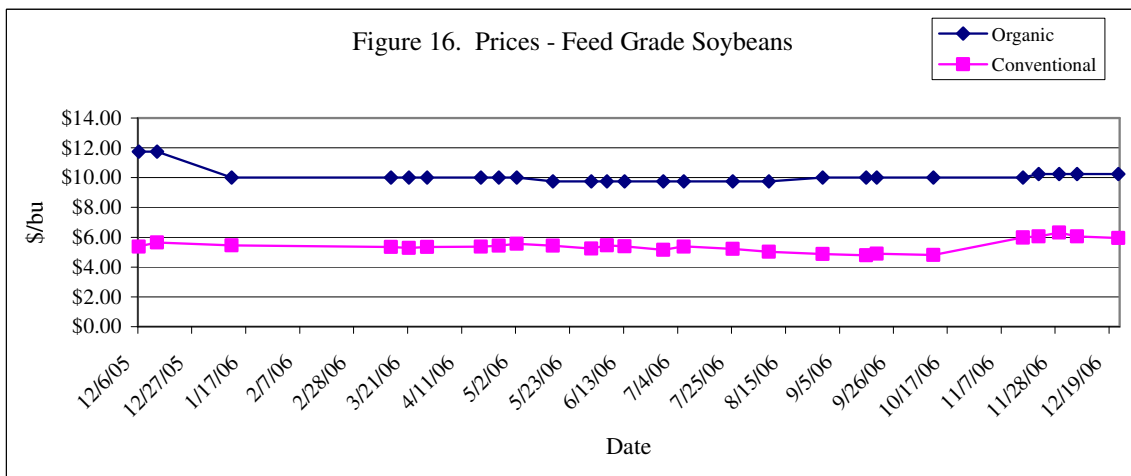
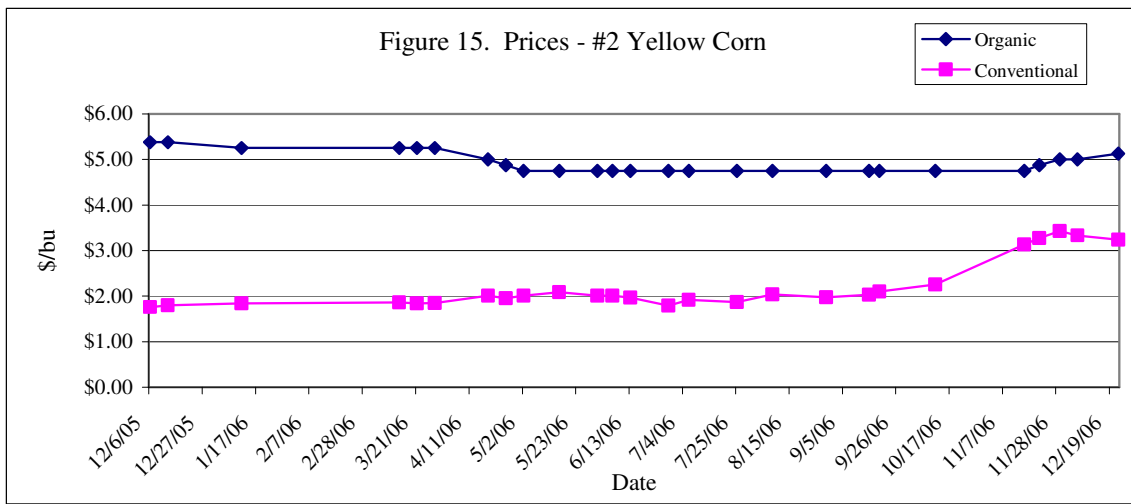
One of the only published studies that does not find organic to be equally or more profitable than conventional was by published in 1996 by Thomas Dobbs and James Smolik in South Dakota —

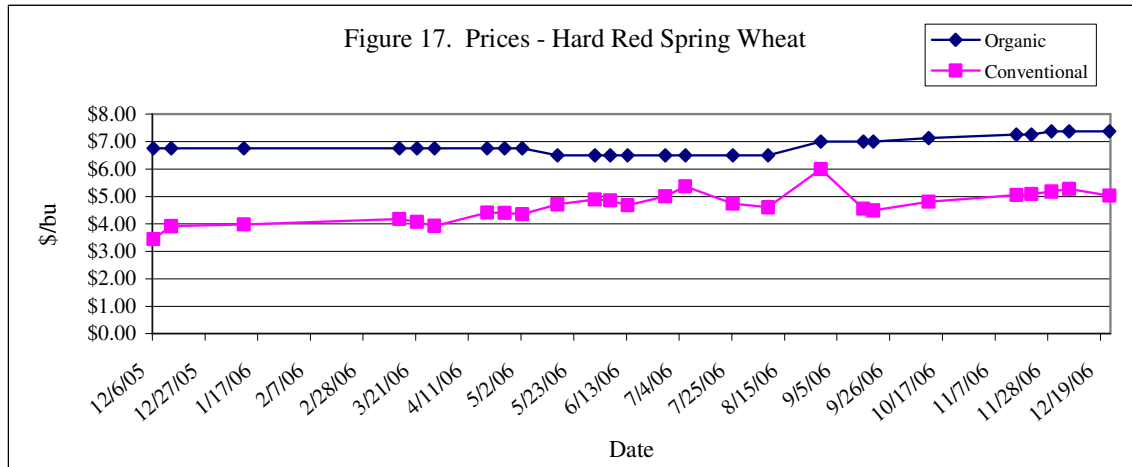
“Productivity and Profitability of Conventional and Alternative Farming Systems.” Dobbs and Smolik concluded that even with price premiums taken into account, the organic system was still less profitable than conventional, perhaps because the conventional farm, on average, had higher yields and the organic farm could not make up for that yield loss with decreased input costs. The authors also blamed the lower profitability of the organic system on the location of the farm stating, “This study contributes to the emerging body of evidence that indicates organic and low-chemical input systems have more difficulty competing with conventional systems in corn-soybean areas than in small grain and mixed row crop-mall grain areas.” (Dobbs and Smolik, 1996)

The price premiums that organic crops command in the marketplace are an important factor to consider when comparing organic to conventional. In a 2003 South Dakota State University study by Nick Streff and Thomas L. Dobbs, “Prices of Crop Products Grown Organically in the Northern Plains and Upper Midwest,” the authors found that over the eight year period average from 1995-2003, organic corn prices averaged 71 percent above conventional U.S. cash corn prices, organic soybean prices averaged 157.5 percent higher than conventional, and spring wheat prices averaged 76 percent above conventional prices. (Streff and Dobbs, 2003)

The Organic Price Exchange, a service of the New Farm, reports on conventional and organic prices each week (Figures 15-17) Reports can be run at [www.newfarm.org/opx](http://www.newfarm.org/opx)

**Figures 15-17. Organic Commodity Prices July 2005 through June 2006**





Note: Figures 15-17 reflect the average of Minneapolis and Fargo prices. Conventional grain prices gathered from AMS sources. Organic prices provided by elevators that trade organic grains throughout the year. Source: [www.newfarm.org/opx](http://www.newfarm.org/opx)

Unless and until premiums start to decline, healthy price premiums can make organic farms more profitable than conventional. Tod Glasgow’s 2002 East Central Illinois study, “Comparing the

Economics of Conventional, No-Till, Three Crop and Organic Cropping Systems,” found that organic was more profitable than conventional due to lower input costs and higher net returns for the crops. (Glasgow, 2002)

While some studies have recorded lower organic yields compared to conventional, many studies conclude that organic farms can be equally or more competitive compared to non-organic operations. Along with these conclusions come many assumptions pertaining to indirect factors that also make organic farms more profitable. These factors include farm location, knowledge base of the farm manager, and the ability to secure a niche market for the product in order to ensure a price premium. In some studies, organic yields are lower than conventional yields, but decreased input costs can make up for the loss in revenue. Organic price premiums boost net return as well.

### Price Premium Outlook

Although organic premiums are typically taken into account in assessing profitability of organic farms, many studies warn that high premiums may not last indefinitely. Between 1995 and 2003, organic grains sold for about double, sometimes triple, the price of conventional grains. (Born, 2005) As more farmers in the U.S. and in countries like China, whose organic acreage is the largest in Asia (Mei et al., 2006) enter the market to capture these premiums, supply may slowly exceed demand, putting organic farming in a price-taking position much like conventional agriculture is in now. However, organic producers may have a safety net in the continued strength of consumer demand, reflected in organic food and beverage sales that have grown at 15 to 25 percent each year for the past decade, and are predicted to continue as described in the earlier section of this report entitled “Market Trends and Potential for Organic Products.”

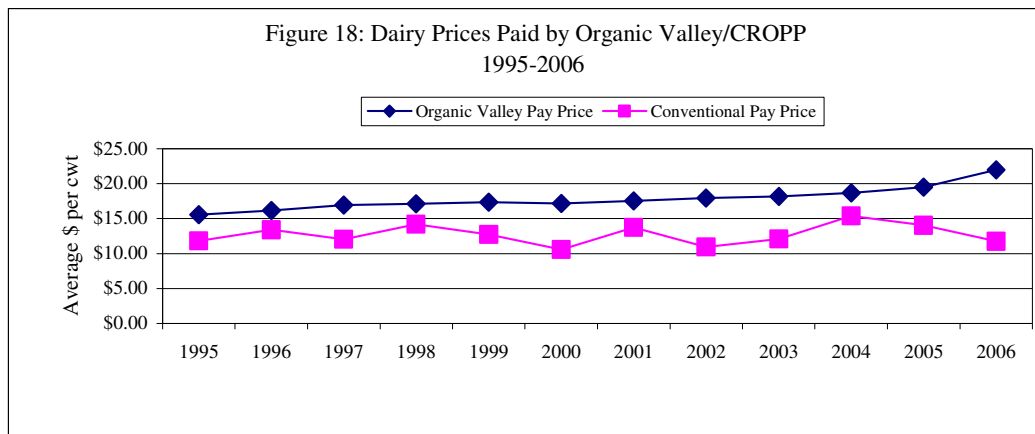
Recently, several large U.S. retailers have announced their intention to boost organic offerings at minimal price markups compared to conventional food. These announcements have prompted speculation that these retailers will source products from lower-priced organic product imports, thereby putting downward pressure on premiums in the domestic marketplace. While consumers may enjoy lower prices, producers and processors may find themselves back in the conventional race to be the low-cost producer. Members of the Minnesota Organic Advisory Task Force have acknowledged

this discrepancy and noted the importance of increasing the value and price of non-organic food (to consumers and in the marketplace), rather than depressing the price of organic.

Overall, domestic demand for organic continues to outstrip supply, especially in rapidly growing categories like meat and dairy.

## Dairy

Organic dairy farms typically produce less milk per cow than high-input conventional systems, and organic dairy producers prefer to focus on profitability and net return rather than production. Like crops, organic milk commands a premium in the organic marketplace. Buyers typically contract for organic milk a year at a time and prices have risen consistently since the late 1980s. (Figure 18)



Data about profitability per organic cow, hundredweight, or farm are lacking. A recent one-year study conducted by the University of Maine examined 30 Vermont and Maine organic dairy farms, and concluded that, on average, the farms were not profitable in 2004. (Dalton et al., 2005). There are few other studies available to confirm or contradict these conclusions, however. Anecdotal information from Minnesota and Midwestern organic dairy farmers like Pam Riesgraf, who testified before the Minnesota Senate Agriculture, General Legislation, and Veterans Affairs committee on January 24, 2005, say that organic farming is profitable for their operations. There are limited 2005 data about organic dairy farming in FINBIN, a Minnesota farm financial benchmarking database maintained by the University of Minnesota Center for Farm Financial Management; seven organic operations reported an average net return over labor and management of \$547.47 per cow and \$4.49 per hundredweight, compared to 572 non-organic operations that reported an average net return over labor and management of \$483.19 per cow and \$2.31 per hundredweight. (Table 8) (CFFM, 2006)

**Table 8. Farm Financial Analysis - Dairy Production 2005**

	Non-organic farms	Organic farms
Farms reporting	572	7
Production (cwt) per cow	20,887	12,205
Cost of production per cwt*	\$13.33	\$15.83
Net return over labor and management (per cow)	\$483.19	\$547.47
Net return over labor and management (per cwt.)	\$2.31	\$4.49
Estimated labor hours per cow	40.81	30.7
Average milk price per cwt.	\$15.65	\$20.38

\*Includes direct and overhead expenses, with labor and management  
Data: Center for Farm Financial Management www.finbin.umn.edu

In 2006, the MDA enrolled 20 certified organic Minnesota dairy producers in the statewide Farm Business Management program, a project described later in this report. These dairy farmers' records will become part of FINBIN and provide valuable real-world data about the comparative profitability of conventional and organic dairying in Minnesota.

