The Geography of Organic Farming in Minnesota and Wisconsin

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# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>The Rationale for Organics</td>
<td>5</td>
</tr>
<tr>
<td>The Evolution and Regulation of Organics</td>
<td>6</td>
</tr>
<tr>
<td>The Agricultural Geography of Minnesota and Wisconsin</td>
<td>9</td>
</tr>
<tr>
<td>Farmer Survey Analysis</td>
<td>12</td>
</tr>
<tr>
<td>Trends of Organic Farms and Selected Crops</td>
<td>17</td>
</tr>
<tr>
<td>The Economics of Organic Farming</td>
<td>30</td>
</tr>
<tr>
<td>The Influence of Markets on Organic Farms</td>
<td>30</td>
</tr>
<tr>
<td>Distance Thresholds to Markets</td>
<td>37</td>
</tr>
<tr>
<td>Social Influences on Organic Farms</td>
<td>45</td>
</tr>
<tr>
<td>The Importance of Social Networks for Organic Farmers</td>
<td>45</td>
</tr>
<tr>
<td>Farmer Cooperatives</td>
<td>52</td>
</tr>
<tr>
<td>CROPP Overview</td>
<td>53</td>
</tr>
<tr>
<td>CROPP Member Profiles</td>
<td>56</td>
</tr>
<tr>
<td>The Organic Meat Market</td>
<td>60</td>
</tr>
<tr>
<td>Conclusion</td>
<td>63</td>
</tr>
<tr>
<td>Bibliography</td>
<td>66</td>
</tr>
<tr>
<td>Appendix A: Acronyms</td>
<td>70</td>
</tr>
<tr>
<td>Appendix B: Farmer Survey Responses</td>
<td>71</td>
</tr>
<tr>
<td>Appendix C: Farms per County</td>
<td>74</td>
</tr>
</tbody>
</table>
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Introduction

What influences the locations of organic farms? After working at Elk Creek Gardens in Oregon during the summer of 2004, I chose to study this question for my senior thesis. For the sake of practicality (I am a student at Macalester College in St. Paul), I limited my research area to Minnesota and Wisconsin.

My first step, last September, was to assemble a list of all the certified organic farms in the Upper Midwest. The USDA’s National Organic Program (NOP) registers organic certifiers by state, so thanks to their website, I was able to contact these agencies and request the addresses of the farms they had certified. Then, using a technique in ArcView software known as geocoding, I mapped the farms by their zip codes. In subsequent months, I downloaded county data about crop production and tested the extent of correlations between counties with many organic farms and those producing high amounts of various crops.

Next, I mailed a survey to 40 organic farmers to learn about their motivations and habits. I was particularly interested in why they decided to farm where they do. In October, I interviewed two organic dairy farmers in Wisconsin for more in-depth observation. I visited the St. Paul Farmers Market, a local Whole Foods Supermarket, and the Mississippi Market Coop to get a better idea of how economics and transportation affects organic farming. As a final bit of field work, I attended the Upper Midwest Organic Farming Conference in La Crosse, Wisconsin in March.

I found that organic farms cluster in southwestern Wisconsin and, to a lesser extent, in central Minnesota. After exploring how physical geography, economics, especially relationships between organic farmers and markets, and support networks,
particularly farmer cooperatives, may affect organic farms, I determined three principal reasons for the pattern of organic farms in the Upper Midwest.

First, the hills of southwestern Wisconsin impede machinery and are therefore poorly suited to conventional farming, which makes the land available to dairy farmers, of whom a large percentage are organically certified. Second, the CROPP cooperative based in La Farge, Wisconsin, which sells under the label Organic Valley, supports nearby organic farmers. Finally, almost all organic farmers farm conventionally before switching to organic, and most get certified out of ethical or economical considerations. Switching to organic has little affect on farm location because established farmers, who tend to have a strong affinity for land they have inherited, rarely possess the means or the desire to move.

The Rationale for Organics

Organic farming has only achieved mainstream recognition in the past fifteen years, but the dynamics responsible for its emergence—namely, the ascendancy of conventional agriculture—have been developing for a century. Conventional agricultural is extraordinarily productive and efficient, but population ebbs from America’s rural heartland, and fewer and fewer people actually make a living by farming. Large corporations—Conagra, Inc., Proctor & Gamble, and Tyson Foods, Inc., for example—which are often initially catapulted to the top of their industry by the entrepreneurial genius of individuals, have come to dominate agriculture. The mechanization of planting and harvesting, the use of pesticides and fertilizers to control weeds and insects as well as stimulate growth, and the consolidation of supply chains has rearranged food production
into a long assembly line, much like those initially pioneered by manufacturers in the 1920s. The aim is to satisfy consumers, minimize production costs, and boost output. Indeed, the industry’s emphasis on yield has changed our vocabulary. The traditional word describing food production—“farming”—is now often replaced by “agribusiness.”

The Evolution and Regulation of Modern Organic Agriculture

During the 1970s, a few individuals became concerned about conventional farming for its dependence on pesticides, fertilizer, and machinery as well its potentially harmful effects on human and animal health. These pioneers, without encouragement from the government or private sector and despite the common perception of them as stupid, subversive, and irrelevant, began to experiment with old techniques that, while ancient, were largely cast aside in the mid-20th century. Ironically, during the heady days of the Green Revolution, farmers across the world embraced modern methods so wholeheartedly that the new organic producers had to relearn the old style of farming by trial and error. Organic farming eschews the use of artificial chemicals in favor of a decentralized, labor-intensive approach.

Minnesota has a tradition of encouraging organics. In 1971, the North Country Co-op, the first natural foods co-op in the Twin Cities, opened. Selling mostly locally grown organic food, it reliably supported nearby organic farms and was profitable enough to encourage the growth of new co-ops. The Organic Buyers and Growers Association was another early rallying point for organic farmers who had difficulty selling their products. In 1985, the Minnesota legislature legally defined “organic” (it set

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standards for organic food and marketing two years later) and mandated that three years must pass between the last use of fertilizer and certification of a farm as organic. This law, among the first of its kind, protected organic products from false advertising. Today, Minnesota has an above-average number of organic farms. The Upper Midwest, largely on the strength of its dairy industry, is now a national leader in organic production.2

Organic farming’s basic goal is to emphasize healthy rather than high yields. By all means, organic farmers strive to make yields as large as possible, but their product distinguishes itself through health and taste rather than size. Organic farmers usually establish crop rotations of 3-5 years to ensure that soil nutrients are replenished. They use compost and animal manure as fertilizer, and they often employ cover crops to prevent weeds from encroaching onto fallow ground in the winter. Livestock farmers tend to choose more adaptive, resilient species of animals, provide plenty of clean space for their animals, and use organic feed and medicines.3 Operations tend to be highly labor-intensive, but many consumers want the highest quality food prefer organic products to conventional, even if it is more expensive.

In the 1990s, when the USDA began keeping statistics on the organic industry, retail sales grew by 20% annually. In 1990, organic food sales were $1 billion; in 2001, they had grown to $9.5 billion, and they are predicted to reach $20 billion in 2005.4 By 2001, the USDA considered 2.3 million acres of land organic, an increase of 1.4 million acres from 1992.5 In 1990, Congress recognized the potential for growth in the organic sector as well as the need to regulate the definition of “organic” so that consumers are

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2 http://www.localharvest.org/
properly informed. When it passed the Organic Foods Production Act in 1990, it provided the impetus for the USDA to create the National Organic Program. In 2002, the NOP issued a standard definition of “organic” and established rules for “organic” farm certification.

The USDA’s decision was controversial. Some argue that its failure to incorporate labor standards or farm size into the definition of organic was amiss; others hold that by centralizing the organic label, the USDA makes it easier for corporations to control the organic sector. It is beyond doubt, however, that as of 2002, the same set of rules governs products stamped with the USDA organic label. Consumers can choose between conventional, USDA organic, or stricter organic (sometimes referred to as “sustainable”) products. It should now become easier to keep statistics on organic farms because controversy over what is construed as organic no longer exists.

Rather than assume the formidable responsibility of certifying farms itself, the USDA contracts private companies to do the work. These businesses, which must pass rigorous tests to become certifying agents, charge $300-800 per year to inspect farms. By fall 2004, there were 97 foreign and domestic accredited certifying agents. Nevertheless, some farmers whose methods are compliant with NOP regulations choose not to be certified due to cost, paperwork, or philosophical objections to the USDA standards.

To become NOP certified, a farmer must provide maps and three year histories (it takes three years for pesticides and fertilizers to be filtered out from the soil) of all his fields. He must inform his certifying agent about his plans to control weeds and insects.

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7 http://www.ams.usda.gov/nop/Consumers/brochure.html
and to maintain soil quality. Livestock farmers must present information about feed, housing, and manure management for the animals.\(^9\) If the farm passes inspection by an accredited agent, the farmer may then use the USDA Organic Seal on his products.

