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☞ Details: University of Wisconsin-Extension Cooperative Extension Information Hearing May 4, 2011

(FORM UPDATED: 08/11/2010)

WISCONSIN STATE LEGISLATURE ... PUBLIC HEARING - COMMITTEE RECORDS

2011-12

(session year)

Assembly

(Assembly, Senate or Joint)

Committee on Rural Economic Development and Rural Affairs...

COMMITTEE NOTICES ...

- Committee Reports ... **CR**
- Executive Sessions ... **ES**
- Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- Appointments ... **Appt** (w/Record of Comm. Proceedings)
- Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)
- Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
(**ab** = Assembly Bill) (**ar** = Assembly Resolution) (**ajr** = Assembly Joint Resolution)
(**sb** = Senate Bill) (**sr** = Senate Resolution) (**sjr** = Senate Joint Resolution)
- Miscellaneous ... **Misc**

Respect

WE DESIGN PROGRAMS AND ENGAGE IN PARTNERSHIPS THAT RESPECT AND SUPPORT THE PEOPLE AND THE NATURAL RESOURCES OF WISCONSIN.

Volunteer engagement
4-H youth development programs in Wisconsin are delivered by a partnership of Cooperative Extension educators and more than 17,400 volunteers. Each volunteer brings special skills and expertise to their contributions and service, providing quality programming to over 36,600 youth in Wisconsin 4-H Youth Development community clubs and 320,977 young people in 4-H and other Cooperative Extension programs. But beyond helping UW-Extension bring 4-H to more youth, volunteer leaders become mentors, teachers and advisors for the young people they work with. The youth-adult partnership focus in 4-H helps both volunteers and young people gain leadership and citizenship skills, build confidence and create lasting friendships.

www.uwex.edu/ces/4h/volunteers/index.cfm

Farm women as managers
Recognizing that each family member plays an important role in farming operations, the Agriculture and Natural Resources program area has developed workshops and trainings that build and strengthen farm operation relationships. Providing farm women with the tools and skills to perform their tasks benefits all of agriculture. For example:

- Women are integral to each of their farm operations. They are eager to learn about farm and risk management strategies, new enterprises and new markets for their products. Heart of the Farm workshops address the needs of farm women by providing education on farm management and production topics, connecting them with ag resources, and creating support networks.

www.uwex.edu/ces/hearttothefarm/

"Because of their close connection to and understanding of the farm business finances, women's involvement in the decision-making for their farm operation is critical."

—Joy Kirkpatrick,
Cooperative Extension
outreach specialist



Hmong families

Family Living Programs cultivate respect for people of all cultures by working to enhance each one's uniqueness and diversity. For example:

- In Eau Claire County, family living colleagues and partners worked to make a stronger connection between Hmong families and the community by creating the Partnership for Strong Hmong Families. The group brings together Hmong families and re-sources and shares Hmong culture with the rest of the community. The Partnership held three annual community picnics with the goal of increasing family participation in schools by introducing families to school staff and helping them feel comfortable at their children's school. More than 200 people attended each event, with more expressing interest every year.

Youth in governance

Cooperative Extension's Youth in Governance program was created to give young people a voice in local government and help adults see the value in engaging youth as civic partners. Building on the youth empowerment efforts of 4-H Youth Development, Youth in Governance programs have placed young people in advisory roles in local governments around the state. Douglas County pioneered the first program, adding youth positions to the Douglas County Board and Superior City Council. Since the program started, adults on the boards have come to respect and seek ideas and opinions from the youth appointees, while youth have learned valuable civic lessons.

<http://4h.uwex.edu/yig/>



Farmers with disabilities

The Agriculture and Natural Resources program area respects farm operations, regardless of size, by providing resources that support profitability and encourage sustainability. For example:

- Farming is a way of life that values the family working together for a common goal. When a family member is affected by a severe disability, this way of life is challenged. AgrAbility of Wisconsin—a partnership coordinated by UW-Madison's Department of Biological Systems Engineering, Cooperative Extension and Easter Seals Wisconsin—promotes success in agriculture for farmers with disabilities and their families by providing services and resources.
- AgrAbility of Wisconsin and the Easter Seals (ES) FARM program have recommended agriculture-related assistive technology to farmers with health conditions that affect their ability to continue farming. These pieces of equipment range from new skid loader controls, to utility vehicles, to added steps for tractors. With the services and resources available through the Wisconsin Division of Vocational Rehabilitation, AgrAbility estimates that since 1991 DVR and AAW have helped farmers acquire over 4000 devices or pieces of equipment.

<http://bse.wisc.edu/agrability/>

Our programs

WE PROVIDE EDUCATIONAL PROGRAMS BY TEAMING UP WITH AGRICULTURE; MEETING COMMUNITY CHALLENGES; PROTECTING NATURAL RESOURCES; STRENGTHENING WISCONSIN'S FAMILIES; AND SUPPORTING YOUNG PEOPLE THROUGH SIX PROGRAM AREAS—

- AGRICULTURE AND NATURAL RESOURCES
- COMMUNITY, NATURAL RESOURCE & ECONOMIC DEVELOPMENT
- FAMILY LIVING PROGRAMS
- 4-H YOUTH DEVELOPMENT
- WISCONSIN GEOLOGICAL & NATURAL HISTORY SURVEY
- LEADERSHIP WISCONSIN

