

Organic Food Production and Processing in Wisconsin

Strong sales driven by health concerns



Center for Land Use Education

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Organic Food Sales are Strong

Organic food sales in the U.S. have grown about 20% annually throughout the last decade and remain strong.¹ This compares to annual growth of only two to four percent for non-organic foods.² In 2002, \$20,828,000 worth of organic products was sold by Wisconsin farms.³ Organic products are now available in 73% of supermarkets nationwide, particularly in urban and suburban regions. As of 2005, organic sales account for less than 3% of total food sales in the U.S., although organic sales are stronger in European markets. Sales growth for organic products has caught the eye of business giants such as Dole, General Mills, Dean Foods, Del Monte, Birds Eye, and Unilever.⁴ At the same time, small, local organic food outlets such as Community Supported Agriculture farm subscriptions are experiencing rapid expansion.⁵

More People are Choosing Organic Food Because of Health Concerns

A 2004 study found that seven in ten Americans express at least moderate concern about the health risks of pesticides and antibiotics in food production.¹⁰ Is this concern based in science?

Scientific Studies Have Found Health and Environmental Risks of Using Pesticides in Food Production

Approximately 13 million pounds of pesticides are applied to major agricultural crops in Wisconsin each year.¹¹ A number of scientific studies have found pesticide-based health risks for children based on what they eat, where they live, and their parents' pesticide exposure. Specifically, here are a few of the research findings:

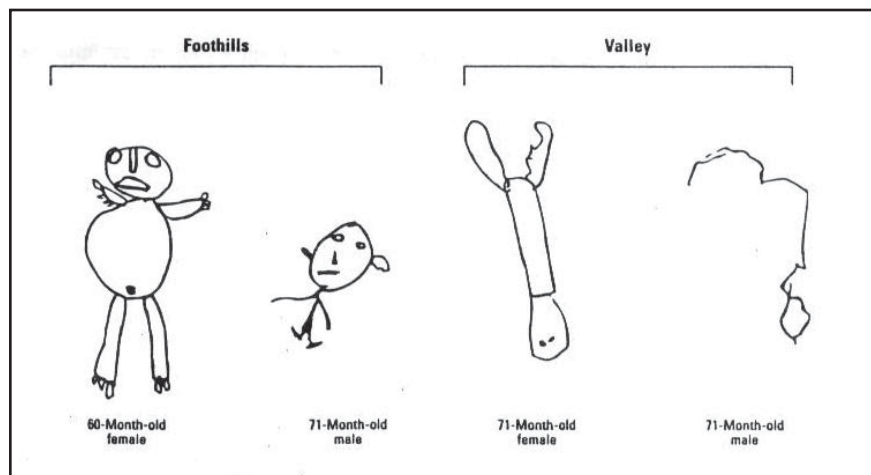
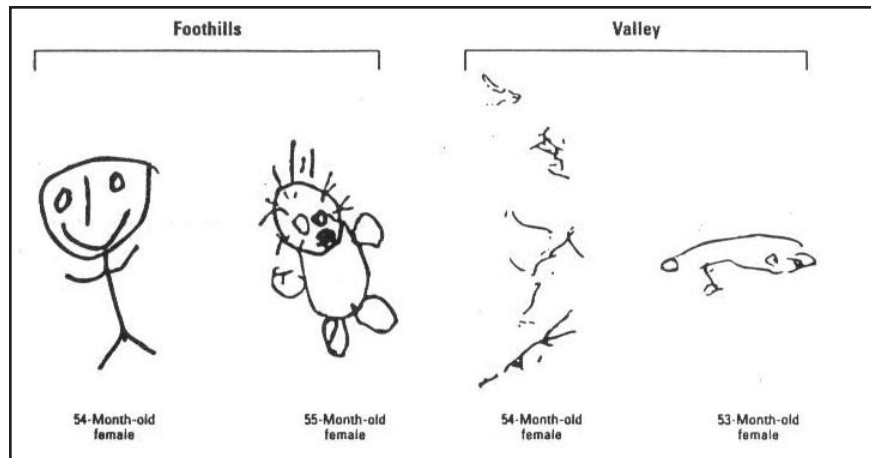
- ◆ In 2003, University of Washington researchers found that children who ate organic fruits, vegetables and juices had nine-fold lower pesticide levels in their urine than children who ate conventional food.¹²
- ◆ In 1996, University of Minnesota researchers did a long-term study of over 200,000 births in Minnesota comparing children of certified agricultural pesticide applicators to children of the general population and found three things:

In a Nutshell

- ◆ Organic food sales are strong and rapidly expanding driven in part by people's concerns about the health risks of pesticides.
- ◆ Scientific studies have found health risks of using pesticides in food production.
- ◆ Wisconsin farmers are leaders in organic food production. Certified organic farmers report higher average net incomes than other farmers.
- ◆ Organic food processing is on the rise.
- ◆ Increasing consumer demand and educational opportunities suggest a bright future for organic agriculture, and Wisconsin is striving to capture its part of the pie.