## **Environmental and Human Health**

### **Environment and Conservation Considerations**

The National Organic Standards set forth conservation requirements for organic producers. Producers must implement conservation and environmental stewardship in their farming practices. These must be detailed in a written Organic System (farm) Plan and observable during on-site, third-party inspection, which occurs at least annually. The Standards require organic farms to:

*“Maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion, and...manage plant and animal materials to maintain or improve soil organic matter content, in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances.”*  
[§205.203(a)(c)]

The national standards require that crop nutrients and soil fertility be managed through the use of crop rotations, cover crops, and the application of plant and animal materials. In addition, manure may not be applied to frozen ground.

The USDA Natural Resources Conservation Service (NRCS) posits that “many organic practices enhance conservation” and points out that “organic growers generally adapt well to...conservation planning because they are accustomed to multidimensional approaches to assessing their farming operation.” (USDA-NRCS, N.D.)

Results of a detailed, comparative investigation based on research data collected and synthesized by experts in 18 individual countries in the European Union are reported in Table 8. These studies considered the environmental impact measured in terms of land area, not per unit of production. Overall, the environmental aspects of organic farming ranked at least equal to conventional farming and in many cases better. Under certain circumstances, organic farming might perform worse than conventional farming in areas like erosion control and nitrate leaching. (Dabbert, 2005)

**Table 9. Environmental Impact of Organic Farming Compared to Non-Organic Farming in Europe**

	<i>Much worse</i>	<i>Worse</i>	<i>Same</i>	<i>Better</i>	<i>Much better</i>
<b>Soil</b>					
Organic matter				X	
Biological activity					X
Structure			X		
Erosion				X	
<b>Ground and Surface Water</b>					
Nitrate leaching				X	
Pesticides					X
<b>Climate and Air</b>					
CO <sub>2</sub>			X		
N <sub>2</sub> O			X		
CH <sub>4</sub>			X		
NH <sub>3</sub>				X	
Pesticides					X
<b>Farm Input/Output</b>					
Nutrient use				X	
Water use			X		
Energy use				X	

Source: Stolze et al. 2000 adapted by Dabbert, 2005

Grey shading indicates a subjective confidence interval with respect to the possible margins of error of the assessment.

Recent research on agricultural nitrogen losses in a California orchard system investigated soil biological and chemical activity and concluded that organically-farmed soils experienced less nitrate loss than conventionally farmed soils. The authors speculated that similar reductions in nitrate loss might be found in non-perennial cropping systems as well. (Kramer et al., 2006)

A summary of research results from a 22-year experiment comparing conventional and organic cropping systems at the Rodale Institute in Pennsylvania was published in the journal *BioScience* in 2005. Authors concluded that a number of environmental benefits—reduced chemical inputs, less soil erosion, water and energy conservation, and improved soil organic matter (higher soil carbon) and biodiversity—were superior in the organic systems. They observed that a legume-based organic system experienced higher nitrate leaching in several years, but not consistently. They also observed that the conventional system typically required less labor. (Pimental et al., 2005)

A 2004 article in the journal *Nature* described how some organic principles—including attention to improving soil quality (structure, health, and biota) and desire to reduce pesticides and other purchased inputs—are being adopted by non-organic “conventional” or “mainstream” farmers around the world. Practices like cover cropping and crop rotation, which are mainstays of organic farming systems, are being adopted by some non-organic farmers as well. (MacIlwain, 2004)

## Health and Nutrition

Studies examining human health impacts of organic food are limited and to date have focused on pesticide exposure during the growing season, exposure to pesticide residues on food, and nutrient content of organic produce. Although numerous studies have documented how synthetic inputs impact farmworker health, studies comparing the health status of farmers on organic versus non-organic farms are not available. In 2004, California's Occupational Safety and Health Division introduced emergency rules that prohibited hand weeding (one of a number of weed management strategies used on some organic farms) to protect farm workers from back injuries associated with hand weeding, but exempted organic farms. (Hollister, 2005)

There is no consensus that organic foods are healthier or less healthy than their non-organic counterparts. A few research studies that have been conducted to date are described below. While some find significant differences between organic and non-organic foods, others do not. Further data is needed before these kinds of comparative questions can be resolved.

### *Nutritional content*

Mike Hamm, C. S. Mott Professor of Sustainable Agriculture at Michigan State University, contends that the state of science regarding the nutritional advantage of organic compared to conventional foods, is incomplete.

*"To date [2003], major differences have not been seen in organically versus non-organically raised crops for vitamins [except for Vitamin C] or minerals if everything else is held equal. A recent review and analysis of 150 studies conducted between 1926 and 1994 found relatively few differences overall. While there are a number of ways to conduct these studies (for example, going into the market and collecting tomatoes that are labeled organic and those that are not, then sampling them for vitamin C), the best would be side-by-side cultivation of identical varieties in organically and conventionally managed soils. Studies conducted in this manner tend to show no differences in either mineral or vitamin concentration. Protein concentration does tend to vary somewhat but is more closely associated with the level of soil N and not the production method per se."* (Hamm, 2004)

Separate studies by food scientist C.M. Williams in the United Kingdom and by researchers at the University of Otago in New Zealand have similarly concluded that while many consumers perceive health benefits from organic food, data comparing the impacts of organic and conventional food on human and animal health are limited and inconclusive, and that more and better designed research is necessary. (University of Otago, 2002; Williams, 2002)

### *Antioxidants*

Researchers at the University of California – Davis determined that frozen sustainably-grown and organic marionberries and corn contained 50 percent to 58 percent more polyphenolics than conventionally grown crops from neighboring plots. Sustainably grown and organic produce also had higher levels of ascorbic acid. The researchers compared levels of total phenolic metabolites and ascorbic acid content in marionberries (a type of blackberry) and corn grown organically, sustainably, or conventionally. The fruits and corn were frozen, freeze-dried, or air-dried. Phenolic metabolites are important plant defense mechanisms. In humans, they have a range of properties that includes anticancer and antioxidant activities. (Asami et al., 2003)

In a Danish study, researchers concluded that organic cows produced milk that was significantly higher in Vitamin E (alpha tocopherol), beta carotene (precursor to Vitamin A), and the antioxidants lutein and zeaxanthine than non-organic milk. The study found no differences in fatty acids or conjugated linoleic acids (CLA). (Nielsen et al., 2004)



### ***Pesticide residues***

University of Washington scientists assessed organophosphorus (OP) pesticide exposure in preschool children on organic and non-organic diets by measuring their urine for metabolites of OP pesticides commonly used on fruits and vegetables. Data showed that doses for children who ate non-organic diets were significantly higher than doses for those who ate organic diets. They concluded that children who ate non-organic diets were exposed to cumulative doses that could have “biological relevance” and that consuming organic produce reduces children’s exposure to OP pesticides. The authors did not speculate about what, if any, health impacts would accrue to the children who ate either diet. (Curl et al., 2003)

In another study, University of Washington researchers documented that consuming organic food lowers children’s exposure to two common agricultural pesticides – malathion and chlorpyrifos. The study included 23 children between the ages of 3 and 11. Pesticide metabolite levels in urine were measured when the children ate non-organic food diets, during a period of time eating organic food diets, and while changing back to consuming non-organic diets. While the children ate organic diets, levels of the pesticides of interest were nearly zero. While on a non-organic diet, they increased to detectable levels. The researchers did not speculate on the implications of the exposure. (Lu et al., 2006)

In the summary of an article published in the journal *Food Additives and Contaminants*, authors from the Organic Materials Review Institute and Consumers Union describe a study that compared the number and amounts of pesticide residues on “conventional”, “IPM,” and “organic” produce. The researchers used three sets of data on fruit and vegetable crops collected and analyzed by the Pesticide Data Program of the USDA; the Marketplace Surveillance Program of the California Department of Pesticide Regulation; and private tests conducted by Consumers Union. The study concluded that organically-grown produce had fewer pesticide residues and fewer instances of multiple pesticide residues than conventionally grown produce. The study did not speculate on the health implications of lower or higher pesticide residues, but concluded that consumers who want to minimize exposure have reason to choose organic over conventionally-grown fruits and vegetables. (Baker et al., 2002)

It is important to note that while most synthetic substances are prohibited in organic production, there are some naturally occurring substances and compounds that have pesticidal properties and that are sold commercially and are allowed in organic farming. (See [www.omri.org](http://www.omri.org)) Although the use of synthetic pesticides is prohibited in organic farming and processing, organic is not a “pesticide free” claim. However, produce with pesticide residue levels above 5 percent of Environmental Protection Agency tolerance may not be sold as organic. (National Organic Program Final Rule 205.671)

### ***Antimicrobial resistance***

A study pairing 30 organic and conventional Wisconsin dairy farms found that organic herds showed significantly lower rates of antimicrobial resistance in *E. coli*, *Enterococcus* spp., and *Camphlobacter* spp. (Bartlett and Sato, 2004)

### ***Food safety***

Research by the University of Minnesota published in the *Journal of Food Science* compared fecal contamination with *E. coli*, *Samonella*, and *E. coli* O157:H7 in fresh produce raised by conventional and “organic” farms. Researchers found that *E. coli* was significantly more prevalent in organic produce, but did not conclude that organic produce poses a substantially greater risk of pathogen contamination than conventional food. (Mukherjee et al., 2004)

Although the authors did acknowledge differences in tests of certified versus non-certified produce, the study has been challenged because what the investigators called “organic” may not have met the federal requirements for use of the term “organic,” since the study was conducted before

implementation of the National Organic Standards. National standards require that uncomposted animal manure must be incorporated into the soil *no fewer than 120 days before harvest* of a crop when the edible portion contacts the soil (e.g., produce). Conventional farms do not have similar withholding requirements after manure application.

The proceedings of the 2004 meeting held at Michigan State University, “First World Congress on Organic Food: Meeting the Challenges of Safety and Quality for Fruits, Vegetables, and Grains,” acknowledged the need for a comprehensive literature review that would summarize the state of knowledge regarding safety and quality of organic fruits, vegetables, and grains. In addition, Congress participants pointed out that “although there is little evidence to implicate organic [foods] as sources of enteric illness compared with conventional products, this may reflect limited epidemiological data.” (NFSTC, 2004)

## **Organic Agriculture in Minnesota**

### **Grower Perceptions and Needs**

In 2004, the MDA’s Agricultural Resources Management and Development Division conducted a 32-question survey to learn about growers’ experiences with and opinions about organic agriculture. Surveys were mailed to approximately 630 individuals who had participated in organic-related MDA programs or had requested information about organic agriculture from the Department in the past. Of the 193 responses received, 76 percent indicated they were certified organic growers. Fifty-five identified themselves as crop farmers, 13 as livestock operations, 9 as vegetable or orchard operations, and 56 as “mixed” (e.g., crop/livestock, crop/vegetable, etc.).