Natural resources protection

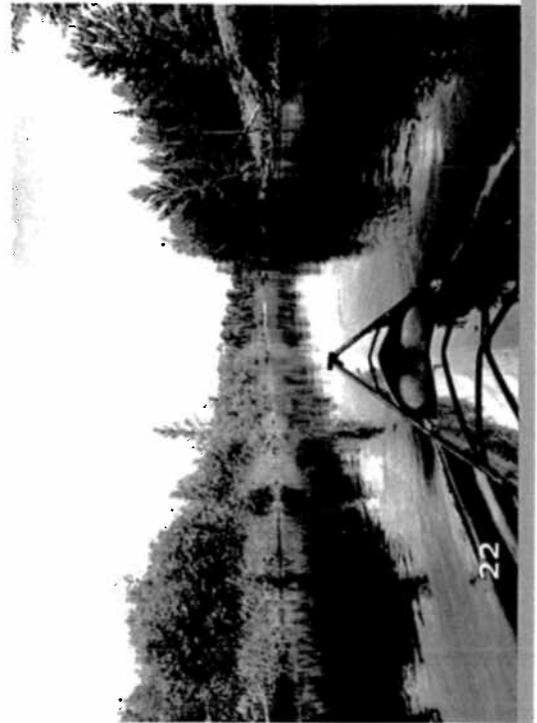
Wisconsin's 15,000 lakes are a prime economic resource providing residents with clean drinking water, tourism attractions, recreation, local jobs and beautiful views of the natural world. However, the health and beauty of these lakes are impaired by aquatic invasive species. To prevent the spread of aquatic hitchhikers, such as Eurasian water-milfoil, curly-leaf pondweed, and zebra mussels UW-Extension's Lakes Program and the Wisconsin Lakes Partnership offer "Clean Boats, Clean Waters," a statewide watercraft inspection program.

- Residents and staff spent 38,996 hours inspecting at the landings, a 3,000-hour increase from 2008.
- 63,330 boats were inspected and information was provided for boat owners in 2009.

www.uwsp.edu/cnr/uwexlakes

"I definitely believe that by working with 'Clean Boats, Clean Waters' I've been able to make a difference in the community."

—Clean Boats, Clean Waters volunteer watercraft inspector



Cooperative Extension provides educational programs in:

4-H Youth Development

SUPPORTING YOUNG PEOPLE

- Providing quality out-of-school time educational programs for youth through 4-H clubs and other non-formal experiences
- Engaging youth in experiences that build the essential elements of youth development: belonging, mastery, generosity, and independence
- Creating opportunities for youth to become active and engaged citizens
- Fostering adult and youth volunteerism for public good
- Partnering with other community interests in improving community supports for young people

www.uwex.edu/ces/4h

Agriculture and

Natural Resources

TEAMING UP WITH AGRICULTURE

- Focusing on the needs and issues of Wisconsin's \$59.16 billion agriculture and horticulture industries
- Helping farmers modernize, adapt to change and be competitive
- Encouraging agricultural practices that protect land and water resources
- Providing objective, research-based information and facilitation for public policy affecting agriculture, natural resources and communities

www.uwex.edu/ces/ag

Community, Natural Resources and Economic Development

MEETING COMMUNITY CHALLENGES

- Building local, organizational and regional capacity for economic development
- Educating individuals and organizations to build leadership skills and stronger organizations
- Convening and building collaborations to support natural resources protection
- Educating local government officials on functions, meeting processes, budgeting and strategic planning

www.uwex.edu/ces/cnred

Family Living Programs

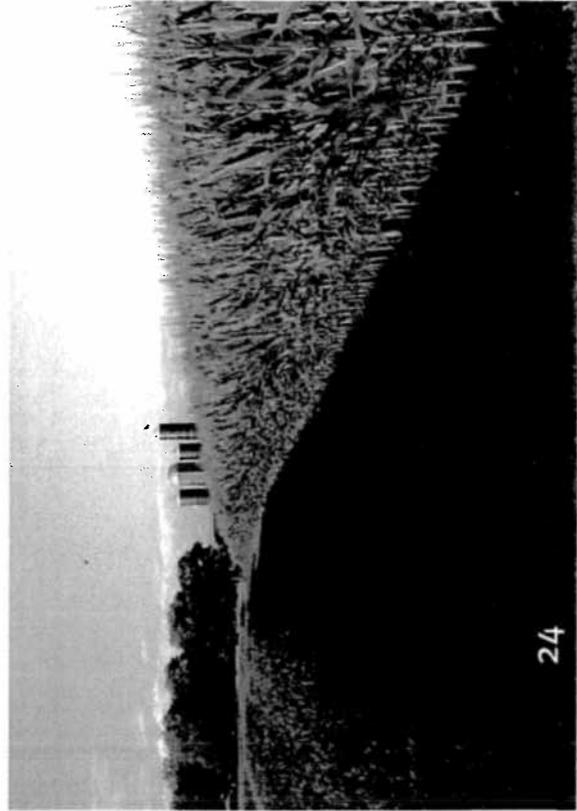
STRENGTHENING FAMILIES AND THEIR COMMUNITY CONNECTIONS

- Responding to community needs with research-based education and partnerships that support Wisconsin families and communities
- Promoting community-based nutrition education efforts

- Enhancing family relationships, parenting and child care

- Providing education focused on family financial security, access to affordable housing and health care

www.uwex.edu/ces/flp



Leadership Wisconsin DEVELOPING WISCONSIN'S LEADERS

- Producing top-notch leaders for Wisconsin's towns, villages, cities, rural regions and counties
- Offering a rigorous two-year leadership program to Wisconsin residents with diverse backgrounds and experiences
- Empowering the 87 percent of alumni who go on to serve as area board members
- Providing leadership development that enhances Wisconsin's quality of life in public, business and non-profit endeavors.
- Supporting the 69 percent of alumni who hold or have held elected positions

www.LeadershipWisconsin.org

Wisconsin Geological and Natural History Survey

STUDYING AND INTERPRETING WISCONSIN'S GEOLOGY

- Providing natural resources information to county and regional leaders to guide planning decisions
- Teaching teachers and the public about groundwater and geology
- Helping communities understand and respond to the impacts of climate change
- Making historical geologic information digitally available

www.uwex.edu/wgnhs

To learn more —

about Cooperative Extension and its programs, visit us online at

www.yourcountyextensionoffice.org.