1. Pesticide applicators' children had a significantly higher rate of birth defects;
2. Birth defect rates were significantly higher in the western agriculture region of the state: and,
3. A significant majority of children with birth defects were born nine months after spring, suggesting that whatever was causing the birth defects was happening at a very early stage in fetal development.¹³

◆ In 1998, University of Arizona researchers studied children in the Yaqui Valley in Sonora, Mexico. They compared pre-school-aged children living in the foothills where pesticide use was avoided with children living in the valley where agricultural pesticides were frequently used. Although no differences were found in growth patterns, the exposed children demonstrated decreases in stamina, gross and fine eye-hand coordination, 30-minute memory, and the ability to draw a person as shown below. The drawings show striking differences between the exposed and unexposed children. The children from the foothills drew figures of humans with features that are characteristic of four and five year olds, whereas the children from the valley lacked the ability to draw humans with any such detail.¹⁴

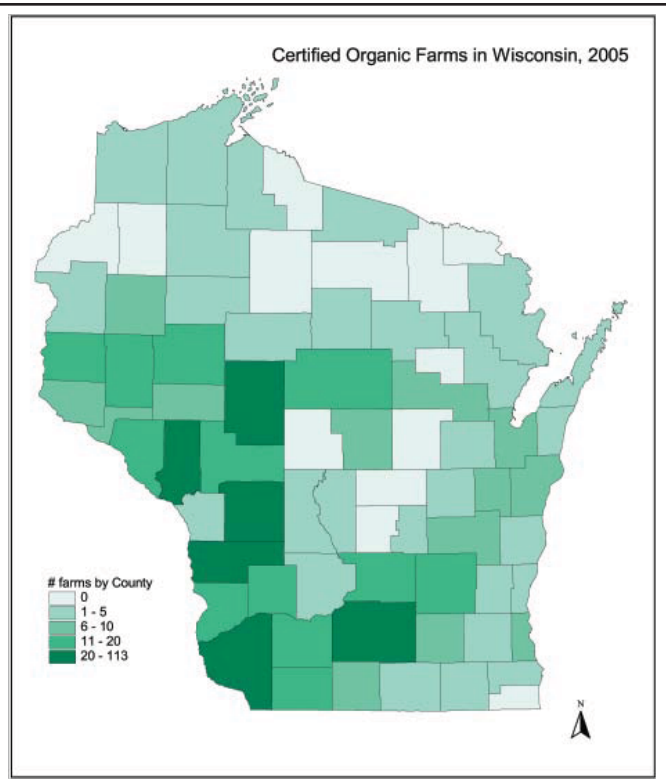


Wisconsin Farmers are Leaders in Organic Food Production

Wisconsin farmers are leaders in organic food production, particularly in dairy. Wisconsin boasts the second-most organic farms in the country, behind only California. The southwest corner of the state continues to have the greatest concentration of organic farms as shown on the map on the below. Vernon County, home of Organic Valley, Wisconsin's largest organic food cooperative, has 113 certified organic farms. Wisconsin leads the U.S. in certified organic livestock, with 33% of the nation's organic milk cows, and 22% of the nation's organic layer hens. Wisconsin is also a leader in organic crop production, growing 18% of the organic corn and 16% of the organic oats produced in the U.S.⁶

Wisconsin is a natural leader in organic food production with

- ◆ About 880 certified and uncertified organic farms,
- ◆ Over 91,000 acres of certified crop acreage
- ◆ Over 28,000 acres of certified pasture.⁷



Certified Organic Farmers Report Higher Average Net Incomes Than Other Farmers

Two surveys by UW-Madison's Program for Agricultural Technology Studies (PATS) found that the average 2004 net farm income for certified organic farmers in Wisconsin was 25% higher than the average net income reported for all Wisconsin farms.⁸ While organic dairy farms earned average revenues of \$150,000, other organic farms had much lower revenues.⁹



Organic Food Processing is on the Rise

In keeping with growth figures for the organic industry as a whole, organic food processing is on the rise in Wisconsin, representing a significant area of opportunity for entrepreneurial business development. Exact numbers are difficult to obtain because many of the food processing businesses are small, and organic operations are not identified separately in census data. According to organic certifiers and the national trade group, there are at least 70 certified organic processors in Wisconsin.²²