Forty seven respondents (39 percent) were between 41 and 50 years old. Twenty four were between 51 and 60. More than half said they were certified organic because buyers/market require it. Even more cited price premiums for certified product and philosophical reasons for certifying. More than half paid between \$301 and \$750 for certification services. Six respondents paid \$2,500 or more for certification required to access this market.

Average market value of production per farm for all farms in Minnesota was about \$106,000 in 2002, according to the 2002 Census of Agriculture State Profile. About a third of the certified organic farms responding to the survey reported similar income from farming—at or above \$100,000 per year. More than two thirds of the survey respondents make at least 75 percent of their gross annual income from sale of organic agriculture products. About 72 percent of the farms had an adult who earned off-farm income. About 18 percent reported using farm financial management software and 22 percent reported using organic crop insurance products, a low rate of participation compared to the more than 80 percent of conventional farmers who used crop insurance during the same period. (Gary Luebke, 2006, Personal communication)

By and large, organic growers reported positive attitudes about organic farming and its future. Nearly three-quarters said they thought organic was more profitable than conventional. When asked whether they or a family member would still be farming in five years, 99 percent said “yes.” In addition, 92 percent thought they or a family member would still be farming in 10 years, and 73 percent thought they or a family member would still be farming in 20 years.

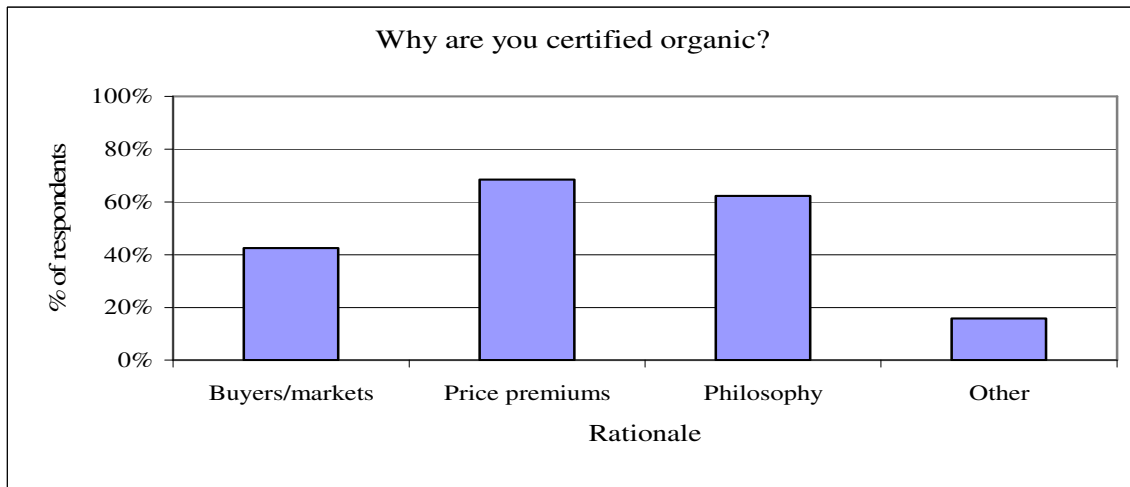
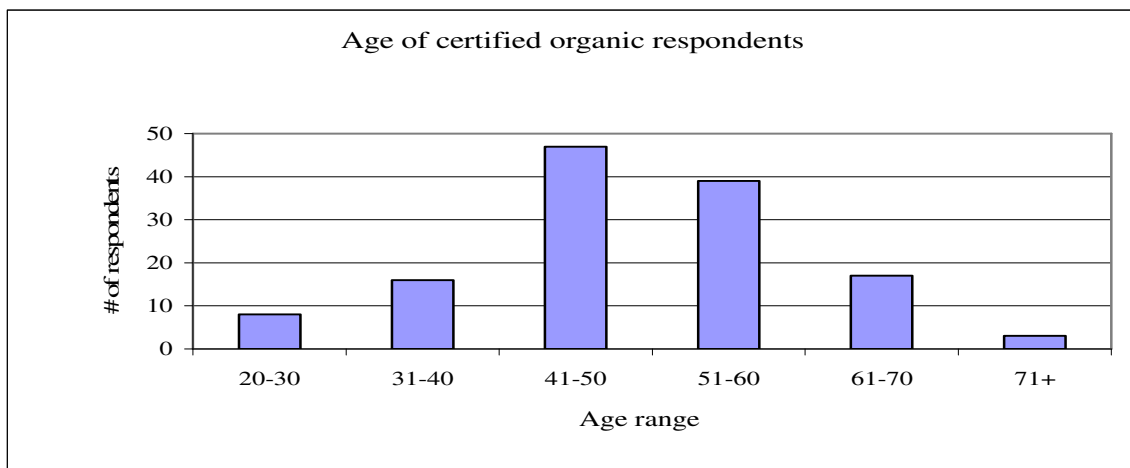
Many respondents reported using services provided by the MDA, most frequently organic certification cost share, the *Greenbook* publication (which summarizes on-farm research in the state), field days, and the Minnesota Organic Conference, which the MDA coordinates. More than 90 percent said a directory of organic farms and farm products would be somewhat or very useful, and the MDA has since produced such a directory. Non-certified growers were more likely to support the

idea the State offering a voluntary affidavit for growers who use organic practices and are legally exempt from certification requirements<sup>2</sup>. That service is still under consideration by MDA.

The MDA receives questions from agencies such as road commissions, custom operators, and agricultural cooperatives that want to avoid organic farms when applying agricultural chemicals such as herbicides on adjacent land. The MDA survey asked whether the state should collect organic farm and field location information on a voluntary basis and make the information publicly available to such entities; 80 percent said “yes” or “maybe.”

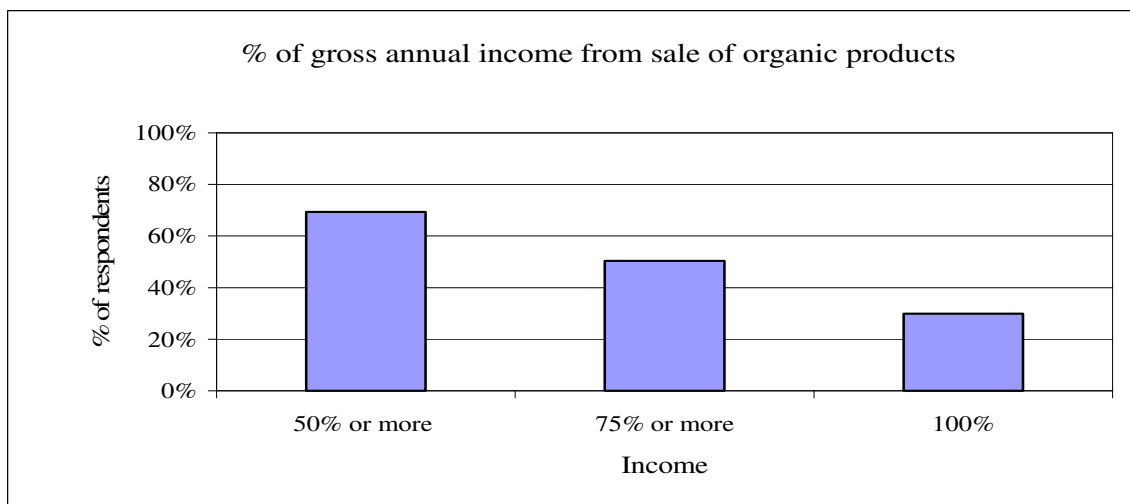
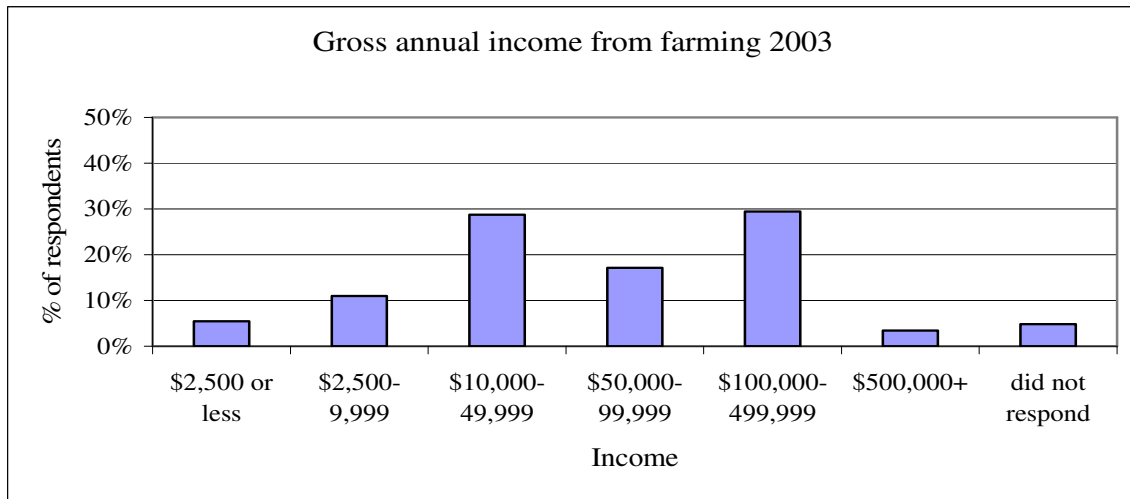
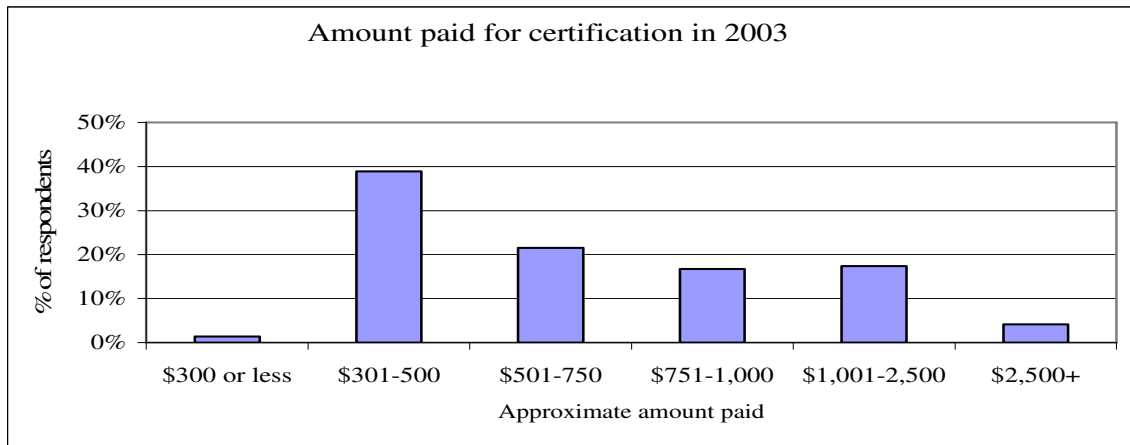
*Note: Unless indicated, data below reflects the responses of self-identified certified organic growers only.*