^{UW}EXTENSION

Cooperative Extension



*Your county
extension office*

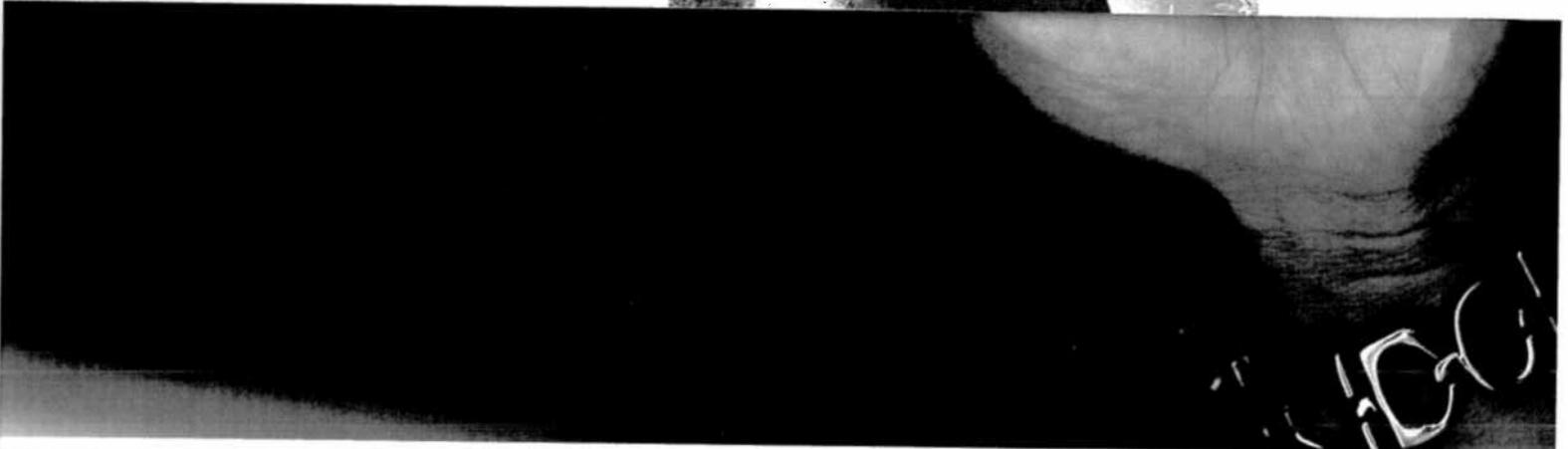
Writers: Jacquelyn Askins, Meg Gares, Lorre Kolb and Pamela Seelman





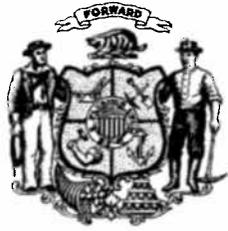
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WISCONSIN STATE LEGISLATURE





The Economic Impacts of Agriculture in Wisconsin Counties

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UNW
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THE ECONOMIC IMPACTS OF AGRICULTURE IN WISCONSIN COUNTIES

Steven C. Deller and David Williams

Executive Summary

In Wisconsin, policy makers are exploring ways to unleash the private sector to stimulate the economy with an emphasis on job creation. Historically agriculture has been an important part of the Wisconsin economy, but over the years the relative importance of agriculture in the economy has diminished as the service sector employment, such as recreation and tourism, became more predominant. With the loss of many manufacturing jobs and the recent recession, there is renewed interest in agriculture in terms of employment and as a potential source of new employment opportunities. But is this renewed interest justified? Is the agricultural sector one that can have a larger or stimulative role in the Wisconsin economy? How should local and state policy makers consider an “old” industry that seems to again have relevance?

In an original study by Deller (2004), the contributions of agriculture to the Wisconsin economy were documented and more recently re-examined by Deller and Williams in 2009. In both of these studies agriculture was defined to include on-farm production and food processing. Using 2007 data, Wisconsin agriculture was found to contribute \$59.16 billion to total business sales (about 12.5 percent of the Wisconsin total); 353,991 jobs (10 percent of total employment) and \$20.2 billion of total income (about nine percent of the Wisconsin total). For the first time, the 2009 study also used “clustering analysis” to examine changes (2001 to 2007) in subsectors of on-farm and food processing to identify strengths, weaknesses, opportunities and threats of the industry (SWOT).

This study updates some of this prior work with the most recent data available. General employment trends in Wisconsin farm and food processing industries are updated. The “clustering analysis” is updated to examine changes from 2001 to 2009. Finally the economic impact or contribution of agriculture in individual Wisconsin counties is examined. All three parts of this study suggest that agriculture will continue to be an important contributor to Wisconsin’s economy.