The 2002 Farm Bill included several initiatives to boost organics, which is notable because organic farming has received scant support from the government. The USDA must now allocate $3 million per year from 2003 to 2007 to research grants on production and marketing of organic goods. The bill also provides $5 million for a cost-share program to help farmers pay their certification fees. The government will pay up to 75\% or a maximum $500 for one farm's certification.\(^{10}\)

The Agricultural Geography of Minnesota and Wisconsin

Minnesota and Wisconsin have three distinct regions of physical geography. A wide flat swath of coniferous forest runs across the northern half of Wisconsin and into northeast Minnesota. This area, known as the Boreal Forest Region, is composed mostly of Spodosols, a soil type that is wet and moist, high in iron and aluminum content, and is largely leached of nutrients.\(^{11}\) It is not suited to most types of agriculture because the land is swampy and the growing season short.

The Prairie Region runs across southern Wisconsin and Minnesota. A transition zone of mixed hardwood forest divides it from the Boreal Forest Region. The landscape is

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\(^{10}\) http://www.ams.usda.gov/nop/NOP/standards.html

\(^{11}\) http://www.ers.usda.gov/Features/farmbill/analysis/organicagriculture.htm

composed of gently rolling grassland and savannah, and its soils are mostly Alfisols in Wisconsin and southeastern Minnesota. These are high in clay content and have more nutrients than Spodosols. In southwestern Minnesota, the main soil type is Mollisols, which are quite rich, thick, and dark. They are the most productive soils in Minnesota or Wisconsin, which is why the highest concentration of farmland in the two states occurs in the Prairie region, especially along Minnesota’s southern border. Temperatures in the Prairie Region are warmer than in the Boreal Forest Region, and the climate is relatively wet.

In southwestern Wisconsin and southeastern Minnesota, the topography changes from smooth to rugged in an area known as the Driftless Region. Glaciers encircled but never covered this locale, so its winding hillsides never eroded into the mild slopes that characterize the rest of the Prairie Region. Consequently, the Driftless Region is more difficult to navigate and cultivate.

Along the upper half of Minnesota’s western border, the Prairie Region gives way to the Great Plains Region, which is also comprised of Mollisols but is somewhat less diverse ecologically. Rainfall on the Great Plains is less than to the east, which is why the change in geography occurs. The sporadic supply of water makes life tumultuous for farmers in the region, but given the right crops, the Great Plains Region can be very productive.

The Boreal Forest Region’s primary industry is logging, and it contains very few farms due to its poor soil. Those that do exist grow the same crops as their more prosperous neighbors to the south: hay, corn, soybeans, and wheat, for the most part. An

\[12\] *Ibid*
alternative crop that does not grow well to the south is wild rice. Overall, however, farmland makes up a minor portion of north-central and northeastern Minnesota.\textsuperscript{13}

The Prairie Region produces much higher yields than the Boreal Forest Region. Corn and soybeans are by far the most important row crops, though a large quantity of hay and oats are also grown. These crops support the dairy industry, especially in Wisconsin, which is known as “America’s Dairyland.” It does indeed produce 13\% of the country’s milk.\textsuperscript{14} Milk cows are important in Minnesota, but the pork industry is more dominant, especially along the border with Iowa. Central Minnesota is a center for broiler chicken and turkey production, and beef cows are scattered about the state. In central Wisconsin, snap beans, potatoes, carrots, green peas, and sweet corn all grow. There is significant cranberry production in the same area. A small amount of sweet corn, green peas, and other nursery and greenhouse crops grow around the Twin Cities.\textsuperscript{15}

The Driftless Region is too hilly for mechanized agriculture; combines and tractors have difficulty traversing its slopes, much as they do in the better known, similarly contoured regions of Appalachia and the Ozarks. Large-scale row crop agriculture is not practical here, allowing small farmers to be competitive. Cows can survive on the hillsides, so the dairy industry is strong in this region, and so are feed crops such as corn and hay, though only on a small scale. Broiler chicken production is also common.

In the Great Plains Region in western Minnesota, wheat, barley, and sugar beets are the most common crops because they are better able to endure low temperatures than corn and soybeans. The area is too cold and dry for much else.

\textsuperscript{14} http://www.wisagclassroom.org/Wisconsin\_Facts.pdf February 9, 2004
Farmer Survey Analysis

To get a better idea of how organic farmers interact with the landscape of the Upper Midwest, I surveyed 40 organic farmers, half in Minnesota and half in Wisconsin. I designed my sample, sent out in October 2004, to represent the spatial distribution of organic farmers. In practice, this means that I sent more surveys to the Driftless Region than any other particular area. Almost every region with at least a few organic farms received at least one questionnaire, which included sixteen questions. I hoped to learn about the background of these farmers, why they were drawn to organic farming, and how their operations have fared. Seventeen farmers responded. The sample is too small to accurately represent organic farmers in Minnesota and Wisconsin as a whole; nevertheless, the farmers’ responses, like my interviews with Mike Sebion and Dave Schultz that are included in this paper, are illuminating. They speak simply but eloquently to the determination and pride farmers take in their job.

When asked “Why did you decide to farm where you do,” fourteen of the seventeen respondents indicated that their farm’s location was long established—i.e. they inherited it from their parents or have been working it at least ten years themselves. Their farms were all conventional before they became organic. The three respondents who recently started their own farms were a young man from Waseca, Minnesota who rents his farmland, a man from Blue Mounds, Wisconsin, who implied that he moved to be near his CSA customers, and a couple from River Falls, Wisconsin, who “were looking for a lifestyle change” and for whom organic farming would not be possible without outside income. In general, though, the survey results show that most organic farmers are

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for a lifestyle change” and for whom organic farming would not be possible without outside income. In general, though, the survey results show that most organic farmers are already well established when they get certified. Switching to organic rarely affects farm location.

To my question “Why did you decide to get your farm certified?,” six of the farmers indicated that their primary reasons were to gain a marketing advantage, three because of concerns about animal/land health, one because he thinks the government has too much control over conventional agriculture, and seven for both marketing advantages and concerns for animal/land well-being. Clearly, most people are motivated to farm organically because they believe they will make more money or be healthier. Often these impulses work in tandem.

“Have you been involved with farmer support networks?” was a vague question; still, thirteen of the farmers answered in the affirmative. Five are involved with CROPP, three with Lamberton Field Station, and others mentioned MOSA and informal information exchange between farmers.

The farmers brought up a variety of complaints in response to “What has been the biggest obstacle to running your farm?” Difficulty controlling weeds was common, and so was making a profit. One farmer mentioned subsidies to big farms, another keeping his cows from catching pneumonia without using antibiotics, and a third bookkeeping. One man from Cashton, Wisconsin, wrote, “Some farmers are already selling some land to non-farmers from the Cities, making it hard on farmers to compete for land.” Another, just starting out, acknowledged needing more information about organics and cheap
Farmers did not bring up proximity to markets as a primary concern, though some referred to it peripherally. Within my sample were eight grain farmers, who tend to come from southern and western Minnesota. They pointed out the importance of saving on freight costs and also the trouble of coordinating orders for grain with production. Since most of their product leaves the Midwest, accessibility to local markets is unimportant. One farmer from Warroad, Minnesota wrote, “For small grain sales, location doesn’t seem to be a major factor as you have to truck your grain to wherever you sell it. You just pay more for shipping the farther you sell.” Those who do sell to local wholesalers did not mention transportation troubles.

The five dairy farmers belonging to CROPP are pleased about the convenience of nearby processing plants. One said, “The big markets are in the big cities. But the CROPP co-op is fifteen miles from me and that makes it handy for both me and the co-op.” Produce and meat farmers, of whom four responded, did not mention transport costs as a concern. Two are lucky in that their produce is picked up from the farm by customers. Of the other two, one volunteered that he is willing to drive up to two hours to reach farmers markets, while the other said he drives up to 100 miles to reach them.

These comments indicate that transportation costs are important for grain farmers, but they are out of the farmers’ control, so there is no local geographic response. Moving within the region does nothing because the grain markets are thousands of miles away. In contrast, meat, produce, and some dairy farmers need to be relatively near markets, but because transport costs are low, they may drive quite far to reach markets. Furthermore, farmers markets and natural food co-ops are relatively evenly dispersed across Minnesota and Wisconsin.
I was also curious to ascertain the impact of the internet on these farmers because it has the ability to make their operations more efficient by allowing direct orders. In response to “Does the internet assist your operation in any way?” six farmers replied affirmatively. One man wrote that he uses it to communicate with other organic farmers, while another has constructed a website to help farm business but is disappointed with the results (the other four respondents did not give details about their use). Of the farmers who do not use the internet, several indicated that they are interested in creating a farm website but lack the skills or the time to do so. In sum, despite the perception that the internet can help organic farmers, in practice, it has not greatly assisted those who took part in my survey.