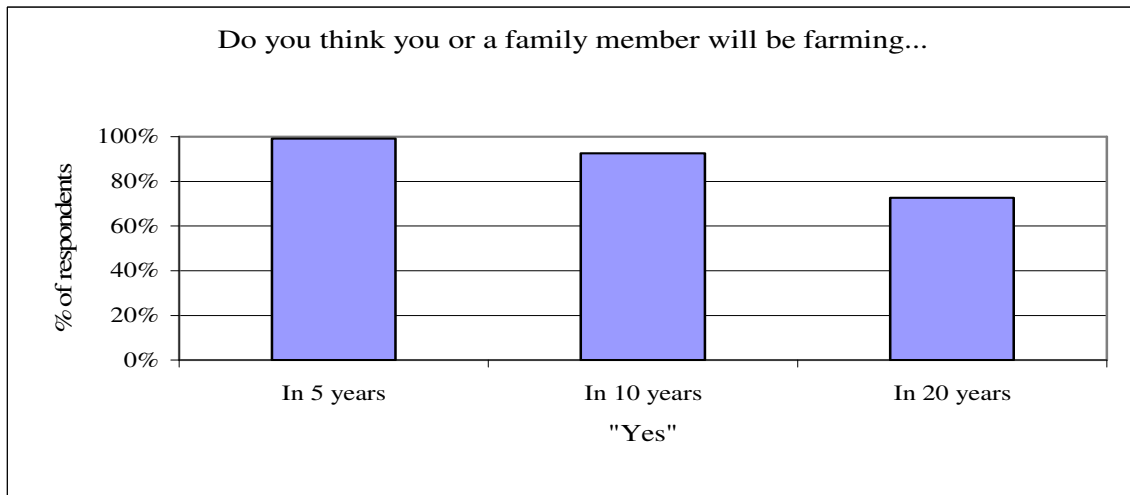
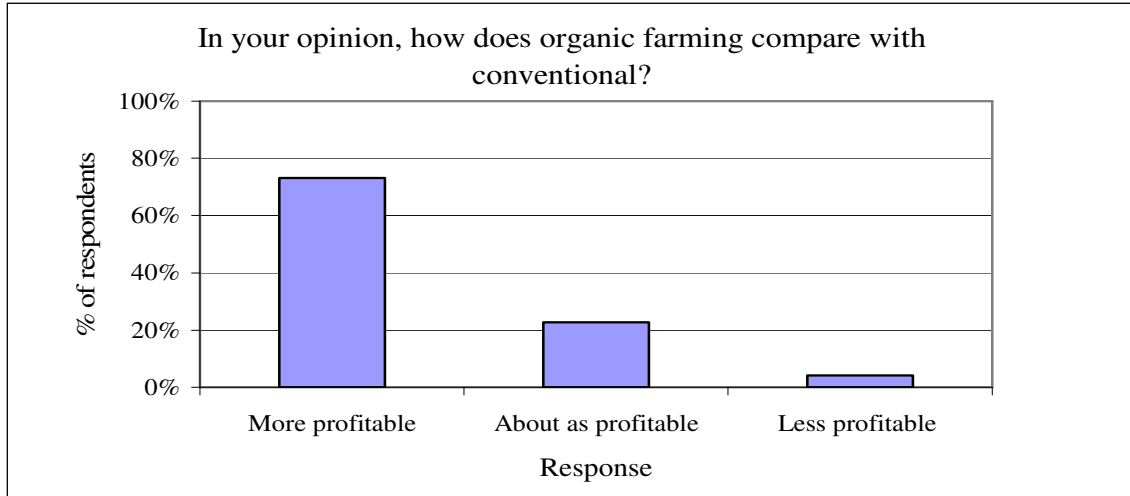
## Grower Characteristics



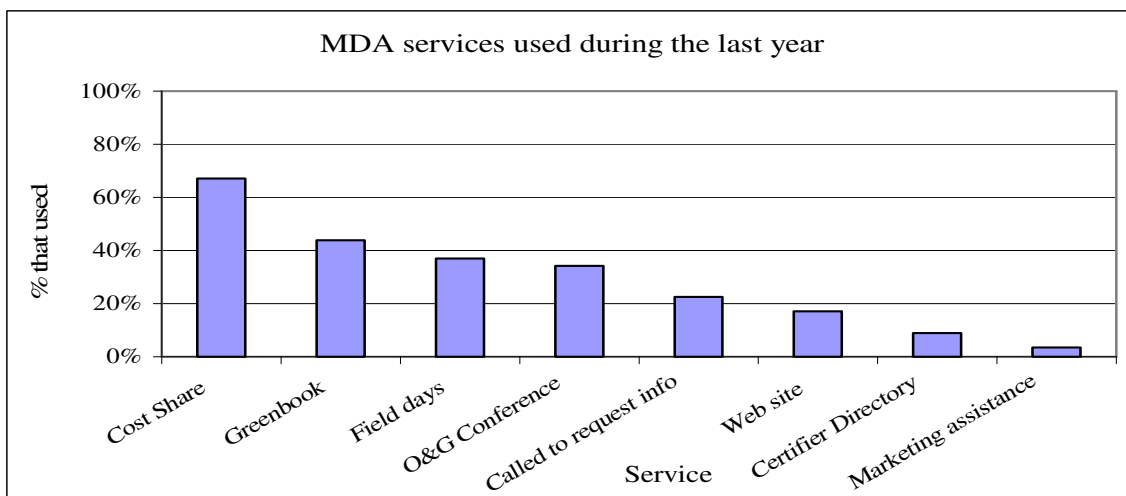
<sup>2</sup> Organic operations that sell less than \$5,000 of organic product per year are exempt from certification requirements. However, they must follow all other provisions of the National Organic Standards, including production and recordkeeping requirements.

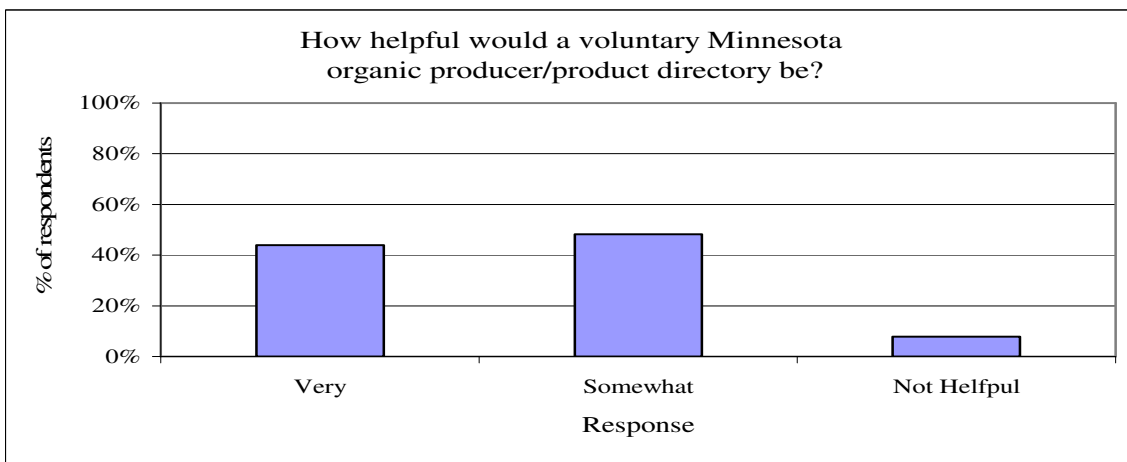
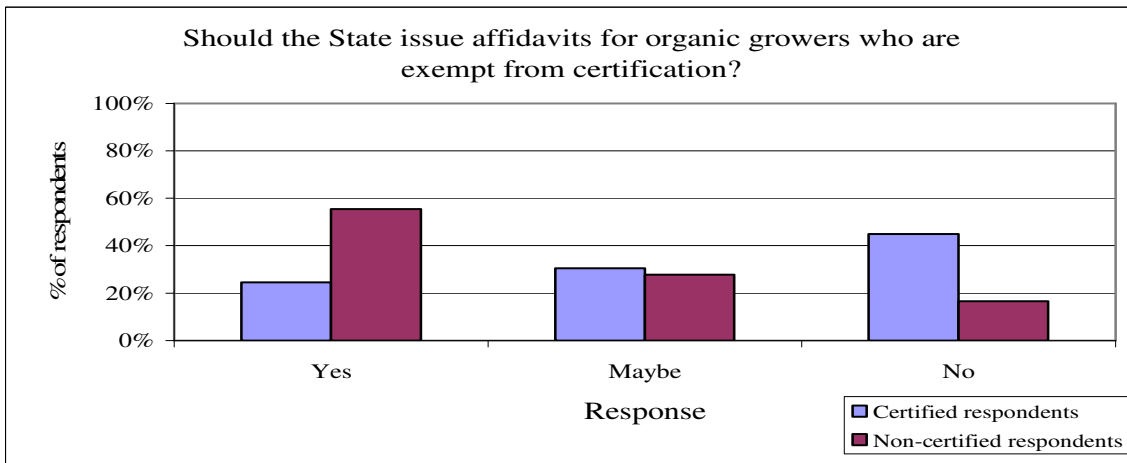
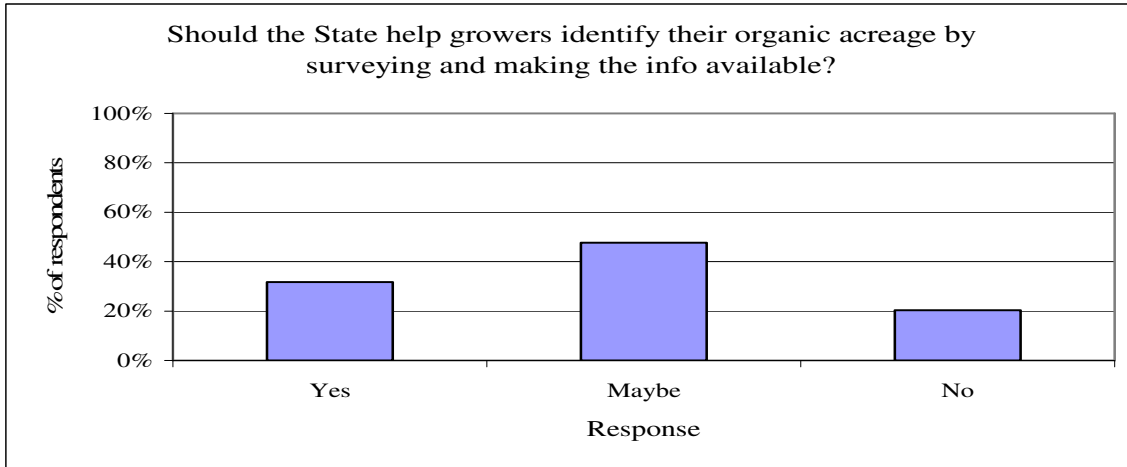
## Economic Performance and Outlook