- Trends show recent stability in farm and food processing employment. Advances in technology have allowed farmers and food processors to gain significant cost savings through economies of size. Many of these advances have come in the form of labor-saving technologies. Trends suggest that agriculture is a not a declining industry, but that it is becoming less labor intensive.
- Using “clustering analysis” several subsectors are identified as growing strengths of Wisconsin agriculture including the farm subsectors dairy farming, production of animals for fur, floriculture and the food processing sectors dry, condensed and evaporated dairy, breweries, frozen specialty food processing and fruit and vegetable canning.
- Two broad conclusions are reached from the county level analysis. First, in some, mostly larger, more urban counties agricultural economic impacts (employment, business or industry sales and income) are large, but as a percentage of the entire county economy, not as large as many more rural counties. Second, in many, more rural counties agricultural economic impacts may or may not be large, but as a percentage of the local county economy they are large.

THE ECONOMIC IMPACTS OF AGRICULTURE IN WISCONSIN COUNTIES

Steven C. Deller and David Williams¹

Introduction

The intent of this study is to provide updated reference material to a series of agricultural economic impact reports first developed in Deller (2004) and revisited by Deller and Williams (2009). In the 2004 study Deller documented the contribution of agriculture to the whole of the Wisconsin economy using 2000 data as well as the economic impact of agriculture on 66 of Wisconsin's 72 counties. These individual impact assessments provided the backbone for a collection of "county agricultural economic impact brochures" that were individually crafted for each of the 66 counties included in the analysis.

UW-Extension, Cooperative Extension County Agriculture Educators used the information to explain and describe the "value and economic impact" of agriculture in the county which they worked. Local farm organizations, agricultural groups and others used the information to "tell the story" of agriculture to elected officials, professionals working in the county in roles impacting agriculture (e.g. county land conservation professionals, economic development professionals, planners, among others) and the general public.

Using 2007 data, Deller and Williams (2009) documented that agriculture contributes \$59.16 billion to Wisconsin's total industrial output (about 12.5 percent of the Wisconsin total); 353,991 jobs (10 percent of total employment) and \$20.2 billion of total income (about 9 percent of the Wisconsin total). As part of that 2009 update we have undertaken an updating of the individual county-by-county agriculture economic impact assessments. For this latter effort we used the more current 2008 county level data.

In addition to the county-by-county impact analysis, we also take advantage of updated data to revise some of the trend and economic "clustering" analysis provided in the 2009 state level analysis. This updated analysis included general agricultural and food processing employment trends along with changes in the "location quotient" (our simple measure of industry concentration) from 2001 to 2009. Current levels of industry concentration coupled with changes in those concentrations over time will allow us to review agricultural strengths and weaknesses along with the identification of potential threats and opportunities within the various Wisconsin agricultural industries.

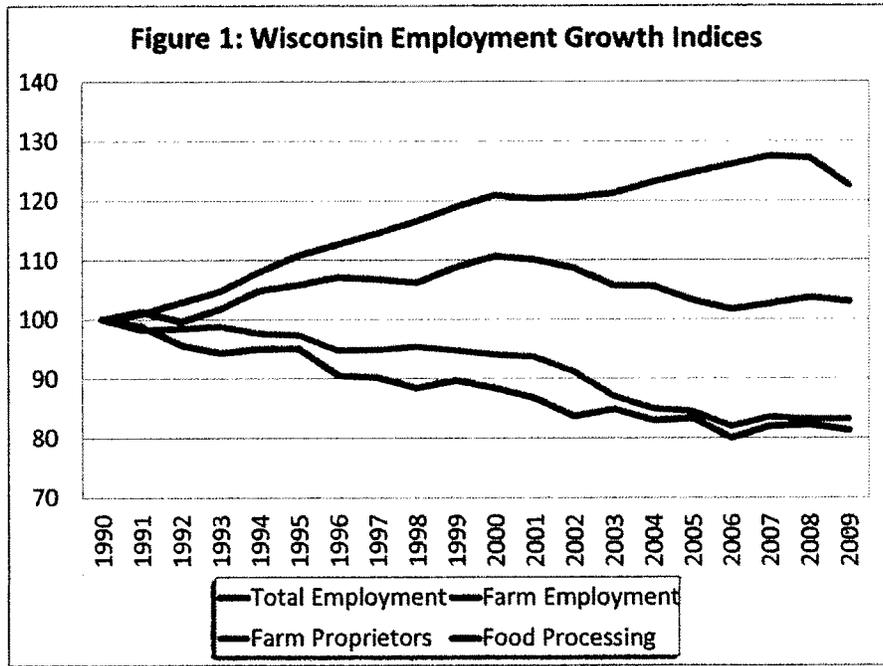
Beyond these simple introductory statements, this study is composed of three additional sections. First we review some of the simple employment and earnings trends where we compare Wisconsin to the nation and the Great Lake states. We then revisit our cluster analysis. In the third section we outline the county-by-county economic impact analysis. We also provide brief reviews of cluster analysis and economic impact methods.

Agricultural Trends

There are numerous ways in which to measure the size of the agricultural economy, including jobs, wages and salaries, and industry or business sales. Given the current economic climate and unemployment rates that are frustratingly high and not reflective of the economic recovery, considerable attention has been focused on the creation of jobs. In addition, because of their very nature, agricultural sales and labor income tend to be highly unstable and sensitive to sometimes wide swings in commodity prices and, in Wisconsin particularly, the price of milk. Therefore, in this simple analysis of agricultural trends we will limit ourselves to employment.