Finally, I asked, “Has your farm become more profitable since becoming certified?” Four respondents were not sure (usually they had just gotten certified), eleven said that their farm has become more profitable, and two had lost money.

My surveys imply that psychological, social, and historic factors may be as important as economic or geographic considerations in determining the location of organic farms. Subsequent chapters will consider these factors as they examine the nature of food markets and the impact of strong social networks on farmers. Next, however, I will examine the spatial distribution of organic farms and crops across the Upper Midwest.
Trends of Organic Farms and Selected Crops

Unfortunately, neither the Minnesota or Wisconsin Departments of Agriculture collect data on what products each organic farm in their state cultivates, nor do they know exactly how many exist. Through email, I procured names and addresses of organic farms from the region's private certifiers—Midwest Organic Services Association (MOSA), Organic Forum International (OFI), Minnesota Crop Improvement Association (MCIA) and the Organic Crop Improvement Association (OCIA). Luckily, all agencies were very helpful. I combined their lists to ascertain the number of farms in both states. As of September 2004, there were 413 organic farms in Minnesota and 538 in Wisconsin.
Through geocoding in ArcView, I then mapped the farms according to zip code. While the farm locations are not precise within zip codes, my methods do allow analysis of general spatial trends among organic farms. By far the biggest concentration of organic farms in the Upper Midwest is in southwestern Wisconsin. Here, in the Driftless Region near the Mississippi River, are about 200 organic farms. Less discrete but still noticeable is the belt of farms running from southwestern Wisconsin northwest to central Minnesota. A cluster of 30 or 40 organic farms exists in central Minnesota, and Northwestern

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16 The density grid measures the distribution of farms per 800 square meters. It is calculated by selecting an output grid cell size (800m.), and a search radius size (5000 meters). The number of farms
Minnesota has 15 to 20 organic farms slightly east of Grand Forks—this group is remarkable not so much for its size but for the absence of other organic farms nearby.

The Boreal Forest Region is as nearly devoid of organic farms as it is of conventional farms. Southwestern and western Minnesota has far fewer organic farms than regions to the east, though a scattering of organic farms runs across these relatively dry plains. Eastern and Central Wisconsin also has few organic farms.

Due to privacy laws, certifying agencies do not reveal the size, value, or crops grown on any farms. It is therefore impossible to know precisely what crops organic

within the search radius is divided by the output grid cell size, and that value is assigned to the grid cell. Density type is kernel, so farms in the center of aggregations are weighted more heavily.
farmers grow in each of these regions. A detailed census of organic farms in Minnesota and Wisconsin would greatly aid analysis of the region’s organic industry.

Nonetheless, it is fair to make some generalizations about what the organic farmers of the Upper Midwest specialize in. Using a procedure in ArcView known as spatial joining, I grouped the farms by county rather than zip code. It was then possible to correlate the number of organic farms per county with data about crops, farm size, and farm value compiled in the 2002 USDA’s Census of Agriculture and also arranged by county.

The crop production numbers and other data I examined were: average value per acre of land, median farm size, number of dairy farms, corn for silage farms, vegetable farms and orchards. I selected these statistics because I considered them likely indicators of organic farms. A study published in 1998 showed organic farms in California to be considerably smaller than conventional farms—188 acres versus 469. Fruit and vegetables are the leading organic products, followed by dairy. A 2000 survey by the Hartman Group, which compiles statistics for the grocery industry, found that the top ten organic products in sales value were strawberries, lettuce, carrots, “other fresh fruit,” broccoli, apples, “other fresh vegetables,” grapes, bananas, and potatoes. Finally, the Nutrition Business Journal’s 2002 survey found that 43% of U.S. organic sales were produce, 13% bread and grains, 11% packaged and prepared foods, 11% dairy, 11% beverages, 7% soy products, 3% snack foods, and 3% meat, fish, and poultry. These

studies, in addition to demonstrating the importance of produce in the organic industry, also show that sales of organic meat are small. Either the public does not demand organic meat or the industry is not supplying enough. Interestingly, in 2001, there was more organic rangeland than organic cropland: 1.3 million vs. 1 million acres.21

In the Upper Midwest, like anywhere, land is worth the most in urban areas. It is generally more valuable in Wisconsin than Minnesota, and is worth the least in northwestern and western Minnesota. Land tends to be more valuable in Wisconsin as one moves towards Chicago. I did not produce a statistic correlating average value per

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acre of land (or for median farm size) with number of organic farms per county. Such a comparison involves different variables, which would be inconsistent with the other correlations that compare one variable—number of farms. Nevertheless, an examination of the maps reveals that organic farms are rare on the most and least valuable land. The most expensive land is urban, while the cheapest has poor soil or is quite dry and cold. Generally the counties with the highest number of organic farms—Vernon in Wisconsin and Stearns in Minnesota—tend to be well outside the metro area of the Twin Cities and Madison but within reasonable driving distance. This land tends to be slightly less valuable than regions of similar soil quality, precipitation, and latitude.

![Median farm size in Minnesota and Wisconsin](image)

Source: USDA NASS 2002 Census of Agriculture
Mapmaker: Andrew Bely

21
Median farm size is highest along the western edge of Minnesota, where the land is drier than to the east. Traverse and Wilkins Counties, which border North Dakota, have respective median farm sizes of 610 and 460 acres. Corn, vegetables, and fruits do not flourish in these parts; instead, wheat and, in northwest Minnesota, sugar beets, are the main crops. Wheat and beets do not sell for high prices per bushel, so viable farms in these regions must be very large. Finally, median farm size is quite small in urban areas and in southeastern Wisconsin.

The Driftless Region has distinctly small farms. In fact, median farm size in Vernon and Monroe counties, which have the highest number of organic farms in Wisconsin, is even smaller than that of their neighboring counties. Median farm size in Vernon County, for instance, is 130 acres, while median farm size in Sauk County, which is adjacent to Vernon County on the east, is 150 acres. Vernon County has 100 organic farms; Sauk County only 6. The same pattern holds true in central Minnesota. In Stearns County, where median farm size is 160 acres, there are 42 organic farms. Pope County, just to the west, has a median farm size of 212 acres and only two organic farms. Though not always as extreme as these examples, there is a clear correlation between counties with small median farm size and counties with many organic farms.
The correlation between dairy and organic farming is striking when one compares maps of the two attributes. In almost every place where dairy farming is common, organic farms cluster. This is true in the Driftless Region, central Minnesota, and central Wisconsin. Vernon County has 584 dairy farms and Stearns County has 819, the most in Minnesota. Analysis also shows a statistically significant correlation between dairy and organic farms: 55.5%. 

There are several reasons why dairy farming is linked with organics. Most importantly, dairy farms tend to occur on land where row cropping is impractical, and they tend to be relatively small because cows need less space than crops (though if a
dairy farmer grows his own feed, he needs much more land). This trend is evident when one compares the maps of dairy farms and median farm size. Dairy farms are suited to the same places as organic farms—hilly, marginal land. Secondly, the CROPP co-op, which will be discussed in more detail later on in this paper, supports hundreds of organic dairy farms in the Upper Midwest. Finally, organic dairy products sell very well, perhaps because of parental concerns about children, who consume large quantities of milk.

Organic milk accounts for 3% of the total milk market, and dairy farming grew the fastest of any sector in the organic industry through the 1990s—500% between 1994 and 1999.\(^\text{22}\)

The strong growth is probably driven by people associating of milk with health and childhood. Parents, for instance, are likely to be more willing to spend extra money for organic milk because it is widely recognized to be especially important for growing kids. Such demand for organic dairy products boosts the numbers of organic dairy farms.

\(^{22}\) Greene, "Organic Marketing," p35.
Farms that grow corn for silage also have a statistically significant correlation of 52.7% with organic farms, which is logical because farmers often grow silage to feed to dairy cattle. Counties with many dairy farms thus also have many corn for silage farms. Vernon County has 615, and Stearns County, which leads Minnesota in this category as well as for dairy farms, has 914.
Vegetable farms do not occur with such frequency in counties high in organic farms. There is only a 12.9% correlation (statistically significant) between the two, so little covariance occurs between vegetable and organic farms in the Upper Midwest. Minnesota’s leader in vegetable farms with 237, Renville County, has two organic farms, and Wisconsin’s leader with 214, Fond du Lac County, has 6. Most vegetable farms are in southern parts of the states, especially along the Minnesota River and in southeastern Wisconsin.
Orchards, at 29.4% (statistically significant), are more correlated with organic farms than vegetable farms. However, while some counties with many organic farms—Vernon and Stearns, among others—have many orchards, in general, counties with many orchards are scattered. There is a distinct ring circling the Twin Cities, which makes sense because fruits are high value crops. Southeastern and eastern Wisconsin also has many orchards.