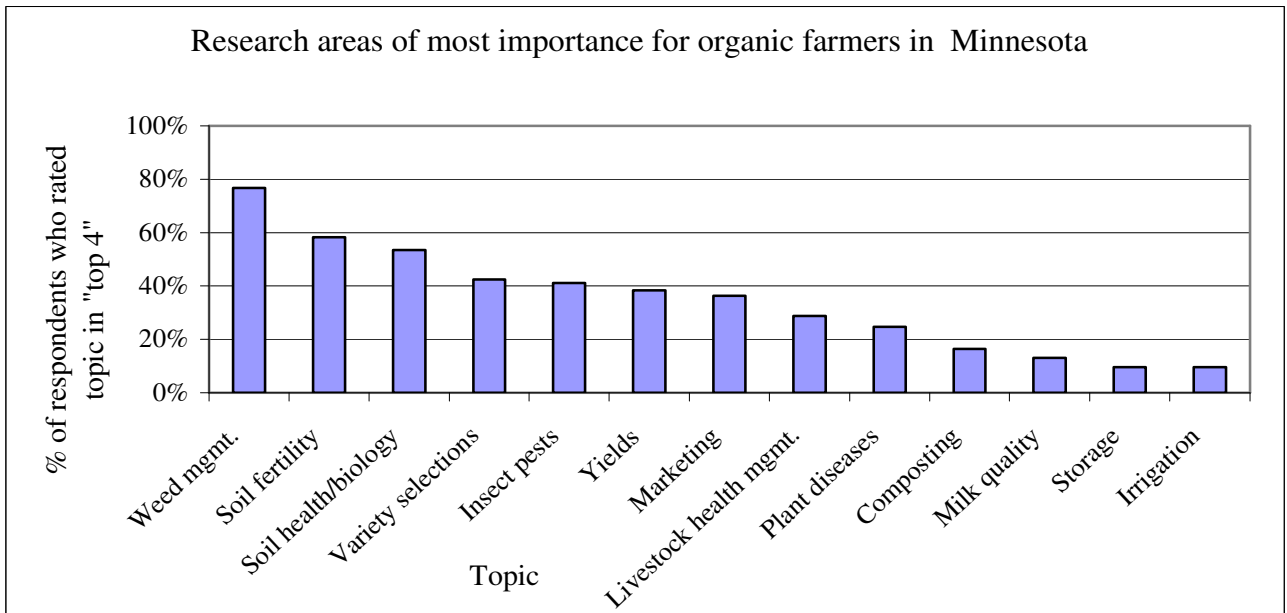
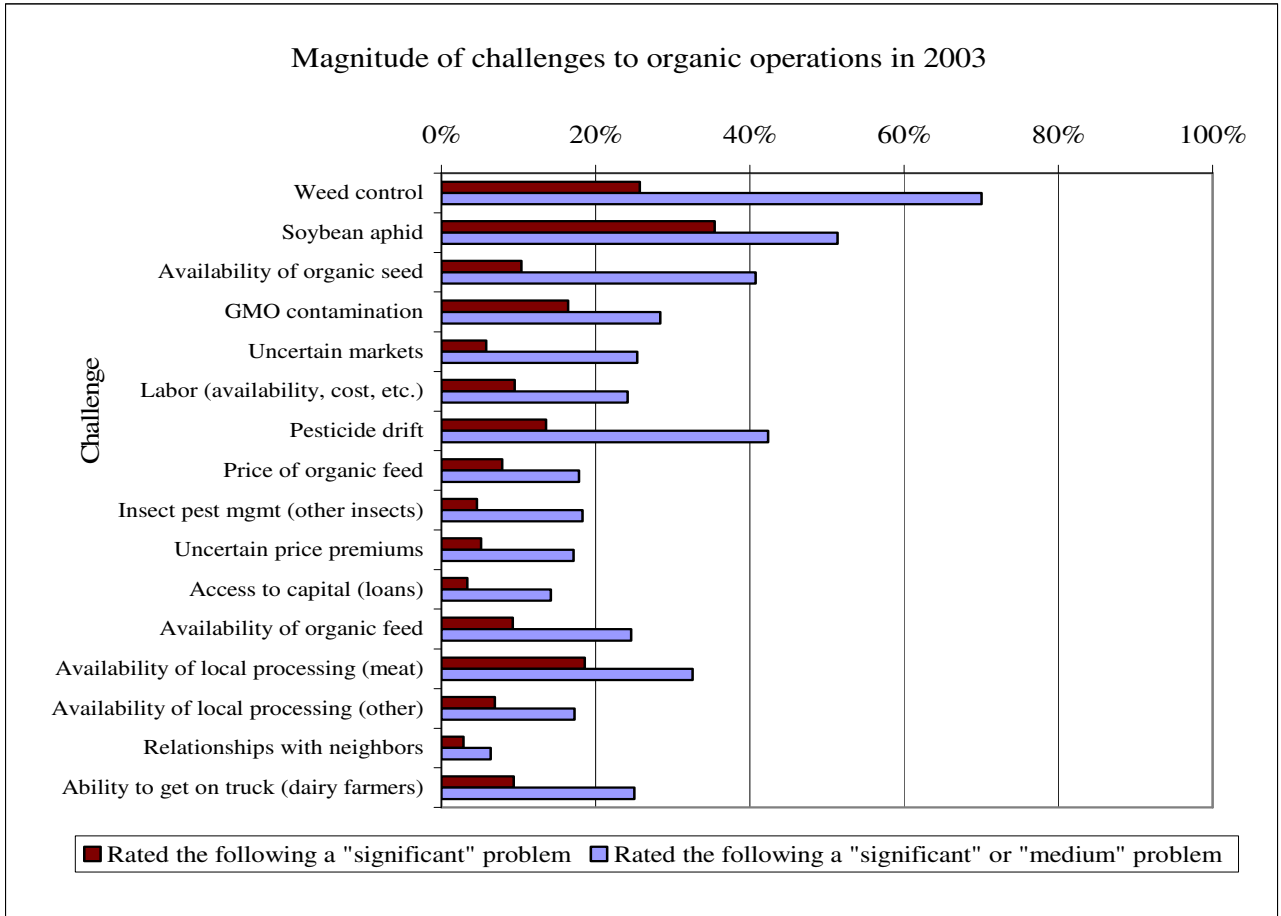


**Use of and Opinions About MDA Services**





## Challenges and Concerns



## Legislative Issues

The 2004 survey of organic growers also asked respondents what organic issues they thought the Minnesota Legislature should address. Almost half of respondents provided written comments. The most frequent concern voiced was drift of pollen from **GMO** crops; genetically modified seed is not permitted in organic production and contamination from pollen drift can exclude organic production from markets.

Many respondents asked for increased funding for **research** that will benefit organic producers (including soils, livestock production, crop production, and variety trials). The organic **certification cost share program** was mentioned by a number of respondents, and several suggested assistance to growers during the **transition** period – that period of time when farmers are learning to use organic practices and may not yet sell in the organic marketplace. In addition, several people mentioned a need for **finance and lending programs** that are friendly to transitioning and organic producers. A number voiced concerns about scale issues and their perception that more state assistance is provided to support and encourage large operations than is provided to smaller scale farms. Several also wanted more **marketing** assistance and some encouraged the state to promote the use and availability of **locally grown** agricultural products, in public purchasing as well as retail stores.

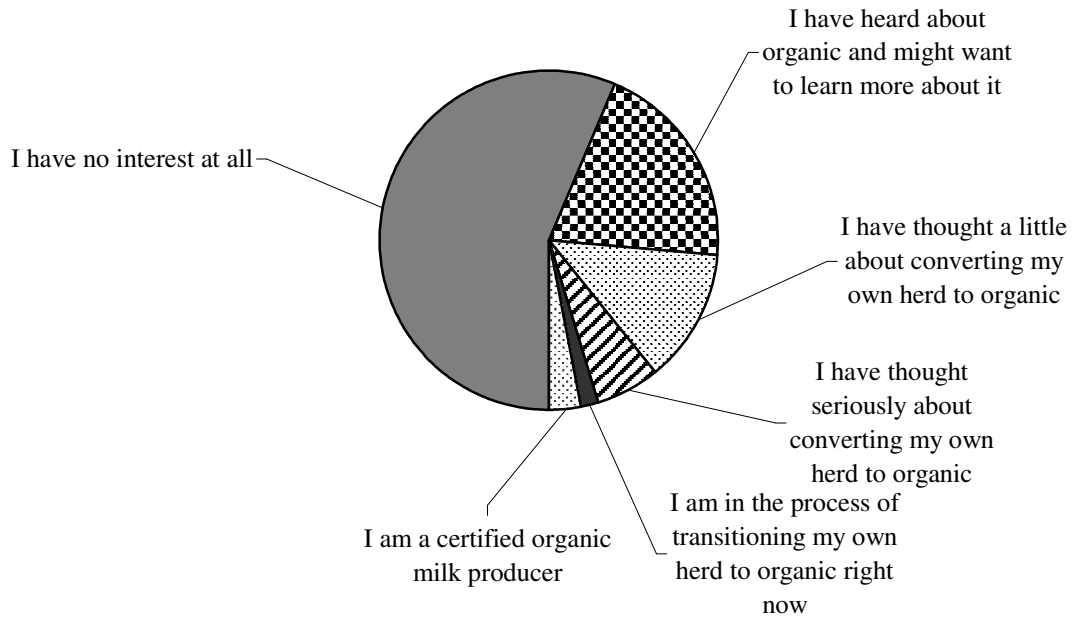
## Organic Dairy

Consumer demand for organic dairy products has been outpacing industry predictions and 2006 saw organic milk shortages in Midwest retail outlets as well as elsewhere in the nation. In 2005, the MDA and the University of Minnesota surveyed dairy farmers to determine the level of interest in organic dairy production. Postage-paid surveys were mailed to 900 randomly selected producers in the following counties: Carver, Chisago, Dodge, Fillmore, Goodhue, Isanti, McLeod, Morrison, Olmsted, Otter Tail, Scott, Sherburne, Stearns, Todd, Wabasha, Winona, and Wright. A total of 195 producers returned the surveys for a response rate of 22 percent.

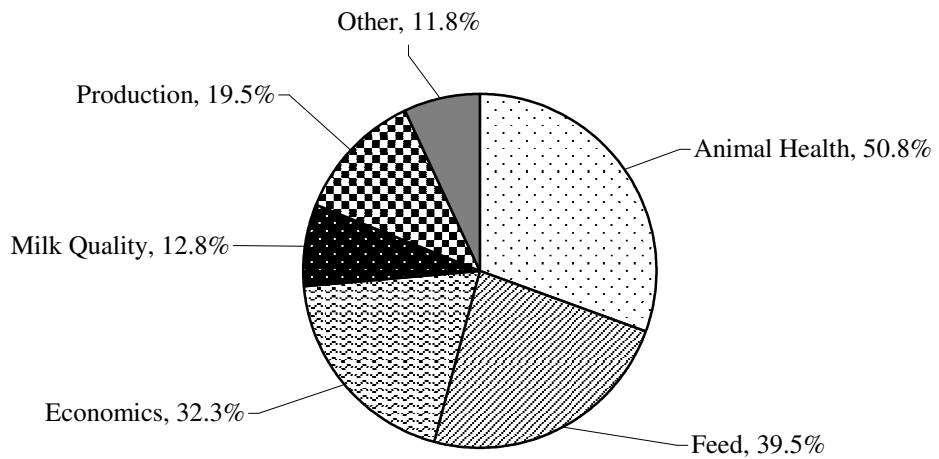
Almost half (44.6 percent) of the respondents had at least some awareness of or interest in organic production. Their major concerns were livestock health, feed, and profitability.



**Question 1: What's your reaction to the idea of organic production?**



**Question 2: What do you think are the biggest challenges that confront dairy producers transitioning to organic?**



In 2006, the MDA emphasized dairy at the annual Minnesota Organic Conference, by including a set of breakout sessions especially relevant to producers considering organic as a possible option for their farms, as well as those who were already transitioning or certified organic. The event drew record attendance of more than 325 participants.

According to the coordinator of the statewide Minnesota Dairy Initiative (MDI) team that works with organic, value-added, and alternative species, the team receives more producer inquiries than it can handle at any one time – both from direct contacts and through referrals from regional MDI teams. (Jeremy Lanctot, 2006. Personal communication.)

## **Current State/Federal Programs Directed Toward Organic Agriculture**

A number of USDA agencies include organic agriculture in their programs:

- Agricultural Marketing Service (home to the National Organic Program)
- Agricultural Research Service, including its National Agricultural Library
- Economic Research Service
- Foreign Agricultural Service
- National Agricultural Statistics Service
- Natural Resources Conservation Service
- Risk Management Agency
- Cooperative State Research, Education, and Extension Service.

In Minnesota, the USDA has been active in the following ways:

**Natural Resources Conservation Service** Providing technical and financial assistance is the primary business line of the Natural Resources Conservation Service (NRCS). In Minnesota, the agency offers organic transition payments through the Environmental Quality Incentives Program (EQIP). This program helps farmers with technical advice and financial assistance during the transition of cropland or pastureland to organic. The Conservation Security Program has also been developed with recognition of the values of organic farming to natural resources in conservation enhancement payments. Additionally, conservation easement programs are offered to provide landscape diversity, encouraged in organic certification.

Education and information continues to be a priority in Minnesota NRCS efforts. NRCS supports and participates in the Minnesota Organic Conference by providing financial support, making presentations, and providing scholarships. Similar support is provided to the Midwest Organic and Sustainable Education Service's Organic University and Upper Midwest Organic Farming Conference. NRCS has also worked with the Minnesota Department of Agriculture to deliver workshops for farmers and agricultural professionals related to organic farming.