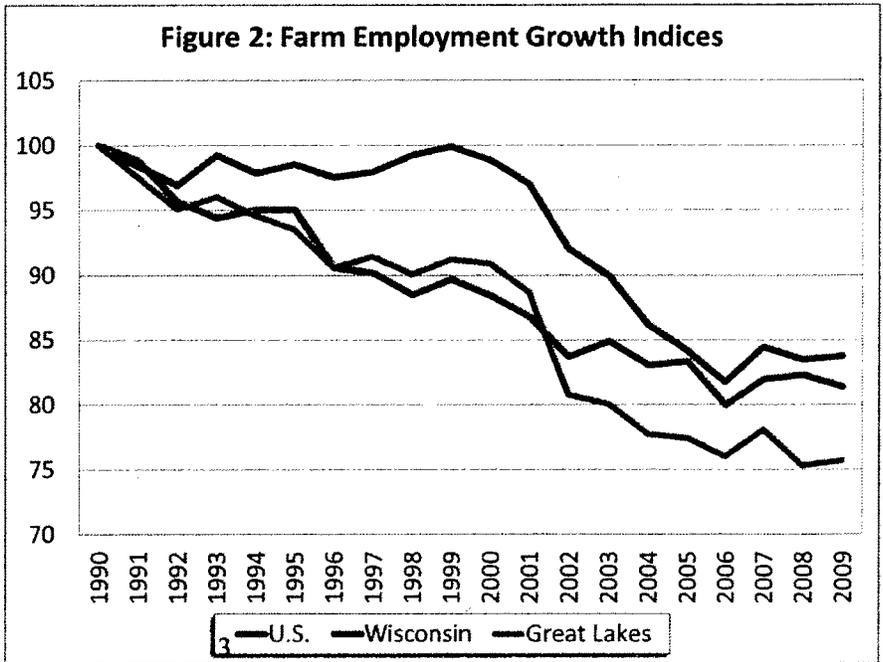
¹ This work has benefited from the helpful comments of Paul Mitchell, Ken Barnett and Bruce Jones. All expressed opinions, interpretations of the analysis and errors are the responsibility of the authors.

In Figure 1 we provide a simple employment growth index for Wisconsin total employment along with food processing employment, farm employment and farm proprietors' employment from 1990 to 2009, the most current year data is available. We employ a growth index because it allows us to directly compare trends across the different industries. Changes in the index from one year to the next can be interpreted as a percent change in the index, allowing us to see if the industry is trending upward or downward and the industry's overall stability. Several trends are evident in Figure 1. Total employment growth in Wisconsin was strong during the 1990s but moderated during the past ten years. The significant drop in employment from the last recession is clearly evident with the 2009 data.



Farm employment and proprietors' employment experienced steady decline from 1990 till the mid-2000s, a decline of almost 20 percent. But since the low point in 2006 there has been relative stability and even some evidence of modest growth. This latter observation speaks to a stabilization of the relative size of farming as measured by employment. It is also of interest to note that there is little evidence of the latest recession with the farm employment data. In general, on-farm employment patterns are independent of the larger macro economy and may provide a modest cushion against larger macroeconomic recessions.

The growth in food processing employment was modestly positive increasing by about ten percent between 1990 and 2000, but there was a decline between 2000 and 2006. Since 2006, employment in food processing appears to have stabilized and is neither growing nor declining. While the decline in farm employment can be attributed to a rising gap between retiring and new farmers entering the industry, the observed pattern in food processing is not as easily explained. There is some evidence of modernization within the industry that saw the introduction of more labor saving technologies. But in the past few years there has been a growth in the number of smaller specialty food processors (e.g., craft cheeses and breweries). These smaller food processors also tend to be more labor-intensive, thus representing a potential source of employment growth.



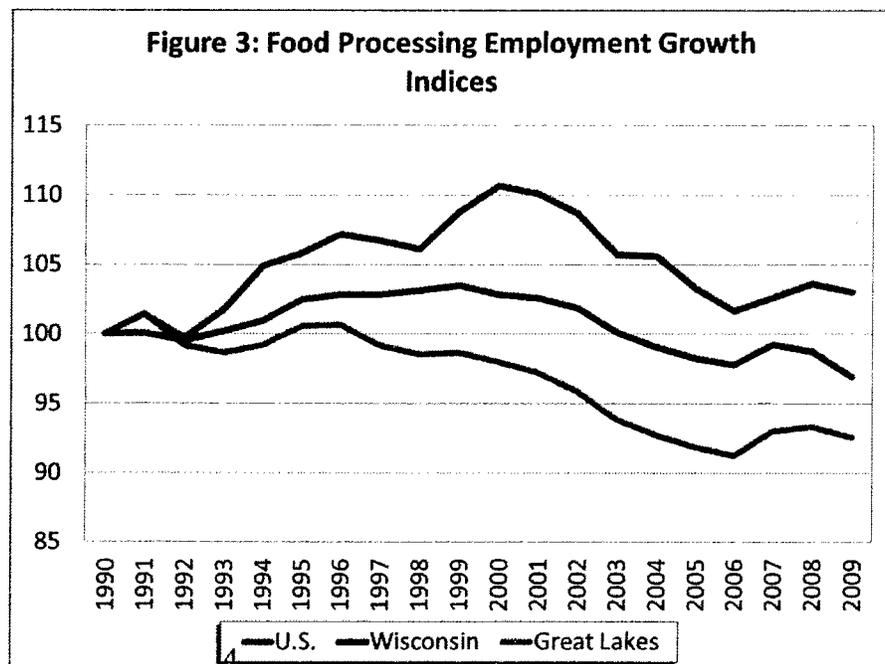
If we compare Wisconsin farm employment to the U.S. and the Great Lakes region, two patterns emerge (Figure 2). First, farm employment has been declining across Wisconsin and the Great Lakes region over the whole period. For the U.S., farm employment was relatively stable throughout the 1990s and declined rapidly in the 2000s. It is not clear why the Great Lakes farm employment declined so significantly between 2001 and 2002. The general reasoning behind the noticeable decline in farm employment centers on significant consolidation of small- and medium-size farm enterprises into larger farms that take advantage of economies of scale. In essence, through consolidation and technology adaptation it takes fewer farm workers to produce the same, and indeed increasing, levels of output.