So, while produce may be the largest sector of organic products in the greater USA, these spatial trends indicate that very little organic produce comes from Minnesota.
and Wisconsin. Dairy and grains, instead, are the main organic products in the Upper Midwest.

The map showing total organic sales further demonstrates the importance of the dairy industry to the Upper Midwest's organic sector. The pattern is familiar; it logically matches the distribution of organic farms. Sales, like numbers of farms, are highest in the dairy counties of central Minnesota and southwest Wisconsin. The only counties with significant organic sales and produce farms or orchards are Door and Marinette Counties in Wisconsin and Redwood and Freeborn Counties in Minnesota (organic grain sales are probably just as important in these Minnesotan counties).
Pat Kelly, a regional buyer of organic and conventional produce who works for J & J Distributing of St. Paul, explained the differences between produce farms in Minnesota and Wisconsin via email. He mentioned two farms as the main producers of organic fruits and vegetables for the Twin Cities region: Gardens of Eagan in Farmington and Featherstone Fruits and Vegetables in Rushford. They grow primarily tomatoes (slicers, cherries, and grapes), winter squash, sweet corn, broccoli, cabbages, watermelons, peas, and potatoes. Farms from Wisconsin grow these products but also more potatoes (especially russets, but also red golds and fingerlings) and leaf and root vegetables. Their leafy items include lettuces, kales, collard, chards, spinaches, and Asian greens, while the main root crops are garlic, onions, (red and yellow shallots, cippolinis, etc.) beets, carrots, parsnips, turnips, rutabagas, radishes, celeriac, salsify, burdock, and sweet potatoes. Kelly concluded, “There is a tremendous lack of local organic tree fruit (mainly apples and pears) and fruit in general that limits the amount of local organic produce our company sells.”

Only 5% of J&J Distributing’s organic purchasing is comprised of local organic produce, and the amount from Minnesota farms is no more than 1%. Kelly believes that this is a result of direct deliveries to local co-ops and Whole Foods. 

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24 Ibid.
The Economics of Organic Farming

The Influence of Markets on Organic Farms

There are three main outlets for American organic food: supermarkets, natural food stores, or roadside farm stands that sell directly to consumers. Where these stores locate significantly impacts organic farmers who want to sell their crops locally. In the eighties and early nineties, before the American public was familiar with the concept of organic food and demand for it was low, many organic farmers were unable to sell their produce in supermarkets. Instead, they depended on natural food stores, which are often cooperative because farmers help to found them. These stores, which some consumers perceive to be healthier and more socially aware than supermarkets, grew enormously during the nineties.

Inevitably, bigger players began to take notice of the remarkable growth of the organic sector. For instance, Dean Foods, the country’s largest dairy distributor, bought out Horizon Organic, Organic Valley’s main competitor in the organic dairy market, for $216 million in 2003.25 Whereas in the early nineties natural foods stores sold 68% of all organic products and supermarkets only 7%, supermarkets now sell the greater share. For the first time, in 2000, supermarket sales of organics outpaced those of natural food stores, and by 2002, 73% of supermarkets were selling organics.26 J & J Distributing, Pat Kelly’s employer, does most of its business with these retail chains. Kelly noted that these clients prefer “retail ready” packaging, meaning their suppliers must use bar coded

bags, clamshells, or twist ties so that the market can differentiate organic from conventional produce.27

Because more supermarket chains carry organic products, the American public has gained greater access to organics. Before 1995, anyone who lived far from a natural food store had difficulty buying organics, whether or not they wanted to. With big corporations buying companies that specialize in organics, some of the smaller retailers have now been pushed out of business, and those who envision the organic movement as a way to achieve social justice feel the movement is being diverted.28 Big supermarkets do indeed have more clout than their smaller competitors; they also tend to buy from big producers so that their operations are more efficient.29 In most parts of the US, this usually means that supermarkets do not rely on local agriculture.

Mississippi Market, which I visited in November, 2004, is a natural foods co-op that provides locally grown food. Its small-scale approach has mostly been successful but it may now succumb to competition from Whole Foods. Founded in 1974 as Merri-Grove Community Foods, it has two outlets—one at the intersection of Randolph and Fairview and the other, which opened in 1999, at Selby and Dale.30 The managers do not keep statistics on how much of their stock is Minnesota-grown, but a quick tour of the shelves reveals many local products, most of which are dairy. Organic Valley of La Farge, Wisconsin, Cedar Summit Farms of New Prague, Minnesota, and Pride of Main Street of Sauk Centre, Minnesota provide milk, cheese, yogurt, and ice cream. Larry Schultz from Owatonna, Minnesota sells his eggs and chicken to the co-op. Farm Called Earth of

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27 Kelly, Ibid.
28 "How Now, Organic Bow." Ibid.
Hugo, Minnesota, provides beef. As for bulk goods, Swamy Mills of Avon, Minnesota, provides flour and Whole Grain Milling Company various grains. Local produce varies widely with the seasons, but even in the winter, Mississippi Market stocks roots, squash, and apples from nearby. The rest of their produce comes mostly from California, Florida, and Mexico during the cold months. Three farms that the co-op emphasizes as its major summer suppliers are Gardens of Eagan, Avalanche Organics of Viola, Wisconsin, and Riverbend Farms, in Delano, Minnesota.

Supermarkets are much more centralized than Mississippi Market, and they usually get their produce from one distributor. If a supermarket exists throughout the Midwest, it is likely that their distributor is in Chicago because that city’s central location in the Midwest makes it a cheap place from which to truck products. It is also easy to fly goods from abroad to Chicago due to its large airport. Almost all conventionally grown vegetables and fruits sold in the US come from Florida, California, or Latin America. Minnesota and Wisconsin, being above-average producers of corn, soybeans, and dairy products, send their own goods elsewhere, too. Exports account for 5% of American organic products; most of this is grain shipped to Japan and the European Union.31 Japan requires labeling for Genetically Modified Organisms (GMOs)—plants which grow from seeds that scientists manipulate to improve durability and yield—while the European Union has banned them entirely.32 Both therefore constitute a large market for organic grain.

Whole Foods Market is a national supermarket that emphasizes good quality and healthy food more than most chains. Founded in Austin, Texas in 1980, it has grown to

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30 http://www.msmarket.org/history.htm
168 stores and stretches across the entire US. It has bought out other natural food
supermarkets such as Bread and Circus (New England), Mrs. Gooch’s (California), and
Fresh Fields (Mid-Atlantic). Whole Foods has three locations in Minnesota and
Wisconsin—Madison, Minneapolis and a third in St. Paul at the corner of Grand and
Fairview, which I also observed in November, 2004. Opened in 1996, the St. Paul
location is only a few blocks away from Mississippi Market.

The supply system for Whole Foods is entirely different from that of Mississippi
Market. Almost everything that the store in St. Paul sells comes from a bulk distributor in
Chicago. Goods are sent out to all the Midwestern Whole Foods franchises. Even if the

33 http://www.wholefoodsmarket.com/company/history.html
Whole Foods distributor buys a Minnesota product, it must first go to Chicago before being directed to St. Paul. The only exception is some local produce. From May to October, Gardens of Eagan supplies the St. Paul Whole Foods (as well as Mississippi Market) with their produce from nearby Farmington. Unlike Mississippi Market, Whole Foods sells conventional produce when organic is unavailable or too expensive, and this is often locally grown. Whole Foods, which touts itself as the “World’s leading natural and organic foods supermarket” must provide a steady supply of food, which, since it has so many customers, rules out providing only local organics.

Business is now so good that the current building is too small, and the owners are considering moving or expanding the present structure. Whole Foods is also about to open a new store in Minneapolis. The company has profited enormously from the growing interest in organic food and is optimistic about the future. As Matt, an employee in the produce department in St. Paul puts it, “When organic food hits Oprah, you know it has gone mainstream.”

Mississippi Market’s managers are aware of Whole Foods’ growth and the threat it poses to their own success. Having sold their building on Randolph Street three years ago, the co-op is now in the third year of a five year lease. Its future beyond 2006 is unclear since competition may force the Randolph location to close. In the meantime, Mississippi Market’s managers emphasize quality of service and educated employees, hoping that enough people prefer local to out-of-state food. Their customer base, while small, is loyal. For their part, Whole Foods employees believe that their produce is more consistently high-quality and durable than Mississippi Market’s. It is also cheaper

34 Conversation, November 13.
because Whole Foods buys from large-scale producers whose labor and transport costs are relatively cheap.