NRCS offers a number of technical tools useful to transitional and certified organic farmers. The on-line Web Soil Survey provides soil maps and interpretive data at the farm level. The plant materials program offers the PLANTS database to assist in selection of native and other plants that can be useful in conservation plantings. The Veg Spec program available at the PLANTS database website helps combine soil and plant information into a conservation planting plan. Numerous Tech Notes are available on subjects including native pollinators, nesting shelters, specific wildlife species, and other landscape impacts of conservation systems. The agency also develops and supports workshops, such as the grazing workshops NRCS has sponsored for the past two years. Since organic ruminants must have access to pasture, these workshops are relevant to organic livestock producers.

**Resource Conservation and Development (RC&D)** Councils across Minnesota have supported marketing and promotional efforts for organic growers. Often in a joint effort with other agencies and groups, RC&Ds have provided marketing assistance to groups including Triple Rivers Producers, the Bridging Brown County FARM Team, the Whole Farm Coop, Pride of the Prairie Buy Fresh – Buy Local foods directory, Superior Grown, and the Southeast MN Food Network building and transportation projects.

**Cooperative State Research, Education, and Extension Service** funds organic research efforts at the University of Minnesota. Its Sustainable Agriculture Research and Education (SARE) Program co-sponsors organic events like the Minnesota Organic Conference. The SARE Professional Development and Farmer/Rancher Grants Programs support organic training, research, and outreach activity in Minnesota.

**Economic Research Service** collects and publishes informative organic acreage and market data.

**Risk Management Agency** makes crop insurance available to organic producers. A new whole-farm revenue insurance program, AGR-LITE, will be piloted in the state in 2007 and is expected to appeal to organic, as well as specialty crop, producers. RMA has funded organic projects in Minnesota through partnership agreements with the MDA and other Minnesota organizations.

The **University of Minnesota** (UMN) receives both state and federal funding. Faculty offer courses about organic agriculture, conduct research on certified organic land at several University research and outreach centers, and oversee a student organic farm on its St. Paul Campus. Several University of Minnesota extension educators are directly involved with organic agriculture, conducting organic variety trials, offering organic seminars, field days, and workshops to producers, and providing direct technical assistance to certified and transitioning producers, for example.

## **Minnesota Department of Agriculture Support for Organic Agriculture**

### **Agricultural Resources Management and Development Division**

This division conducts the bulk of the Agency's organic programming and supports Minnesota's organic sector in a number of ways:

#### ***Selected Ongoing Projects***

##### **1. Deliver Organic Cost Share Program**

261 applications in 2002/2003 (disbursed \$98,460 in federal funds to growers and processors. Demand met entirely by federal funding.)

288 applications in 2003/2004 (disbursed \$115,716 in federal funds to growers and processors. Demand met entirely by federal funding.)

334 applications in 2004/2005 (disbursed \$67,250 in federal funds to growers and processors, and \$29,366 in state funds to growers only. Demand exceeded federal funding available).

206 applications in 2005/2006 (disbursed \$35,000 in state funds to 178 growers.<sup>3</sup> There were no federal funds available. Demand for the program exceeded state funding.

2. Lead and administer **Organic Farm Business Management Program**

Funding: USDA Risk Management Agency - \$278,000

Thousands of conventional farmers in many states use FINPACK, a farm financial management tool, and FINBIN, an associated benchmarking database, to help them assess the economic and production performance of their farming operations and make informed farm business decisions. Until now, these tools have not been well adapted for the needs of organic producers.

In partnership with the UMN Center for Farm Financial Management, this project is modifying and delivering the program to 90 self-selected organic crop and livestock producers in Minnesota. The program will result in the first standardized collection of real world production, cost, and profitability data. Access to reliable production and profitability information for organic farms will benefit existing organic operations and their efforts to manage multiple risks, as well as informing the decisions of conventional operations that are considering transition to organic, public agencies and other agricultural, and policymakers. Other project partners include Sustainable Farming Association and Organic Crop Improvement Association Minnesota Chapter #1.

3. Coordinate annual two-day **Minnesota Organic Conference**

This event features keynote speakers, breakout sessions in six concurrent tracks, locally grown foods, and a 60-vendor trade show. It draws attendees from across Minnesota as well as from neighboring states. Attendance: 275 in 2004, 300 in 2005, and 325 in 2006.

4. Co-sponsor the **Minnesota Organic Network**

This informal group connects multiple stakeholders (currently 65 individuals representing state and federal agencies, University, Extension, nonprofit, individual producers, and private industry), facilitates information sharing, and promotes collaboration around emerging organic opportunities through a listserv and monthly conference call. Other co-sponsors are the UMN Minnesota Institute for Sustainable Agriculture and the Sustainable Farming Association of Minnesota.

5. Produce a yearly *Directory of USDA-Accredited Certifiers Active in Minnesota*

Available at [www.mda.state.mn.us/esap/organic](http://www.mda.state.mn.us/esap/organic)

6. Staff the **Minnesota Organic Advisory Task Force**

This 14-member committee meets quarterly to advise the Commissioner on organic opportunities and issues relevant to the MDA. [www.mda.state.mn.us/esap/organic/oatf](http://www.mda.state.mn.us/esap/organic/oatf) (Appendix A)

7. Coordinate *Memorandum of Understanding on Organic Agriculture in Minnesota*

Signatories to date are: MDA, USDA Natural Resources Conservation Service, USDA Farm Service Agency, University of Minnesota, and University of Minnesota Extension. Although member organizations have discussed expanding the group, no changes in membership have occurred to date. (Appendix B)

8. Produce *Status of Organic Agriculture in Minnesota* report to the Legislature

Archived at [www.mda.state.mn.us/esap/organic](http://www.mda.state.mn.us/esap/organic) and Minnesota Legislative Reference Library.

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<sup>3</sup> There are two likely reasons for the smaller number of applications in 2005/6: 1) only growers are currently eligible for the state program. 2) the MDA notified potential applicants as soon as available funds were exhausted so they would not spend time and effort applying to a program that had no assistance available.

9. Provide **production and certification information and referrals** via telephone, U.S. mail, and e-mail.
10. Respond to certification-related **organic inquiries from food processors**.
11. Refer **marketing-related questions** from farmers and food processors to MDA Marketing Division.
12. Participate in the **National Association of State Organic Programs (NASOP)**, an affiliate of the National Association of State Departments of Agriculture (NASDA).

### ***Selected Completed Projects 2003-2006***

#### **Organic Inventory Project**

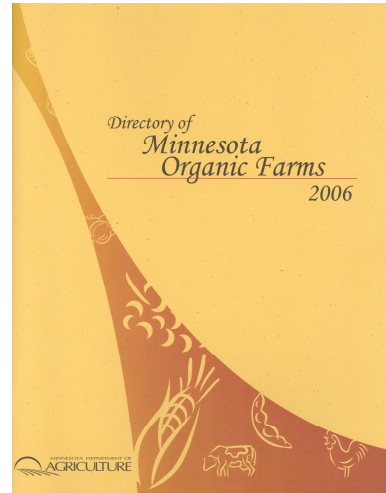
Funding: USDA Risk Management Agency \$9,995

- Developed, produced, and distributed 1,500 copies of a *Directory of Minnesota Organic Farms*
- Listings organized by commodities grown and by county
- Producers are asking for future updates

#### **Organic Outreach Project**

Funding: USDA Risk Management Agency \$85,410

- Expanded an organic farmer mentor program (MOFIE) to include 21 producers—ensuring geographic and production diversity, as well as reliability of information. <http://organicecology.umn.edu/mofie>
- Created 10 farmer-initiated, on-farm outreach demonstrations of organic practices to help growers discover and share insights about organic production and economics.
- Produced and disseminated three organic processing fact sheets:



## ORGANIC MEAT & POULTRY PROCESSING BASICS

### Why consider organic?

Organic is one of the fastest growing sectors of the food and agriculture industry in Minnesota, the nation, and abroad. Retail consumer sales of organic food, including meat and poultry, have been growing at about 20% per year. Industry sources expect the trend to continue, predicting 30% annual increases in sales for meat, poultry, and fish between 2004 and 2008. Consumers have shown they are willing to pay premium prices for certified organic meat and poultry, but a lack of certified organic meat processing facilities has held back further growth.

Whether you are looking at converting your entire operation to organic, thinking of starting a new business, or considering the addition of certified organic processing to the services you currently offer, organic may add an attractive option for customers and benefit your bottom line.

### What does "organic" mean?

Organic agriculture is a guarantee about how an agricultural product was grown and handled before it reached the consumer. It's also a set of requirements for farmers who grow food and processors who manufacture food products. Organic farmers use management systems that promote and enhance biodiversity, biological cycles, and soil biological activity. Organic processors maintain food's organic status by segregating it from synthetic and other prohibited materials, carefully tracking ingredients, and using detailed record keeping.

The United States Department of Agriculture's National Organic Program (NOP) oversees the national organic rule (7 CFR Part 205) that went into effect in 2002. The NOP establishes consistent national standards for organic production, facilitates interstate and international commerce, assures that organic food meets a consistent standard, and protects consumers from fraudulent organic claims. The federal organic rule is posted on the USDA web site: [www.ams.usda.gov/nop](http://www.ams.usda.gov/nop)



### What is organic meat?

NOP livestock rules apply to both meat and poultry. The NOP sets standards for the raising, feeding, housing, medical treatment, and processing of livestock. For meat to be sold as "certified organic," it must be processed in facilities certified by an accredited certifying agency.



## Organic Food Processing Basics

[www.mda.state.mn.us/esap/organic/organicprocessfoods.pdf](http://www.mda.state.mn.us/esap/organic/organicprocessfoods.pdf)

## Organic Meat and Poultry Processing Basics

[www.mda.state.mn.us/esap/organic/organicmeatprod.pdf](http://www.mda.state.mn.us/esap/organic/organicmeatprod.pdf)

## Organic Livestock Feed Processing Basics

[www.mda.state.mn.us/esap/organic/organiclivestock.pdf](http://www.mda.state.mn.us/esap/organic/organiclivestock.pdf)

## Organic Short Course for Ag Professionals

Funding: USDA-Sustainable Research and Education Program, \$59,360

Trained 200 agricultural professionals at six daylong regional trainings in Central, Southeast, Southwest, Northwest, Northeast and East Central Minnesota. Attendees increased their knowledge about, reconsidered their attitudes toward, and increased activity in organic agriculture. Attendees generally preferred the sessions led by organic farmers and the farm visits. Six to nine months after the course, more than half of survey respondents reported assisting growers and/or colleagues on organic topics and indicated continuing interest in organic agriculture topics. More than 80 percent of agreed or strongly agreed that organic can be a viable production system. Three out of four expressed interest in further professional organic training, indicating a need for additional professional development opportunities. Final report at: [www.mda.state.mn.us/esap/organic/shortcoursefinal.pdf](http://www.mda.state.mn.us/esap/organic/shortcoursefinal.pdf)

**Organic Minute** - provided advice and contacts for periodic Minnesota Farm Network radio broadcasts that profile growers and industry members.

## MDA Agricultural Marketing Services Division

- Provides promotional and marketing assistance to Minnesota organic companies
- Allows certified organic growers to use a special icon in the *Minnesota Grown* Directory
- Has suggested organic pet food as a potential opportunity for Minnesota's organic sector

## MDA Dairy and Food Inspection Division

- Protects consumers by enforcing state truth-in-labeling laws
- Reports potential violations of the National Organic Standards to USDA Agricultural Marketing Services Compliance and Analysis

## Recommendations

### **Prior Recommendations – Progress Toward Goals**

This table reflects MDA activity and progress on recommendations put forth in the July 2003 *Status of Organic Agriculture in Minnesota*.