The recent stability in farm employment beginning in about 2006 appears to apply to not only Wisconsin but also to the U.S. and, to a lesser extent, the Great Lakes region. While these data are too aggregate to explain why farm employment has stabilized, anecdotal evidence suggests that expanding markets for organic and locally produced foods selling primarily into small or niche markets may be playing a role. But to confirm this insight requires additional research.

From a national perspective, the food processing industry has not been a source of employment growth over the past two decades (Figure 3). Indeed, for the Great Lakes region there has been a steady decline in employment in food processing. As noted above, for Wisconsin, food processing had been a source of employment growth from the end of the mild recession of the early 1990s to 2000. But between 2000 and 2006 Wisconsin food processing employment trends followed the Great Lakes trend and actually lost jobs at a faster rate than the U.S. Much of this decline came from the adoption of labor-saving technologies. But for Wisconsin and the Great Lakes, there has been modest employment growth from 2006 to 2008. It is not clear if the dip in 2009 is a reflection of continued structural changes in the food processing industry or the most recent recession. As with the rise in the market for organic and local foods, these data do not allow us to explore the role of small specialty food manufacturing, but again anecdotal evidence suggests that these new and growing markets might be a source of modest employment growth in Wisconsin agriculture.

One of the most widely held perceptions is that agriculture is a shrinking industry. Advances in technology have allowed farmers and food processors to gain significant cost savings through economies of size. Many of these advances have come in the form of labor-saving technologies. Examination of these simple employment trends seems to confirm these perceptions. It is not that agriculture—both on-farm production and food processing—is a declining industry, it is that it is becoming less labor intensive. At the same time, the movement toward people willing to spend more for organics and local foods may have opened business opportunities for smaller scale, more specialized food products. The question remains about the long-term market potential of these new or mostly niche markets and about the quality of jobs in these markets.

We can expand on this simple analysis of broad employment trends by looking within detailed subsectors of the agricultural and food processing industries.



Unfortunately, examining individual growth trends is cumbersome and difficult to draw inferences from. We can move forward by looking at changes in employment using a method commonly referred to as “clustering analysis.”

Agricultural Clusters

The notion of “economic clusters” has entered into the economic growth and development policy realm due to the work of Harvard business economist Michael Porter. While regional economists have debated the scholarly contribution of Porter (see, for example, Deller 2009) his work has greatly influenced how states and local governments think about and pursue economic growth and development policies. In an attempt to rethink Wisconsin’s economic development policies, the Doyle Administration undertook an analysis of Wisconsin industries to identify which sectors Wisconsin has a “comparative advantage.” That initiative identified eight “Established Wisconsin Clusters” (wind energy, biotechnology, dairy, food products and processing, paper and wood products, plastics, printing and tourism) and two “Emerging Wisconsin Clusters” (information technology and medical devices).²

There are numerous definitions of clusters (again, see Deller 2009 for a discussion) including several offered by Porter (2000: 254), such as: “A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities.” While economists debate the merits of individual elements of what comprises a cluster, there are common themes that are generally agreed upon. The most basic is that a firm finds that it is in their own profit-motivated self-interest to locate in close spatial proximity to competitors. Dairy farmers and cheese makers find that it is to their own self-interest (i.e., profits) to be located in the same general geographic areas. By “co-locating” they can build a “critical mass” that improves the profitability of individual firms.

Porter offers a “diamond model” of four characteristics or drives of how regional clusters can develop and promoted (see Woodward and Guimarães 2009):

- Sophisticated local demand for cluster products and services. For example, the demand for specialty cheeses and organic milk can spur the dairy industry to be more innovative and competitive and may encourage the development of industry subsectors such as dairy goats and sheep.
- Local supply inputs from related and supporting industries. For dairy this might include a critical mass of large animal veterinarians, dairy, forage and manure handling equipment dealers, educational opportunities or specialized labor and professional services.
- Favorable factor (resource) conditions. There are adequate supplies of water and terrain that is suitable for forage production for dairy feed and manure spreading, or a local road system that can manage the demands of milk trucks.
- A competitive context for firm rivalry, further driving innovation and productivity. Specialty cheese makers enter spirited competitions to see who makes the best products.

It is important that simply being in close spatial proximity is not sufficient to create competitive and innovative clusters. Firms view each other as not only competitors but also potential collaborators. Firms learn from each other both formally and informally. They are willing to form institutions, such as a regional dairy council or

²For more discussion see Forward Wisconsin at <http://www.forwardwi.com/category44/Industry-Clusters>.

professional cheese-makers organization, to facilitate collaboration. This synergy creates a situation where the sum of the parts is greater than the parts.