Minnesota and Wisconsin have a remarkably high number of food co-ops and farmers markets. A full list of natural food stores in the two states does not exist, unfortunately, but Localharvest.org, which provided data for this paper, does compile lists of food co-ops—usually also natural foods stores—as well as farmers markets.35 Minnesota's rural areas are better served by food co-ops than any other state outside New England, and Wisconsin, especially in the west, is not far behind. Northern Minnesota and Wisconsin, areas which have very few farms due to poor soil and climate, still host fifteen or so co-ops. These co-ops undoubtedly sell conventional food as well as organics, but their existence still indicates a demand for organic and locally grown food in these regions. The Twin Cities metropolitan area has around ten co-ops, Madison and Milwaukee both have several, and a string of co-ops runs through the Driftless Region of southwestern Minnesota. North central Wisconsin is the only region of the two states with a real dearth of co-ops.36

Farmers markets concentrate in cities, which have a high demand for organic food, and in southern regions of the state, where the longer growing season makes for the best produce. Though farmers markets have been around in significant numbers far longer than natural food stores, they too have experienced considerable growth over the past fifteen years. They are less important to organic farmers than natural food co-ops because they only account for 3% of all organic sales, but they are considerably more important for organic farmers than conventional farmers, who sell only 1.6% of their

35 http://www.localharvest.org/
36 ibid.
fresh produce directly to consumers.³⁷ Farmers markets, which are frequented by consumers for their social as well as economic value, are especially popular with small farmers. 60% of organic farmers with less than 10 acres of land directly market their product to consumers, while only 12% of farmers with more than 10 acres do, according to a 1994 USDA survey.³⁸ Booth size is limited and customers expect friendly and informed, not simply efficient, service, which levels the playing field between big and small farmers.

The growth of organic farming has stimulated organization of new farmers markets. In 1994, 1,755 farmers markets existed across the US, but by 2000, there were 2,863. Approximately 66,700 farmers were using farmers markets in 2000 to sell to 2.7 million customers—figures that tripled from 1994.³⁹

The disadvantages of farmers markets are their seasonality and small size. Since they are usually outdoors, and the main item sold is produce, they tend to close in the fall and reopen in the spring. While customers are often loyal, they are forced to go to natural food stores or supermarkets in the wintertime, or indeed if they need any of the basic culinary products that are not carried at farmers markets.

Since co-ops are small, they do not need their supplies in bulk. Indeed, many small farmers drop off goods at co-ops on their way to a farmers market. Few stores keep detailed statistics on the origins of their products, but a quick survey of most co-op’s shelves shows that the majority of their products are organic, particularly in richer urban co-ops which can import organic produce from abroad during winter. Many co-op suppliers could be certified as organic but are too small to pay an agency every year.

³⁸ Ibid.
Finally, some farms participate in Consumer-Supported Agriculture (CSA), which allows customers to pay a yearly subscription rate for produce. This sum is provided in advance, so consumers as well as producers suffer from poor yields and benefit from bumper crops. CSA farms, which tend to be small, appeal to consumers who want local food. Some producers participate because CSAs allow them to assume the responsibilities of the middleman. If the farmer is an effective marketer, this can make operations cheap and efficient, but it can also distract from production efforts. There are 800 American CSA farms, most of which are organic, selling 4% of all organic produce. Despite these modest sales, CSAs are very popular among people who hope that organic agriculture will revitalize small farms and farming communities.

Distance Thresholds to Markets

Do farms cluster around co-ops and farmers markets? One might expect them to do so because transportation costs decrease with proximity to sales outlets. 428 organic farms are within 10 miles of farmers markets or food co-ops in Minnesota and Wisconsin, and 888 are less than 25 miles away. Only 64 organic farms are more distant from these outlets, and they are almost all found along the western border of Minnesota. These statistics are misleading, however. As explained earlier, farmers markets and co-ops are very dispersed in Minnesota and Wisconsin. Their widespread presence indicates that demand for organic food transcends any urban/rural and liberal/conservative divide that many people associate with organics. It is impossible to statistically show the relationships between co-ops, farmers markets, and local organic farmers without a more
extensive survey. Still, there is clearly a correlation between the large numbers of co-ops of the Driftless Region and the high concentration of organic farms there. Clearly, high numbers of co-ops lead to high numbers of organic farms and vice versa.

Organic farms within 10 miles of markets and co-ops

Legend
- Farms < 10 miles from a market
- Other organic farms
- Markets & co-ops

Data compiled by Andrew Riely
October 2004
Developments in transportation technology periodically revolutionize agriculture by allowing farmers to get their products to markets faster and from farther away. It is because of these changes that supermarket chains exist and the resurgence of local co-ops is surprising. The interstate system and airplanes are relatively recent innovations that influence the transport of agricultural products. As discussed, American grocery stores routinely import products from all over the world, especially in the winter when fresh fruit and vegetables are difficult to grow in the US. This shift affects American farmers, of course—many are going out of business because foreign farms, which have access to cheaper labor, grow crops for less money. To survive, many farms are consolidating. The
bigger a farm, the more likely that it can afford to pay to transport its goods to far-flung markets.

Transport is important on the local level, too, especially for small farmers. The more easily they can get their goods to a big market, the more money they will save. Unlike corporate farms, many small farmers cannot afford professional trucking and must drive their products to market themselves. When gas prices increased dramatically during the 2004 summer, small farmers, as well as small trucking companies, paid a dear price.\footnote{http://www.usatoday.com/money/industries/energy/2004-05-20-gas-cover_x.htm} Furthermore, most farmers are only willing to go so far to sell their goods. Their tolerance for travel depends on the value of what they are selling, but in anecdotal interviews at the St. Paul Farmers’ Market and various co-ops, I found that few farmers drive more than two hours one-way to get to market.

A farmer who lives along an interstate thus has a transportation advantage. The most visible organic products are vegetables, fruit, and dairy, of which the first two decline in quality relatively quickly after being picked. Organic farmers may therefore have an additional incentive to locate near interstates so that they can get their perishables to market easily.

Out of 952 organic farms in Minnesota and Wisconsin, 261 are within ten miles of interstates, and 656 are less than 25 miles away. These numbers suggest that organic farms cluster around highways. However, Interstates 90 and 94 pass through the agricultural regions of Minnesota and Wisconsin, which ensures that they pass by many organic farms. It is impossible to conclude that interstates influence the location of organic farms.

\footnote{http://www.usatoday.com/money/industries/energy/2004-05-20-gas-cover_x.htm}
Organic farms within 10 miles of interstates

Legend
- Farms + 10 miles from interstates
- Other organic farms

Interstates
- Lakes
- States
- Provinces

Data compiled by Andrew Riley, October 2004

Organic farms within 25 miles of interstates

Legend
- Farms + 25 miles from interstates
- Other organic farms

Interstates
- Lakes
- States
- Provinces

Data compiled by Andrew Riley, October 2004
Another possible geographic influence involving transportation is proximity to cities. Consumers of organic food are commonly perceived (though not necessarily accurately) as being urban and liberal. If this stereotype is true, organic products should sell better in cities such as Madison and Minneapolis, which are known for their left-leaning inhabitants, than the smaller, more moderate cities of Rochester or St. Cloud. Organic farms would congregate around those cities to cut down on transportation costs. No such pattern is evident from the maps of organic farms, however. Regardless, it is certain that cities are the biggest market for organics. Only 166 organic farms are within 10 miles of urban areas with population exceeding 10,000, while 605 are less than 25 miles away. These results may suggest that organic farms aggregate loosely around cities, but they also demonstrate the dispersion of cities in Minnesota and Wisconsin.
Logically, few organic farms are within 10 miles of cities because land values are high near urban places, particularly big cities such as Minneapolis and St. Paul, Madison, Milwaukee, and Chicago. Nearby farmers can make more money by selling their land than farming it. The disparity in numbers of organic farms less than 25 miles from cities versus less than ten miles distant suggests that despite the growth of suburbs and exurbs, land value drops sharply beyond ten miles from a city.

Again, definitive conclusions about the affect of proximity to urban areas on organic farms are elusive. Two dynamics influence a farm's proximity to a market city—the transportation costs of getting products to market, which decrease as proximity to a
city increases, and the increase in cost of land and living towards the city center. This
study of the economic geography of organic farming, while enlightening, is inconclusive.
Most organic farms in Minnesota and Wisconsin produce milk or grain, neither of which
is constrained by distance to market. Organic grain mostly goes abroad or becomes
animal feed, so proximity to urban markets within the Upper Midwest is irrelevant to
grain farmers. Organic milk, while dependent on human consumers, must go first to a
processing plant before the market. A dairy farmer needs to be near a processing plant
rather than a city, and in the Driftless Region and central Minnesota, where dairy farms
are most numerous, there are several processing plants.
Social Influences on Organic Farms

The Importance of Support Networks for Organic Farmers

Most full-time organic farmers are originally conventional farmers. When they switch to organic, they must learn many new skills while much of their knowledge in conventional farming becomes obsolete. Good weed management and composting, for instance, are essential to the success of an organic farm, but most conventional farmers do not compost, and they use pesticides to control weeds. For many farmers, going organic is a last-ditch effort for survival—competition from bigger farms prevents them from reaching viability with conventional methods.