**KEY:**

+++ substantial progress    + little progress  
 ++ modest progress        - no progress

<u>Recommendation</u>	<u>Progress</u>	<u>Sample Indicators</u>
<b>Education and Information</b>		
<ul style="list-style-type: none"> <li>• Coordinate organic education efforts for farmers and agricultural educators/advisors.</li> </ul>	++	Educational training sessions delivered at farmer, ag professional events (e.g., Organic Short Course for Ag Professionals).
<ul style="list-style-type: none"> <li>• Promote farmer-to-farmer networking in organics.</li> </ul>	+++	Organic Farm Directory, Minnesota Organic Conference, support for MOFIE mentor program.
<ul style="list-style-type: none"> <li>• Provide an annual organic conference or similar educational event for farmers and others.</li> </ul>	+++	Minnesota Organic Conference coordinated by MDA.
<ul style="list-style-type: none"> <li>• Dispel confusion about what organics are and are not -- increase the “organic literacy” of consumers through outreach and educational materials.</li> </ul>	+	Delivered numerous invited presentations.
<ul style="list-style-type: none"> <li>• Work with print and broadcast media to communicate with agricultural stakeholders (including farmers, businesses, lenders, and consumers) about developments and opportunities in organics.</li> </ul>	++	Print and radio coverage - news releases, radio interviews, Minnesota Farm Network <i>Organic Minute</i> .
<ul style="list-style-type: none"> <li>• Provide information about organic opportunities to farmers and processors/handlers of agricultural products in Minnesota.</li> </ul>	+	Created and distributed organic processing fact sheets. Responded to individual telephone inquiries.
<b>Research</b>		
<ul style="list-style-type: none"> <li>• Continue support for long term organic cropping systems research at the U of M Southwest Research and Outreach Center; maintain and enhance current efforts in order to serve the increasing number of organic producers and those interested in transitioning to organic production in Minnesota and the Upper Midwest.</li> </ul>	++	Research efforts continue in multiple locations. Stable funding reportedly remains a challenge.
<ul style="list-style-type: none"> <li>• Pursue research on organic crop variety development, composting, compost tea, and management of flies and parasites.</li> </ul>	++	<b>U of MN:</b> soybean breeding (Orf), variety trials (Kandel), systems research (Sheaffer), weed management (Porter and Markhart), soybean aphid (Heimpel), etc.
<ul style="list-style-type: none"> <li>• Encourage organic conversion of acreage at additional University of Minnesota research and outreach centers.</li> </ul>	++	<b>U of MN:</b> acres converted at Waseca. Exploratory committee for Rosemount.

<ul style="list-style-type: none"> <li>Encourage farmer-initiated, farmer-directed on-farm research and in-field evaluation, demonstrations of organic management practices, and model organic farms through participation in grant programs offered by entities such as the MDA Sustainable Agriculture Research and Demonstration Program, USDA Sustainable Agriculture Research and Education Grant Program, and Organic Farming Research Foundation.</li> </ul>	++	Several organic on-farm demonstration projects funded in 2004 and 2005. See <i>MDA Greenbook</i> .
<ul style="list-style-type: none"> <li>Document environmental impacts of organic farming methods</li> </ul>	+	On-farm organic demonstrations, see above.
<b>Business and Market Development</b>		
<ul style="list-style-type: none"> <li>Assess current organic processing capacity for Minnesota-grown organic products and identify major barriers to the expansion of organic production and processing in Minnesota.</li> </ul>	-	no progress
<ul style="list-style-type: none"> <li>Work toward long-term profitability of Minnesota organic farmers by helping them understand, evaluate, and implement marketing options.</li> </ul>	+	Marketing sessions at MN Organic Conference
<ul style="list-style-type: none"> <li>Help farmer groups learn about financial and business planning resources available to them.</li> </ul>	+++	Organic Farm Business Management project initiated.
<ul style="list-style-type: none"> <li>Help farmer groups explore and pursue value-added organic business opportunities, through MDA, AURI, and Resource Conservation and Development District programs, for example.</li> </ul>	+	Minnesota Grown program provides direct marketing tools to organic farms.
<b>Policy and Regulatory Support</b>		
<ul style="list-style-type: none"> <li>Enforce Minnesota state labeling law with regard to organic product claims.</li> </ul>	+	Delivered training to MDA Dairy and Food regulatory staff.
<ul style="list-style-type: none"> <li>Help Minnesota citizens who want to register complaints about possible organic law violations to contact the appropriate enforcement staff at USDA.</li> </ul>	++	Referred several consumer complainants to USDA Compliance.
<ul style="list-style-type: none"> <li>Respond to emerging issues in organic production and marketing.</li> </ul>	++	Agency comments to USDA on emerging issues.
<b>Technical and Financial Assistance</b>		
<ul style="list-style-type: none"> <li>Work with the National Organic Program to secure and distribute organic certification cost-share funds to Minnesota organic farmers and handlers.</li> </ul>	+++	Complete. All federal funds disbursed.
<ul style="list-style-type: none"> <li>Explore and implement technical and financial assistance for growers transitioning to organic, including the NRCS EQIP organic transition cost-share program, Conservation Security Program, and other appropriate programs.</li> </ul>	++	NRCS program continues. MDA provides other program availability information to organic growers.
<ul style="list-style-type: none"> <li>Assist organic agricultural interests, including farms and value-adding operations such as processors and manufacturers, to understand and comply with organic requirements.</li> </ul>	+	Responded to individual telephone inquiries; delivered invited presentations.



## Leadership

<ul style="list-style-type: none"> <li>Expand the current multi-partner <i>Memorandum of Understanding on Organic Agriculture</i>.</li> </ul>	-	no progress
<ul style="list-style-type: none"> <li>Continue collaboration, networking, and complementary efforts by state, university and non-profit stakeholders.</li> </ul>	+++	Collaboration continues through Minnesota Organic Network and partnerships to create and carry out specific research and outreach projects.

## Current Recommendations

Using information collected from organic farmer stakeholders, the experiences of organizational partners, and input from the Minnesota Organic Advisory Task Force, the MDA recommends the following to support the continued growth and vitality of Minnesota's organic farming and value-added sectors:

### *New Policies or Programs*

- Technical and financial assistance to help growers during their transition to organic.
- A voluntary registration and affidavit program to provide state documentation to organic growers who are legally exempt from certification requirements under §205.101 of the National Organic Standards (7 C.F.R., Part 205).
- Organic educational materials and presentations for consumers.
- A Minnesota organic buyer directory (processors, brokers, shippers, traders, etc.)

### *Policies or Programs to Continue or Enhance*

- State assistance to defray the cost of certification for certified organic Minnesota farmers and processors.
- Information and technical assistance to help growers learn about certification requirements, organic practices, and resources available to them.
- Information and technical assistance help organic farmers understand, evaluate, and implement marketing options.
- Assistance to farmer groups to help them to explore and pursue value-added organic business opportunities.
- Minnesota Organic Conference.
- Low-interest loans to organic farmers through the Shared Savings Loan Program administered by MDA.
- Directory of Minnesota Organic Farms.
- Enforcement of Minnesota state labeling law with regard to organic product claims.
- Farmer-to-farmer networking programs.
- Collaboration, networking, and complementary efforts by federal, state, university and nonprofit stakeholders.
- Learning from efforts and experiences in other states.
- Expansion of the current five-partner *Memorandum of Understanding on Organic Agriculture*.

## **Current and Future Research Needs**

- Assess the current organic processing capacity for Minnesota-grown organic products and identify opportunities for, major barriers to, and recommendations concerning the expansion of organic production and processing infrastructures in Minnesota and concomitant economic development impact.
- Increase long-term applied organic cropping systems and organic livestock research by faculty at the University of Minnesota and other post-secondary institutions on topics of importance to Minnesota organic farmers such as: soil quality and health; organic crop variety development; composting; compost tea; weed, disease, and insect pest management; economics; food safety and quality; farmer and farm worker safety; and management of flies and parasites.
- Encourage farmer-initiated, farmer-directed on-farm research and in-field evaluation, demonstrations of organic management practices, and model organic farms through participation in grant programs such as the MDA Sustainable Agriculture Research and Demonstration Grant Program.

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## Appendices

### **Appendix A. Minnesota Organic Advisory Task Force Members**

Lynn Archer  
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*Constituency: Organic Consumers*

Keith Chisholm  
CC Seeds  
2578 - 340th Street  
Gary MN 56545  
*Constituency: Processors*

Derek Crompton  
Student  
3313 - 39th Street South  
Moorhead MN 56560  
*Constituency: At large*

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Country Choice  
9531 - 78th Street West #230  
Eden Prairie MN 55344  
*Constituency: Wholesalers/retailers/distributors*

Carmen Fernholz  
A-Frame Farm  
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Madison MN 56256  
*Constituency: Organic Farmers*

Bea James  
Lunds/Byerly's  
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Golden Valley MN 55424  
*Constituency: Wholesalers/retailers/distributors*

Martin Jaus  
Jaus Farms  
22891 - 651st Avenue  
Gibbon MN 55335  
*Constituency: Organic Farmers*

Albert (Bud) Markhart  
UMN  
4593 Shady Lane  
White Bear Lake MN 55110  
*Constituency: Post secondary research*

Thomas Petersen  
Minnesota Farmers' Union  
9347 Wildflower Road  
Pine City MN 55063  
*Constituency: Nonprofit producer org.*

James Riddle  
Organic Independents  
31762 Wiscoy Ridge Road  
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*Constituency: Certification entities*

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813½ Washington Avenue  
Detroit Lakes MN 56501  
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*Constituency: Extension*

*Task force charge and membership is defined  
by statute M.S. 31.94 Subd. C*

*Terms of service are governed by M.S.15.059,  
Subd. 6.*

*These members were appointed August, 2005.  
Their terms expire June 30, 2007*

## Appendix B. Memorandum of Understanding on Organic Agriculture

AMONG THE MINNESOTA DEPARTMENT OF AGRICULTURE, USDA NATURAL RESOURCES CONSERVATION SERVICE (MINNESOTA), UNIVERSITY OF MINNESOTA, UNIVERSITY OF MINNESOTA EXTENSION SERVICE, USDA FARM SERVICE AGENCY (MINNESOTA)

This Memorandum of Understanding (MOU) is entered into by the U.S. Department of Agriculture Natural Resources Conservation Service (Minnesota), the University of Minnesota, the University of Minnesota Extension Service, the Minnesota Department of Agriculture, and the U.S. Department of Agriculture Farm Service Agency (hereinafter referred to as the Partners). The Partners are engaged in compatible activities to enhance the productivity, profitability and environmental responsibility of the traditional and nontraditional agricultural and rural sectors in Minnesota. Areas of partner responsibility and expertise include production, processing, marketing, natural resource conservation and management, land use planning, and community development. Effective cooperation can aid significantly in advancing the missions of the Partners to include reaching underserved clientele in Minnesota.

### I. AUTHORITY

This MOU is entered into in accordance with Minnesota Statute 31.94 subd (d) (3-5) which outline statutory duties of the Commissioner of Agriculture to direct programs of the department to work toward the promotion of organic agriculture in Minnesota, to inform agencies of how state or federal programs could utilize and support organic agriculture, and to work with appropriate organizations to identify opportunities and needs as well as ensure coordination and avoid duplication of state agency efforts regarding research, teaching and extension work relating to organic agriculture; as well as in accordance with the Soil Conservation and Domestic Allotment Act, as amended (Public Law 74-46, 49 Stat. 163, U.S.C. 590a-f); which established the Soil Conservation Service to conserve soil and water nationwide by providing technical assistance to farmers and ranchers among other things.