The role of public policy can take many forms. For example, the creation of public-private partnerships to facilitate networking amongst the potential members of the cluster; can the public sector help facilitate the creation of the regional dairy council or cheese-maker organization? Can targeted educational programs offered through the technical colleges, the University or the UW-Extension, Cooperative Extension be crafted to meet the needs of the cluster? Are local land-use policies and regulations consistent with the needs of the cluster?³

The challenge facing economists and policy analysts is the identification of the relevant clusters. Here there is significant debate within the academic literature (for a detailed discussion, see Goetz, Deller and Harris 2009). Some argue that economists are “not smart enough” to outguess the markets and should simply allow the markets to function almost in a *laissez faire* manner. Others suggest that economists can offer some insights that can help inform policy discussions. Perhaps the simplest tool to help in the first step to identifying potential clusters is to examine industry strengths and weaknesses and changes in those strengths and weaknesses over time. Porter suggested the use of a standard tool of regional economists, the location quotient (LQ).

The location quotient (LQ) compares the relative level of economic specialization of the community, region or state to a national average. The location quotient is simply computed as

$$LQ_{ri} = \frac{\text{Percent of Employment in Local } (r) \text{ in an Industry } (i)}{\text{Percent of Employment in Nation in an Industry } (i)}$$

and can be viewed as a measure of self-sufficiency. An LQ of 1.0 means that the local economy has the same proportion of economic activity (employment) in industry *i* as the nation. The community or region just meets local consumption through local production. This is the level of economic activity in this industry that we might expect. If the LQ is less than 1.0, the community or region is not producing enough of that good or service and must import to satisfy local consumption or demand. An LQ greater than 1.0 that means that the community has more economic activity than one would expect and might be considered a strength of the local or regional economy.⁴ This approach provides a step beyond the simple employment growth indices analysis provided in the first section of this study.

Consider an area that might be considered a “tourist” area such as the Wisconsin Dells or Door County. Here we would find that the LQ for hotels-motels, for example, to be relatively large. Indeed, for 2009 the LQ for hotels and motels for Door County is 4.85, which is an indicator of the importance of the tourism industry to Door County. For Brown County the LQ for paper manufacturing in 2009 is 13.95, which is very large and is again an indicator of how important the paper industry is to the Green Bay economy.

The question that Porter asks is: What is happening to these relative strengths over time? Is the location quotient growing over time, declining or staying the same? Porter notes that there are four possibilities: strength and growing, strength and declining, weakness but growing, weakness and declining. These four possible combinations can be visualized via a simple graphic (Figure 4).

³In these types of discussions the local community can enter into an honest discussion if the potential cluster is consistent with their vision of their community.

⁴For a detailed discussion of the limitations of the location quotient see Shaffer, Deller and Marcouiller (2004).

One can almost think of using the location quotients to conduct a “SWOT” analysis (Strengths, Weaknesses, Opportunities, and Threats). Here an industry that has a large (i.e., greater than one) location quotient and is increasing over time is considered a “strength” and might form the foundation for a potential cluster. At a minimum these industries should warrant further examination.

An industry that has a large location quotient but is declining over time might be considered a “threat” in the sense that a strong industry is in decline. These industries may be experiencing a natural decline, not experiencing the same growth as the industry at the national level or shifts in technology alters how they

influence the regional economy. For example, if we use employment to compute our location quotients and an industry, such as agriculture and food processing, is adopting labor saving technologies at a rate faster than the nation as a whole, the transition to fewer employees may be misinterpreted as a threat. Again, the approach outline in Figure 4 could be considered a filter to refine our thinking about the strength and weaknesses of Wisconsin industries. There may be many reasons explaining any particular pattern.

The lower-left-hand quadrant of Figure 4 is where industries that are small and declining will be located and the industries in this category might be considered weaknesses. From a Porter perspective these industries should not be considered further for evaluation. In a purely theoretical economic perspective Wisconsin does not have a comparative advantage in these industries and to pursue the promotion of these industries would be futile.

The upper-left-hand quadrant is composed of industries with small (i.e., less than one) but increasing location quotients. From our perspective, industries that fall into this sector might be considered opportunities for Wisconsin. The question to be asked is why the industry is gaining strength? Is this an industry that has strong growth potential for Wisconsin and can policies be crafted in such a way to enhance the competitiveness of the industry? Is this an industry that is consistent with the vision of the future of Wisconsin?

In the end, the clustering analysis presented here is intended to help think about the Wisconsin agricultural industry in a different light. How do Wisconsin agricultural sectors compare to a national average and how is that changing over time? As mentioned above, several economists have raised concerns over this type of analysis, ranging from being overly simplistic to too sensitive a metric of economic activity such as employment. The location quotient by definition is a very simple measure of economic strength (or weakness) and the decision to compare Wisconsin to a national average somewhat arbitrary. In the end, we believe that the analysis presented here will help us think about Wisconsin agriculture in a slightly different light.

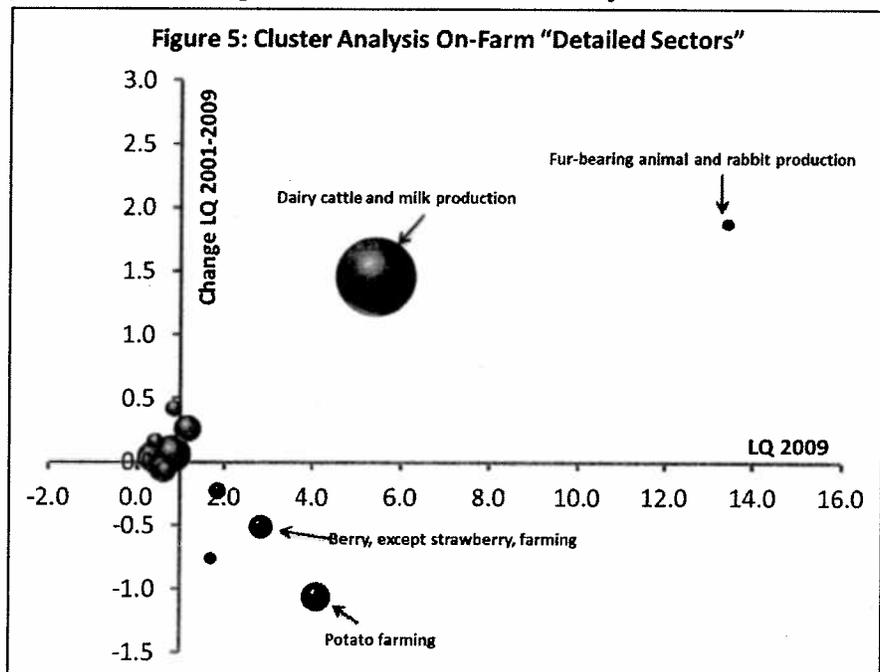
Figure 4: Porter Clusters Identification