Many of these farmers, who are often isolated, need encouragement. Though the increasing visibility and profitability of the organic industry is quieting critics, a wide variety of opinions persists about organic farming. One farmer wrote me, “Some [neighbors] think that it is poor management. Some think it is what we need more of. Some think of organic farmers as ‘tree huggers’.” Another said, “Most farmers in our area [River Falls, Wisconsin] think it is a joke,” and a third, “[They] think we are nuts.” Others are “curious,” or “at first they were skeptical, now they seem interested.”

Support networks can consist simply of farmers informally talking to their farmer neighbors, or they may involve a certification agency, co-op, non-profit group, or university. Support networks are usually strongest where organic farms are the most numerous. Certainly the Driftless Region, with both CROPP and MOSA bringing farmers together, has a strong farming community.

Wherever such networks exist, organic farmers probably have more success. These organizations may offer newsletters, help in marketing, agricultural experiments,
field days, meetings, and social opportunities. Members may serve as role models for non-members, especially when they are the first to try a new agricultural practice. In the early days of organic farming, it was not unusual for organic farmers to be scorned or mistrusted by suspicious neighbors. Exactly who farmers turn to for advice is difficult to tell because interactions are rarely recorded; however, two contributors to *Planting the Future—Developing an Agriculture that Sustains Land and Community*, Gordon L. Bultena and Eric O. Hoiberg, conducted pertinent research on this issue during the early 1990s comparing sustainable (including all organic farmers regardless of certification) with conventional farmers. They found that 62% of Minnesota’s sustainable farmers used sustainable farmers outside their local area as information sources. At the same time, 81% corresponded with sustainable farmers within their own community, and 53% said they used sustainable farming organizations to help them learn sustainable farming practices. These numbers reveal the considerable communication between sustainable farmers. Virtually all of farmers involved with an organization described them as “somewhat or very useful.” In other states such as North Dakota and Montana, which had relatively few sustainable farmers in the early-90s, sustainable farmers relied far more on non-locals for aid. Presumably their situation was similar to that of organic farmers in Minnesota and Wisconsin in the 1970s and 1980s.

Interestingly, the Bultena-Hoiberg survey also found that sustainable farmers involved in networks were more committed to the philosophical rationale for sustainable agriculture. The authors concluded, “[It] may be that farmers holding more extreme

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43 *Ibid*
44 *Ibid*
orientations and social concerns are more likely to be attracted to membership in sustainable/organic farming organizations. It is also likely that such membership reinforces beliefs and values that diverge from the mainstream.⁴⁶

NOP rules require organic farmers to annually contact with their organic certification agency for re-certification. These agencies, as I have explained, keep detailed records on the farms they certify. There are four certification agencies in Minnesota and Wisconsin, of which two, MOSA and OCIA, certify more than 90% of organic farms. Thus nearly all organic farmers in Minnesota and Wisconsin are connected to one of two agencies.

The agencies provide services in addition to their role as certifiers. MOSA, for instance, which was founded in 1999 in anticipation of the demand for certifiers, publishes a newsletter, provides a calendar of events on its website chronicling workshops and conferences for organic farmers, and publishes a list of seed suppliers in the upper Midwest. It also gives information about Wisconsin’s cost share program for organic farmers. Its website is unsophisticated but encourages organic farmers drawn to their trade by ethics. The motto stretching across their homepage is “Making a Difference.”⁴⁷

Perhaps the biggest event bringing farmers together with businesses and non-profits is the Upper Midwest Organic Farming Conference, sponsored by Midwest Organic and Sustainable Education Services (MOSES) and held annually for the last 16 years in La Crosse, Wisconsin (a small city in the southern part of the Driftless Region). In 2005, the conference had 45 workshops on topics such as “What I Wish I Had Known

⁴⁵ *Ibid*
Before I Started Farming,” “Organic Weed Management: Research Results and On-Farm Application,” and “Natural and Organic Beef Production and Marketing Systems.” The conference attracted about 1800 people. Many similar but smaller events exist in Minnesota and Wisconsin—the Minnesota Organic and Grazing Conference in St. Cloud, Minnesota and the Annual Advanced Organic Vegetable Production Workshop in Troy, Wisconsin are two examples.

Do organic farms tend to congregate around certification agencies and the support network they provide? I remapped the farms according to certifier and then constructed density grids. Finally, I added the location of the certifying agency’s office to the maps.

The MOSA farms are most dense near the Viroqua, Wisconsin office of their certifier in the heart of the Driftless Region. OFI farms group around the OFI office in Paynesville, Minnesota. The OCIA certifies farms in Minnesota but not Wisconsin. Its base is in Lincoln, Nebraska, so its Minnesotan farms do not agglomerate around its office. The MCIA, which has its headquarters in St. Paul, certifies too few farms for me to construct a density grid, but its farms are all in Minnesota.

47 http://www.mosaorganic.org/
Clearly, agencies have their own domain. MOSA, for example, certifies most of the farms in Wisconsin, while the OCIA is active in Minnesota. The boundaries between certification regions are remarkably distinct, thereby discouraging rivalry.

Still, the certification agencies are unlikely to draw organic farmers to a region nearby. While many agencies existed prior to the NOP regulations, they only began certifying farms in 2002, and they may choose their location according the presence of organic farms in a region rather than the reverse.

Various non-profit groups and university programs also assist organic farmers in Minnesota and Wisconsin, but their efforts are usually aimed at helping farmers across the region rather than in specific locales. Many of them, not wanting to alienate farmers who reject corporate agriculture but suspect that the standard definition of organic will undermine small farmers, focus on supporting sustainable rather than organic farming.

The University of Minnesota has several initiatives to help organic farmers. Its Minnesota Institute for Sustainable Agriculture aims to promote sustainable agriculture by identifying research needs and performing studies. The University also has an experimental station in Lamberton, in southwest Minnesota, where it conducts research on organic farming. The MDA’s Energy and Sustainable Agriculture Program offers research grants to enhance sustainability, and it also loans farmers money to help them switch from conventional to sustainable farming. Finally, the Land Stewardship Project and Sustainable Farming Association of Minnesota have jointly and separately set up regional organizations to promote sustainable agriculture. Superior Grown, Pride of the Prairie (in the upper Minnesota River Valley), and Southeast Food Network are all...
creations of this type, and their mission is to link sustainable farmers with markets, restaurannts, and consumers who want local, sustainably grown food.

Farmer Cooperatives

Another, more formal support network is that provided by farm cooperatives. Unlike the loose connections formed around certification agencies, cooperatives formally associate farms. While rules vary from one cooperative to another, co-ops usually pool their crops to create a larger product pool. Co-ops coordinate what to grow and where to sell it, improving efficiency. Furthermore, they help farmers survive market forces, which are notoriously variable in agriculture, particularly for small farmers. When a nationwide oversupply of a product occurs and prices drop, it is in a farmer’s interest to grow more of the crop, but this increases supply and induces retailers to drop prices further.

In 1996, a new farm bill exacerbated this problem. Congress’ Freedom to Farm Act ended requirements that farmers idle land to receive subsidies. The next year, farmers across the country planted on all their land, causing massive oversupply of many crops and leading to depressed prices. Many farmers, especially small ones, were forced out of business, compelling the government to pass emergency subsidies.49

It is no coincidence that membership to co-ops such as CROPP’s increased greatly in the late 90s. Generally the only way for a farm to survive a supply glut is to get bigger or to sell out, but through co-ops, some small farmers were able to continue operating. Cooperative members gain power by pooling their products, but they also keep their operations small-scale. And, in addition to economic benefits, members of cooperatives tend to associate socially with one another. In one of my surveys, a farmer
wrote, “Farmer networks are the key to motivation and problem solving in organic—without them, one would feel alone and it would be easier to give up.”

CROPP overview

Organic Valley, which is the brand name of CROPP (Cooperative Regions of Organic Producer Pools), is the most successful organic cooperative in the US. It is a central reason for the existence of so many organic farms in the Driftless Region. It sales reached $208 million in 2004—a 33% rise over 2003. The bulk of its products are dairy, reflecting of Minnesota and Wisconsin organic farmers in general. CROPP relies on innovative management as well as farmers who trust in the cooperative system. The rugged geography of southwestern Wisconsin, where most CROPP members farm, is also responsible for the co-op's existence.

In 1988, George Siemon, now the CEO of the co-op, along with several other organic farmers in La Farge, Wisconsin, founded CROPP—then known as Coulee Region Organic Produce Pool. CROPP, like any co-op, was founded for economic and ethical reasons. Members gain by controlling a larger amount of product, and CROPP’s directors set an annual pay price for milk (and now other products), which is unrelated to conventional prices. They also set a target production level so that the co-op’s pay to the farmers is sustainable. In years when milk prices are high, the co-op reaps a surplus, allowing it to continue paying farmers well when milk prices decrease. The stability of this strategy is popular.