### II. BACKGROUND

#### A. Organic Sector Growth and Development

Organics are a choice preferred by growing numbers of farmers and consumers. The USDA and trade groups have tracked organic sales growth at rates greater than 20 percent per year since 1990. Land in certified organic production more than doubled in Minnesota between 1997 and 2001; Minnesota leads the nation in the production of organic corn and soybeans. Through ecologically-based farming methods that emphasize soil and livestock health, farmers are producing food and other products for which a growing number of consumers will pay more. Preserving the identity of organically grown foods and agricultural products through processing and handling is crucial, and creates opportunities for new on-farm, rural, and tribal business enterprises in Minnesota to sell to local, regional, national and international buyers. It is the intention of the MOU Partner organizations to undertake complementary efforts that will help Minnesota farmers, Minnesota-based business enterprises, and Minnesota consumers make the most of the opportunities presented by this rapidly growing sector.

#### B. MOU Partner Organizations

##### **Minnesota Department of Agriculture (MDA)**

As the lead State agency for Minnesota agriculture, the MDA's mission is to work toward a diverse agricultural industry that is profitable and environmentally sound; to protect public health and safety regarding food and agricultural products; and to ensure orderly commerce in agricultural and food products. Functions include promotion, education, regulation, and enforcement in the areas of agricultural finance, agricultural marketing services, agronomy and plant protection, agricultural statistics, grain and produce inspection, and agricultural resources management and development.

MDA offers assistance to growers, businesses and consumers in a number of program areas, including: 1) organic certification cost share, 2) educational materials and information resources about organic certification and transition, 3) research and demonstration grants, 4) low-interest loans, 5) technical assistance, 6) marketing assistance, 7) networking referrals, 8) value added co-operative development, and 9) consumer protection and labeling law enforcement.



### **Minnesota Natural Resources Conservation Service (Minnesota NRCS)**

Minnesota NRCS is the lead Federal agency for conservation on private land. In carrying out this role, Minnesota NRCS provides voluntary conservation planning and technical assistance to farmers, ranchers, and other landowners to address the natural resource concerns on Minnesota's private and nonfederal land.

Minnesota NRCS administers a variety of technical, Educational and financial programs, working in partnership with local conservation districts. These programs include: 1) providing technical assistance for conservation of soil, water, and related natural resources; 2) developing soil surveys and providing soil survey information and interpretations; 3) reducing potential flooding sedimentation damages; and agriculture-related pollution; 4) providing Natural Resource technical assistance to all operators including small farms, limited resource farmers, American Indians, and minorities; and 5) providing resource data for use by private landowners, groups, local and state governments, and other Federal agencies for land use planning.

### **University of Minnesota College of Agricultural, Food and Environmental Sciences**

When a territorial House of Representatives created the University of Minnesota in 1851, the charter specified that an agriculture department was to be part of the University. The College of Agricultural, Food and Environmental Sciences is one of the oldest colleges within the University of Minnesota. Today, college priorities include exemplary, research-based education, promoting safe and healthy foods, improving environmental quality, enhancing agricultural systems, revitalizing Minnesota's rural communities, and serving urban communities. Faculty and staff members of the College work in all corners of the state, and around the world. Faculty, administrators, staff, and students collaborate with countless scientists, educators, and citizens to solve pressing problems facing food, agriculture, and the environment. The College helps complete the connection between Minnesota and the world economy. World-class educational programs prepare thousands of national and international leaders to address the complexities of an increasingly global, diverse and technological world.

### **University of Minnesota Extension**

The mission of the University of Minnesota Extension Service is to connect community needs and University resources to address critical issues in the state. Extension is a partnership between the University and county government, with offices in every county. This partnership assures access to the knowledge base of the University by the connection of regional educators and campus faculty. Extension is also part of a network of land-grant institutions that collaborate nationally and regionally, to provide even greater educational resources to address critical state issues.

Extension delivers research-based educational programs, provides information on specific issues, and identifies emerging needs in three areas: Land, Food and Environment, Community Development and Vitality, and Youth Development and Family Living.

Extension's goal is to provide quality educational programs and information that is current, relevant, and valued by citizens and communities across the state.

### **Farm Service Agency (FSA)**

Stabilizing farm income, helping farmers conserve land and water resources, providing credit to new or disadvantaged farmers and ranchers, and helping farm operations recover from the effects of disaster are the missions of the U.S. Department of Agriculture's Farm Service Agency (FSA). Under a unique system, Federal farm programs are administered locally by eligible farmers. This grassroots approach gives farmers a much-needed say in how Federal actions affect their communities and their individual operations.

### **C. Areas of Need**

Opportunities for cooperative organic agriculture efforts among Partners exist in a number of areas cited in a 2001 report to the Minnesota Legislature entitled The Status of Organic Agriculture in Minnesota. These areas include:

1. education and information,
2. marketing and promotion,
3. business development,
4. regulatory support,
5. technical and financial assistance,
6. policy and program support, and
7. research.

### III. PURPOSE

The purpose of this MOU is to establish a framework for cooperation among Partner organizations and agencies on organic program activities that involve the conservation of natural resources, expansion of economic opportunity, and enhancement of consumer choice specifically related to products grown organically here in Minnesota.

### IV. RESPONSIBILITIES

A. The Partners agree to work collaboratively to provide assistance within staffing and budget constraints to organic producers, processors/handlers and buyers/consumers in the State of Minnesota as follows:

1. To support time and efforts of staff in organic professional development, service delivery, and outreach efforts in a collaborative fashion.
2. To identify and share information about innovative organic programs taking place in other states, on tribal lands, and internationally.
3. To cooperate in developing and implementing conservation farm plans for organic crop production.
4. To encourage the use of demonstrations and field days with organic field operations to showcase conservation and organic production.
5. To share training opportunities to improve knowledge of respective functions and operations.
6. To share information on organic conferences, newsletters, and training opportunities.
7. To develop procedures to insure good communications and coordination at the various levels of each organization.
8. To seek other agency, institutional and nonprofit Partners to participate in this MOU.
9. To develop public information activities and measures to share with the general public the successes that are a direct or indirect result of the MOU.

B. It is understood by the Partners that:

1. This MOU is neither a fiscal nor funds obligating document. Any endeavor by any party that involves the reimbursement, contribution of funds, and transfer of anything of value between the parties will be handled in accordance with applicable laws, regulations, and procedures. Such endeavors shall be outlined in separate agreements; shall be made in writing by representatives by any party; and shall be independently authorized by appropriate statutory authority. This MOU does not provide such authority.
2. This MOU in no way restricts any party from participating in similar activities with other public or private agencies, or organizations, and individuals.
3. Each party agrees it will be responsible for its own acts and results thereof and shall not be responsible for the acts of the other parties and the results thereof. Each party therefore agrees that it will assume all risk and liability to itself, its agents or employees, for any injury to persons or property resulting in any manner from the conduct of its own operations, and the operations of its agents or employees, under this MOU, and for any loss, cost, damage, or expense resulting at any time from failure to exercise proper precautions, of or by itself or its own agents or its own employees, while occupying or visiting the projects under and pursuant to this MOU. The Federal Government's liability shall be governed by the provisions of the Federal Tort Claims Act (28 U.S.C. 2671-80), and the State's by the Minnesota Tort Claims Act (Minnesota Statute §3.736).

### V. DURATION

This MOU shall become effective the date of the last signature and continue in effect for a period of five years or until modified or terminated. This MOU may be modified or amended upon written consent of all signatories. Any party may terminate its commitment to the MOU with 30-day written notice to all other parties.

## VI. PROVISIONS

A. All activities and programs conducted under this MOU shall be administered in accordance with the requirements of title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Department of Justice (DOJ) regulations enforcing nondiscrimination requirements, and departmental rules and regulations. Compliance ensures access to all aspects of program delivery of benefits and services to the public without regards to their race, color, national origin, religion, sex, age, disability, marital status, familial status, parental status, sexual orientation, or because all or part of an individual's income is derived from any public assistance program.

B. All activities conducted under this MOU shall be in compliance with the Drug-Free Workplace Act of 1988 (Public Law 100-690, Title V, Subtitle D).

Accepted by the following on April 21, 2003

GENE HUGOSON  
Commissioner of Agriculture  
Minnesota Department of Agriculture

WILLIAM HUNT  
State Conservationist,  
Natural Resources Conservation Service

CHARLES C. MUSCOPLAT  
Dean and Director of Agricultural Policy,  
University of Minnesota – College of Agricultural, Food and Environmental Sciences  
Director, Minnesota Agricultural Experiment Station

CHARLES H. CASEY  
Dean and Director  
University of Minnesota Extension Service

JOHN MONSON  
State Executive Director  
Farm Service Agency

## Appendix C. Minnesota Organic Legislative History

### 1985 Chapter 237 §§ 3-6

- Defines organic food
- Defines requirements for growth, composition and storage of organic food
- Authorizes the commissioner of the Department of Agriculture to enforce labeling, sale and advertising of organic food
- Allows the commissioner to adopt rules to further clarify organic food standards and marketing practices
- Chapter becomes effective April 1, 1986

### 1987 Minnesota Rules Chapter 1555.0005 – 1555.0012

- Defines state organic food and marketing standards

### 1988 Chapter 688 article 8 § 1, article 21 § 3

- Authorizes the commissioner to designate organizations located in the state to certify organic products in the state
- Authorizes the commissioner to set certification fees charged to organic producers
- Requires certification organization to provide certification to a person whose production meets certification standards and who has paid membership dues and certification fees
- Allows certification organizations to draft rules for implementation of the organic certification program for submission to the commissioner
- Appropriates \$100,000 for a grant to a certification organization for start-up and initial administrative costs
- Appropriates \$50,000 to the Department to administer and enforce the organic food law

### 1989 Chapter 350 article 20 § 14

- Appropriates \$100,000 for a grant to a certification organization to continue the certification process authorized above

### 1990 Chapter 547 §§ 3-4

- Allows the commissioner to designate certification organizations outside Minnesota to certify organic products in the state
- Removes the commissioner's authority to set certification fees
- Removes the requirement to pay membership dues as a certification requirement
- Requires that Minnesota grown organic products must be certified by a designated certification organization in order to be labeled "certified"
- Requires that certified organic products sold in the state must be certified by a designated certification organization or by a certification organization approved by the commissioner
- Establishes the Minnesota organic advisory task force
- Requires the commissioner to seek evaluation and recommendation of the task force before approving certification organizations

### Minnesota Rules Chapter 1556.0200 – 1556.0227

- Provides the requirements for certification of products produced, processed and distributed under Minnesota organic standards

### 1999 Chapter 231 §§ 11, 26-27, 56-57

- Appropriates \$50,000 per year to the Department for annual organic certification cost share payments to farmers and for organic market and program development
- Adds two organic farmers to both the sustainable agriculture grant review panel and the

- shared savings loan review panel
- Expands the duties of the commissioner to promote opportunities for organic agriculture by surveying producers to assess research and information needs, demonstrate organic practices, coordinate department organic activities with other state agencies and the University, and report on the status of organic agriculture on a biennial basis
  - Specifies membership categories for the commissioner's organic advisory task force and extends the task force expiration date to June 30, 2003

**2003 Chapter 107 §§ 15-19**

- Adopts federal organic standards and rules as the organic food production law and rules of Minnesota
- Brings state organic statutes into conformity with federal law by repealing any existing state laws that conflict with federal law
- Retains current agency duties and strengthens the agency's ability to provide technical, financial, and marketing services to support organic farmers and the organic industry
- Authorizes the agency to register state organic production and handling operations, and certification agents operating in the state
- Expands the Commissioner's Organic Advisory Task Force to better reflect the organic food industry by adding one more organic food processor representative, one more representative of the organic food wholesaler/retailer/distributor sector, and a representative of the USDA
- Reauthorizes the Organic Advisory Task Force until June 30, 2005

**2005 Minnesota Session Laws 2005, First Special Session, Chapter 1 § 61**

- Reauthorizes the Organic Advisory Task Force until June 30, 2009