Wisconsin's most prominent organic food cooperative is the Coulee Region Organic Producer Pools (CROPP), which markets products under the Organic Valley label. CROPP also sells some milk to other companies.²³ Organic Valley Family of Farms™ formed in 1988 with seven Wisconsin farms and has grown to over 1000 family farms from across the country that are organized as regional farmer-owned cooperatives. Organic Valley contracts with existing processors for all of their products including milk, cheese, butter, eggs, vegetables, juices, meats and soy beverages.²⁴

There are at least five different grain merchants in the state that handle organic grains either exclusively or as part of their business. DeLong Company of Clinton, Wisconsin – one of the Midwest's largest grain handlers – currently devotes around 5% of its business share to organic corn and soybeans, or well over 100,000 bushels in total.²⁵

Increasing Consumer Demand and Educational Opportunities Suggest a Bright Future for Organic Food Production and Processing in Wisconsin

Consumer demand for organic food is growing at a fast pace, and the U.S. organic market is projected to reach a value of \$30.7 billion by 2007. International markets also present opportunities. As a result of this increased demand, there is currently an opportunity for more farmers to enter the organic market.²⁶

While the infrastructure for organic dairy production, processing and marketing is in place, Wisconsin needs to develop this infrastructure for organic produce and other products.²⁷

Educational opportunities in organic agriculture are increasing in Wisconsin. In 2006 Agriculture Secretary Rod Nilsestuen appointed the Wisconsin Organic Agriculture Advisory Council to provide leadership and vision for the future of organic agriculture in Wisconsin.²⁸

UW-Madison is home to the Center for Integrated Agricultural Systems (CIAS), a sustainable agriculture research center,²⁹ and also offers a master's degree in agroecology. CIAS also houses the



Two Counties in Iowa Offer Tax Rebates for Converting Land to Organic

In 2005 Woodbury County, Iowa adopted an *Organics Conversion Policy* that provides a full rebate of real property taxes associated with land that has been converted from conventional farming to organic farming. The rebate will be provided for 5 years to anyone that converts to organic farming techniques that comply with the USDA National Organic Program Standards and Guidelines. Woodbury County adopted this policy to facilitate the economic revival of its rural communities by providing incentives for young farmers to engage in high-margin organic farming businesses on smaller farm acreages, thus supporting small family farm operations and the re-emergence of local ag-based economies.³⁰ In 2006, Cherokee County, which borders Woodbury County, passed a similar *Organics Conversion Policy*.³¹



Wisconsin School for Beginning Dairy and Livestock Farmers, a curriculum offered in conjunction with the UW-Madison Farm and Industry Short Course that emphasizes grazing based livestock production systems and includes organic production practices. UW-River Falls offers a bachelor's degree in sustainable agriculture. In addition, Lakeshore Technical College in Manitowoc County began offering a five-course technical degree designed for current farmers in 2006 which focuses on farm business and production management and includes a sustainable agriculture option.³² UW-Extension has offered seminars for farmers and federal, state and county agency staff on organic certification standards since 1994. Extension agents have also followed the lead of the state's grazing networks and organized local organic discussion groups for experienced, novice and aspiring growers. The discussion groups provide an opportunity to share production ideas and explore ways of procuring organic inputs and marketing products.³³

A number of non-profit organizations also play a large role in organic agriculture education. Midwest Organic & Sustainable Education Service (MOSES), located in Pierce County, helps agriculture make the transition to a sustainable organic system of farming by providing publications, field days, an annual organic farming conference, and a program to recruit new organic farmers called "Help Wanted: Organic Farmers Campaign."³⁴ Michael Fields Agricultural Institute in Walworth County offers a garden student program exploring biodynamic and organic agriculture through theoretical and experiential learning.³⁵ Taken together, these trends suggest a bright future for organic agriculture, and Wisconsin is striving to capture its part of the pie.



Endnotes:

- ¹ Becoming a Certified Organic Producer. UW-Madison Center for Integrated Agricultural Systems www.cias.wisc.edu/archives/2007/06/18/becoming_a_certified_organic_producer/index.php
- ² Organic Trade Association's 2006 Manufacturer Survey. <http://www.ota.com/pics/documents/short%20overview%20MMS.pdf>
- ³ Organic Agriculture in Wisconsin: 2005 Status Report (OAW 2005) <http://www.cias.wisc.edu/pdf/organic05.pdf>
- ⁴ OAW 2003; Birds Eye processes organic green beans, broccoli and corn in Darien, WI <http://www.mosesorganic.org/umord/brokerscoops.htm>; Del Monte <http://www.starkist.com/DlmPmt/healthypantry/default.aspx?page=newfromdelmonte>
- ⁵ MACSAC. www.macsac.org/csahistory.html
- ⁶ OAW 2005
- ⁷ OAW 2005
- ⁸ OAW 2005
- ⁹ OAW 2005
- ¹⁰ OAW 2005
- ¹¹ Wisconsin Agricultural Statistics Service. 2006. Wisconsin Pesticide Use. www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Miscellaneous/pest_use_06.pdf
- ¹² Curl, Cynthia L. et al. 2003. Organophosphorus Pesticide Exposure of Urban and Suburban Preschool Children with Organic and Conventional Diets. *Environmental Health Perspectives*, V111, N3, 377-382. www.ehponline.org/members/2003/5754/5754.pdf
- ¹³ Garry, V., et al. 1996 Pesticide applicators, biocides, and birth defects in rural Minnesota. *Environmental Health Perspectives*, 104 (4):394-399. www.ehponline.org/members/1996/104-4/garry.html
- ¹⁴ Guillette, Elizabeth A., et al. 1998. An Anthropological Approach to the Evaluation of Preschool Children Exposed to Pesticides in Mexico. *Environmental Health Perspectives*, 106 (6): 347-353. www.ehponline.org/members/1998/106p347-353guillette/guillette-full.html#res
- ¹⁵ Wisconsin Department of Agriculture, Trade and Consumer Protection. 2002. Agricultural chemicals in Wisconsin groundwater: final report. ARM-PUB-98.qxd. Madison, WI.
- ¹⁶ Wisconsin Groundwater Coordinating Council Report to the Legislature. 2006. p.70 www.dnr.state.wi.us/org/water/dwg/gcc/rtl/2006report.pdf
- ¹⁷ Hayes, T., et al. 2002 Feminization of male frogs in the wild. *Nature*, 419:895-896. Hayes, T., et al. 2003 Atrazine-Induced Hermaphroditism at 0.1 ppb in American Leopard Frogs (*Rana pipiens*): Laboratory and Field Evidence. *Environmental Health Perspectives* 111:568-575. www.ehponline.org/members/2003/5932/5932.html
- ¹⁸ Wisconsin Groundwater Coordinating Council Report to the Legislature. 2006. pp.73-74 www.dnr.state.wi.us/org/water/dwg/gcc/rtl/2006report.pdf
- ¹⁹ Pimentel, D., P. Hepperly, J. Hanson, D. Doubs, and R. Seidel. 2005. Environment, energy, and economic comparisons of organic and conventional farming systems. *Bioscience* 55(7): 573-582.
- ²⁰ U.S. Department of Agriculture. 2006. CSREES Research Results: Organic and Integrated Farming Key to Lowering Nitrogen Leaching. www.csrees.usda.gov/newsroom/news/2006news/nitrogen_organic.html
- ²¹ McIsaac, G.F., and R. A. Cooke. (no date). Evaluation of Water Quality from Alternative Cropping Systems Using a Multiple-Paired Design. University of Illinois at Urbana-Champaign. asap.aces.uiuc.edu/research/stew_farm/home.html
- ²² OAW 2003. The Midwest Organic Services Association (MOSA), Wisconsin's largest organic certifying agency, has currently certified 41 organic processors in 32 cities, while international certifying agency Quality Assurance International lists 16 more Wisconsin processors in 12 cities. The Organic Trade Association, a Massachusetts organization, lists 15 additional organic processors operating in 13 communities around Wisconsin.
- ²³ OAW 2003
- ²⁴ Organic Valley website www.organicvalley.coop
- ²⁵ OAW 2003
- ²⁶ OAW 2005
- ²⁷ OAW 2005
- ²⁸ Organic Agriculture in Wisconsin, DATCP www.datcp.state.wi.us/mktg/business/marketing/val-add/organic/index.jsp
- ²⁹ CIAS www.cias.wisc.edu
- ³⁰ Woodbury County, Iowa Rural Economic Development www.woodbury-ia.com/



departments/economicdevelopment/press.asp Interview with OCA on Breaking the Chains www.woodburyiowa.com/departments/EconomicDevelopment/Interview%20OCA.pdf

³¹ Cherokee County Offers Tax Incentives for Organic Farming www.siouxcityjournal.com/articles/2006/09/20/news/local/54322a2cf28dd753862571ef000a6c3a.txt

³² Lakeshore Technical College Farm Business and Production Management program www.gotoltc.com/programs/farmbusiness_index.shtml; personal communication 6/20/07

³³ Cadwallader, Tom. Personal communication, 6/26/07.

³⁴ Midwest Organic & Sustainable Education Service www.mosesorganic.org

³⁵ Michael Fields Agricultural Institute www.michaelfieldsagainst.org/programs/garden



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