In addition to the financial advantages of membership in CROPP, its founders share an environmental awareness that drives their commitment to organics. CROPP

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farmers believe that their products and farming methods are healthier, better-tasting, and more sustainable than those of their conventional competitors. This attitude, along with the cooperative nature of the business, is emphasized in Organic Valley’s advertising, which almost always includes images of children in fields and references to farmers working together—e.g. “we are a cooperative of family farmer-owners.”

Savvy management and marketing has propelled Organic Valley to enormous success. Siemon and his co-founders originally started CROPP to sell organic vegetables, but after several months, they decided to switch to dairy products. Originally, there were seven members producing 20,000 pounds of milk every two days. Sales were low, however, so after a year and a half later, they devised the Organic Valley label. At first growth was slow: only five new farms joined in the first three years, and the co-op was forced to sell a lot of its organic milk as conventional. In the early nineties, however, remarkable growth occurred. 38 farms joined CROPP from 1992-94, and membership passed 100 in 1997. Organic Valley began to sell organic eggs in 1993, organic meats in 1999, organic juice in 2001, and soy products in 2004. By the end of 2004, CROPP had 665 members in 20 states, and it is making a marked effort to expand into the northeastern and west coast markets. Still, 206 member farms are in Wisconsin, and 62 are in Minnesota. As a precondition of membership, every CROPP farm must be USDA certified organic.

CROPP is now trying to control the distribution of its products. By 2001, it owned enough natural foods warehouses to contain about 60% of its goods, while the rest were

50 http://www.organicvalley.com/
51 Ibid.
52 Ibid.
sent to conventional warehouses. CROPP also tries to sell its products as directly to retailers as possible.

In July of 2004, Organic Valley opened a new headquarters in La Farge, Wisconsin. The $5.9 million cost and environmentally friendly architecture are symbolic of the cooperative’s success, and the adoption of more computer technology should aid the co-op with its marketing and distribution coordination. Deciding to keep its headquarters in La Farge, a tiny village of 775 people that is 40 miles from the nearest interstate, also reflects the co-op’s commitment to rural development.

Joining CROPP is financially sensible because milk is a volatile commodity. Milk production is relatively inelastic; farmers can respond swiftly to low or high prices, so supply and demand are hard to predict. Nevertheless, Organic Valley has paid its farmers a higher price for their milk than what an average conventional producer receives. In 1989, it paid $14.30/cwt, $1.93 more than the conventional average, $12.37/cwt. Since then, the disparity has increased dramatically, particularly in years when the supply of milk is high. 2000 was a tough year for the dairy industry, as conventional farmers received only $10.57/cwt, $2.14 less than in 1999. CROPP members received $17.18/cwt, only 17 cents less than they did the year before and $6.61 more than the conventional average. A substantial number of farmers who belong to CROPP probably would not have been able to survive the oversupply of milk in 1999-2000 without co-op membership. The social aspects of belonging to the co-op are significant as well. One farmer wrote me, “La Farge is only sixteen miles from us, so we have quite a few farms

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involved in Organic Valley… [Their owners] are like minded, so we have a good support
network of many families.

One of CROPP's most useful rules is to limit adding new members when demand
for their milk is low. Presently, the organic market is growing enormously in all sectors,
and it has not yet been forced to turn farmers away. As long as the market for organic
milk continues to increase, CROPP will also expand. At some point, however, it will
need to stabilize membership numbers or else the co-op will be forced to make
unsustainable payments when milk prices dip below the level that CROPP's directors set
for the members.

As CROPP expands, pressure to abandon its high standards of quality and pay to
its members will mount. Mainstream grocery stores carry Organic Valley, and even Wal-
Mart, a giant retailer known for its hard-nosed efficiency, began selling it. These stores
cannot sell the milk as cheaply as they could without CROPP's requirements. When
Organic Valley's sales stabilize, one way of reaching more growth will be to lower
prices. At that point, there is likely to be some conflict within the co-op regarding
whether or not to expand membership.

CROPP Member Profiles

Dave Schmidt, whom I met at the St. Paul Farmers Market, is a CROPP member.
I interviewed him on October 29, 2004 in Menomonie, Wisconsin, where he lives with
his wife, Karen Bumann. Schmidt learned to farm in western Iowa as a conventional
dairy farmer but grew concerned with what he calls “the limitations of conventional
agriculture.” He did not believe conventional farming to be sustainable, and he worried about the effects of growth hormones and antibiotics on animals.

In 1996, Schultz and his wife moved to Menomonie to found Sweetland Farm, which is 60 acres large and has 32 cows. The farm’s main product and also the most profitable is milk for general consumption, but Schmidt also sells milk for butter and cheese, and he raises cattle, turkeys, and chickens for meat.

The switch to organic, which was finalized in 1999, has not been without difficulties. Schultz must search harder to find organic feed suppliers, and they are expensive. It costs $800 to transport hay for the cows from Moorhead, Minnesota, and Schultz buys soybean feed from organic suppliers at $855/ton. As of last fall, conventional soybeans cost about $500 less per ton than organic.\(^57\) Still, the cows’ health has improved, making it rarely necessary to hire a vet. Joining CROPP has been profitable. Schultz knows what price his milk will fetch every year, and it is always higher than the conventional average. Even though MOSA annually charges $400-$450 and 75% of his total sales as fee for certifying his land, Schultz says that the farm makes more money organically than it could conventionally.

He could not get by simply by selling to CROPP. In 2000, when an infertile bull limited milk production, the Schultzes began to sell eggs at the St. Paul Farmers Market. Since then, they have added beef and chicken. Interstate 94 runs less than ten miles from the farm, allowing them to reach the Twin Cities in about an hour. So far, they do not have much competition at the market, which has surprisingly few organic vendors.

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Proximity to the Cities is a double-edged sword, however. Local land values are rising as investors seek to profit from the expanding exurbs. Dave Schmidt thinks that it may become too expensive to farm in the area.

With few other organic farmers nearby, Schmidt believes that MOSA is his best support. However, when he recently decided to supply products to a nearby CROPP cheese-making plant, he went to the University of Wisconsin-Madison to learn the basics. The Schmidts are self-sufficient, independent people, and they are very engaged in the outside world. Indeed, during our interview, the subject often strayed to politics and world events. While most organic farmers have less time than conventional farmers, Schmidt believes that he has more. He attributes this to the lack of mechanical equipment on his farm, which spares him from serious row cropping.

Another CROPP member is Mike Sebion, whom I got in touch with through the CROPP office and also interviewed on October 29, 2004. For the last 20 of his 48 years, he has farmed in Westby, Wisconsin, where he now lives with his family. Two years ago, he decided to join CROPP. Like Dave Schultz, he is primarily a dairy farmer, but his farm, at 170 acres, is more substantial. He owns 50 cows and grows his own hay, oats, and corn, thus saving the expense of buying and hauling feed. He rotates these crops so as not to deplete the soil of nutrients. Any feed his animals do not consume, he sells to CROPP.

Sebion likes the idea of belonging to a co-op and especially that through CROPP, farmers have a say in their earnings. He originally joined because, in his own words, he

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58 Bird, Planting the Future, p149.
wanted “to maintain crop integrity without fertilizer.” Furthermore, he says that cows are
less stressed if they feed by grazing.

The social aspects of belonging to CROPP are also appealing. People involved
with Organic Valley, Sebion asserts, are willing to learn from their mistakes and make
changes in their farming methods. He observed that there are more husband and wife
teams on organic farms than conventional. Like all of CROPP’s members, he is aware
that CROPP pays much more for milk than conventional buyers.

Still, Sebion does not get by on his farm alone. He runs his own independent
business, Mike’s Feed Supply, which he founded in 1978, and he also rents a house on
his property to hunters and weekenders from Midwestern cities. He is contemplating
selling organic meat, and he might advertise his meat through newsletters rather than
CROPP.

MOSA is Sebion’s certifier. He has also gotten help from Midwest Bio-Ag, a firm
based in Blue Mounds, Wisconsin which gives “biologically-based” consultation and
products to farmers.59

Why did Mike Sebion and Dave Schmidt become organic farmers? Significantly,
both were originally conventional farmers for whom it steadily became more difficult to
make ends meet. If they had not gotten certified, it is unlikely that they would still be
farming. Schmidt and Sebion are open-minded men who care a great deal about the
health of their land and animals. Schultz specifically mentioned to me his misgivings
about antibiotics and growth hormones, while Sebion mentioned that he wanted to avoid
fertilizer and make his cows less stressed.

59 http://www.midwesternbioag.com/homepage.html
Living in the Driftless Region helps them a great deal. Neither man mentioned competing with local big farmers as a concern. In fact, Schmidt is more worried about land value going up as a result of development. Belonging to CROPP makes their farms economically viable, and having a voice in their pay price and the knowledge of how favorably it compares to conventional prices boosts their morale. CROPP is the most important determinant of their success beyond their own diligence and cleverness. Other groups—MOSA and Midwest Bioag, for instance—are helpful but lack the strong economic force that CROPP provides.

The Organic Meat Market

While organic dairy production experienced a boom in the last decade, the new popular organic product is beef. Several cases of mad cow disease have been discovered in Canada recently; also one occurred in Washington State on December 23, 2003.\(^6^0\) Conventional beef sales have remained strong, but organic beef is selling at a newly torrid pace (in fact, according to Allen Moody, Beef Pool Coordinator for CROPP, all organic sectors grew around Christmas of 2004). In 2004, only $10 million worth of organic beef (less than 1% of all beef sales) sold in the US, but the Organic Trade Association now predicts sales to rise 30% each year at least through 2008.\(^6^1\) Even the mainstream grocery store Safeway now carries organic meat; it signed a contract with Organic Meat of Organic Valley, a division of CROPP.

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The biggest obstacle to organic beef sales is low supply. Since it takes at least a year or two to get rid of traces of antibiotics and growth hormones in conventional cattle, farmers cannot respond immediately to the demand for organic meat—there simply are not enough organic cows ready to be butchered. One CROPP farmer I spoke with also mentioned that the low supply of organic grain makes it prohibitively expensive to raise organic beef. So, unlike milk, prices for organic beef remain quite stable and high.

For the time being, many farmers (especially those raising conventional cattle or organic dairy cows) are contemplating entering the organic meat market. Mike Sebion is one, while two respondents to my surveys also said they will soon begin raising beef cattle. Two others who already sell beef are planning to raise production. CROPP is expanding its supply, trying to carve out its own share of the market before big corporations move in. Now that it is well-established in the organic milk business, it is trying to replicate its success with other products—juice, soy, and now meat. Soon, it will become evident whether CROPP’s innovative style of management can successfully diffuse to other sectors of agriculture.

What will affect the locations of organic beef farms? As Sebion and these other farmers demonstrate, most people who enter the business are already established farmers. Many are familiar with organic dairy operations; others raise beef conventionally. Few will be first-time farmers, and they will not move as they begin to raise cattle. Farmer support networks, particularly CROPP, will be an important aid to organic beef producers, though a few independent farmers can get by on their own. Proximity to markets should not be a big issue, particularly in the short-term when demand exceeds supply. Meat can be frozen and transported long distances; moreover, major cities are

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62 Ibid
within reasonable driving distance of most Minnesota and Wisconsin farms. Access to grain will increase as farmers convert portions of the Upper Midwest’s immense silage crops to organic. As long as the demand for organic meat grows—and, as for almost any organic product, it shows no signs of slowing down—the future will be bright for organic meat producers.
Conclusions

Organic farms concentrate in southwestern Wisconsin because the Driftless Region’s hilliness is inconvenient for mechanized, row crop-dependent agriculture. The dairy industry can adapt to such a rugged environment because cows need less space than conventional crop farms, nor do they mind a rolling landscape.

Organic dairy producers form a large part of the dairy industry, so there are many organic dairy farmers in the Driftless Region. Consumers associate milk with children and health, and their awareness makes them willing to pay higher prices for organic milk. Southwestern Wisconsin also has many organic farms because they tend to be smaller than conventional farms. Since the Driftless Region is ill-suited to most conventional agriculture, land values in the area are low, making it easy for small organic farmers to acquire property. This trend seems to counter the von Thunen model of agricultural land use, which predicts that higher value, more perishable crops will locate close to cities.63 Tomato growers, for instance, need to be closer to a city than wheat farmers because tomatoes go rotten faster than wheat and moreover, they sell for more. Organic farms tend to produce high value crops (especially relative to their conventional competitors), so one might predict that they would locate around cities. However, since the overall value of their operations is usually low due to the small average size of organic farms, they instead locate away from urban areas where land is cheaper—e.g. the Driftless Region. Furthermore, while the prime organic product of the Driftless Region—milk—goes bad quickly, it must go to processing plants before markets, and CROPP operates several plants in southwestern Wisconsin.

Another advantage of the Driftless Region is the presence of the CROPP co-op, which makes organic farms far more viable. It is not simply the higher price that farmers receive through membership but stable pay levels, regardless of market fluctuation, which gives them security. Without CROPP, southwestern Wisconsin would have far fewer organic farms.

In central Minnesota, where there is another, lesser concentration of organic farms, the situation is somewhat different because the land is fairly flat and no co-op comparable to CROPP exists. Property values are low compared to adjoining regions to the east, however. While organic farms are not as numerous in central Minnesota as in southwestern Wisconsin, the conventional dairy industry is better established. With the demand for organic milk so high, considerable numbers of conventional dairy farmers have pursued organic certification.

Finally, the switch from conventional to organic rarely affects farm location. Most organic farmers establish themselves conventionally before deciding to get certified, so they do not move when they begin to use organic methods. Convenience and knowledge of their land tends to keep them rooted to one farm.

It is my hope that this research project may be of service to farmers who are considering organic certification by informing them about the risks and benefits of organic farming. A geographic perspective, which integrates the economic, historical, and social challenges of organic farming while emphasizing location and scale, can help producers understand how their farm’s site and situation can be helpful or harmful. Perhaps the most valuable information for organic enthusiasts may be found in Appendix.
B, where I list the farmer responses to my survey. The people with the best advice about organic farming are those who actually practice it.

To me, one of the most appealing aspects of the organic industry, and indeed of this paper, is the immense amount of research that has yet to be accomplished. Regarding my own work, I am now curious about the dynamics affecting organic farming in other regions. In warmer areas, do organic vegetable and fruit farms congregate more around cities? I know that organic farms are viable in regions without hills and co-ops—but where and why?

On a larger scale, several controversies within the organic movement need examination. To what degree is the organic sector now controlled by corporations? Is the point of organic farming to provide consumers with better quality food or to boost small farms? What is the impact do farmers who are too small or independent to pay for certification have? Are there scale limits to the viability of CSAs? Hopefully, farmers, researchers, policy makers, and consumers will consider these questions soon—before the organic industry settles them.
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Appendix A: Acronyms

CROPP – Cooperative Regions of Organic Producer Pools

GMO – Genetically Modified Organism

MCIA – Midwest Crop Improvement Association

MDA – Minnesota Department of Agriculture

MOSA – Midwest Organic Services Association

MOSES – Midwest Organic and Sustainable Education Services

NOP – National Organic Program

OCIA – Organic Crop Improvement Association

OFI – Organic Forum International

USDA – United States Department of Agriculture
Appendix B: Farmer Survey Responses

What are your farm’s [primary] products?

Grain: 8
Milk: 5
Meat: 1
Produce: 2
Other: 1 (maple syrup)

Where and how do you sell them?

Farmers markets, co-ops, individuals (through CSAs or farmstands), CROPP co-op, grain elevators, other organic farmers, Whole Foods, and dairy farmers.

How does your farm’s proximity to markets affect your operations?

Answers varied widely. Grain farmers do not need to be local markets, while dairy farmers care more about proximity to processing plants than markets. Produce farmers want to be near their customers the most.

Does the internet assist your operation in any way?

Yes: 6
No: 11

How long have you had your farm? How long has it been NOP certified?

The average length of farm tenure within a family was 31.7 years. On average, sample farms have been certified organic for 5.1 years, but this figure includes pre-NOP certification.
Why did you decide to get your farm certified?

Marketing Advantage: 6
Concerns for animal/land health: 3
Both marketing advantage and concerns for animal/plant well-being: 7
Concerns about government control of agriculture: 1

Has your farm been more profitable since becoming certified?

Yes: 11
No: 2
Unsure: 4

How do neighboring farmers react to you becoming NOP certified?

Skepticism, curiosity, and indifference were the most common responses.

Are there other organic farms in your county?

Yes: 17 (estimates by county varied enormously)
No: 0

Would you say that organic farms are growing in your county?

Yes: 14
No: 3

What has been the greatest obstacle to running your farm?

Lots of things were brought up, including weed control (most frequently mentioned) debt management, beginning to farm, the bookwork of certification, low soil nitrogen levels, access to organic information and seeds, time to farm, the commodity subsidy program, keeping livestock from catching pneumonia, getting past the fear of what the neighbors think, and producing profits.
Have you been involved with farmer support networks?

Yes: 13
CROPP: 5
Lamberton Field Station: 3
No: 4

Why did you decide to farm where you do?

Farm location long established: 14
Other: 3

Do you plan to expand your farm in the next five years?

Yes: 8 (though due to the vague wording of the question, this could mean enlarging the land base, production, or business in general)
Maybe: 2
No: 7

What do you think the effect of land prices will be on farmers in your county over the next five years?

Almost all the farmers predict that it will become harder for young farmers to get started as land prices increase. Some also expect more outsiders to invest in their region.
Appendix C: Farms per County

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