Cluster Analysis of Wisconsin On-Farm Production

Our analysis, which is an update of our prior work (Deller and Williams 2009), is composed of two parts. The first, provided in Figure 5 and Table 1, focuses on farm level production sectors. The second part, provided in Figure 6 and Table 2, examines food processing industries. In addition to the level of the location quotient in 2009, the most recent year we have data, and change in the location quotient from 2001 to 2009 we also include the relative size of the industry measured by the percent of Wisconsin's total employment within the industry. This would simply be the numerator of the location quotient formula as outlined above. Some care must be taken here in interpreting the relative size. One must keep in mind that these industry definitions are very detailed and as such can appear to be small in isolation. In terms of the figures, the size of the individual "bubbles" corresponds to the size of the industry: larger "bubbles" represent larger industries independent of their relative strength (i.e., size of the location quotient).

There are five farm-based sectors that fall into the "strength and growing" classification that Porter would suggest warrant further examination as potential industrial clusters. One that stands out as a very strong sector with significant growth is "fur-bearing animal and rabbit production." Wisconsin is a major contributor of raw materials to the clothing industry that uses animal furs. From a simple analysis of the location quotients this is a sector that should be considered as an industry that might be a cluster. If one looks at the level of employment in this sector it is relatively modest. This raises a fundamental question: is this particular industry sufficiently large to have any meaningful impact on the larger economy? In addition, what is the future growth potential for this industry at the national or even international level? Is it possible that from a national perspective the industry is in decline (i.e., the denominator of the LQ formula is getting smaller) but in Wisconsin the industry is remaining stable or declining more slowly than at the national level? It is vital to view the analysis presented in Figure 5 and Table 1 as a means to help refine our thinking about the industry.



Two of the five sectors identified as potential clusters that may warrant further consideration are floricultural production and on-farm dairy operations. The latter is not unexpected and speaks to the importance of Wisconsin's on-farm dairy industry to not only Wisconsin but also its relative position within the U.S. Floriculture, or as it is more commonly referred horticulture, is concerned with the cultivation of flowering and ornamental plants for gardens and is best thought of as nurseries and greenhouses. This does not necessarily include landscaping services. The question that needs to be thought about is which markets does the Wisconsin floriculture industry service? If this industry is just supplying Wisconsin markets, one would expect the location quotient to be equal to, not greater than one. Since the location quotient is greater than one, it might

Table 1: Wisconsin Farm Cluster Analysis

	LQ 2009	Change in LQ 2001 to 2009	Percent of Jobs 2009
<u>Potential Cluster</u>			
Fur-bearing animal and rabbit production	13.41	1.88	0.01%
Dairy cattle and milk production	5.43	1.46	0.44%
Other poultry production	2.45	2.45	0.00%
Floriculture production	1.16	0.26	0.05%
Hunting and trapping	1.13	0.28	0.00%
<u>Strength Declining</u>			
Potato farming	4.11	-1.06	0.06%
Berry, except strawberry, farming	2.85	-0.51	0.04%
Corn farming	1.85	-0.23	0.02%
All other animal production	1.70	-0.76	0.01%
<u>Weakness Growing</u>			
Soil preparation, planting, and cultivating	0.86	0.42	0.02%
Nursery and floriculture production	0.81	0.06	0.10%
All other grain farming	0.68	0.44	0.00%
Finfish farming and fish hatcheries	0.62	0.20	0.00%
Crop harvesting, primarily by machine	0.46	0.46	0.00%
Beef cattle ranching, farming, and feedlots	0.44	0.16	0.02%
Soybean farming	0.41	0.41	0.00%
Other grain farming	0.41	0.25	0.00%
Apple orchards	0.40	0.05	0.01%
Noncitrus fruit and tree nut farming	0.36	0.04	0.06%
Support activities for forestry	0.32	0.07	0.00%
Oilseed and grain combination farming	0.31	0.20	0.00%
Food crops grown under cover	0.23	0.02	0.00%
Other postharvest crop activities	0.21	0.01	0.02%
Mushroom production	0.20	0.03	0.00%
Farm labor contractors and crew leaders	0.01	0.01	0.00%
<u>Weakness Declining</u>			
Chicken egg production	0.81	-0.04	0.01%
Logging	0.68	-0.07	0.03%
Nursery and tree production	0.61	-0.06	0.05%
Finfish fishing	0.49	-0.18	0.00%
Other vegetable and melon farming	0.41	-0.02	0.03%
Other food crops grown under cover	0.28	-0.09	0.00%
Farm management services	0.10	-0.03	0.00%
Turkey production	0.09	-0.06	0.00%

seem reasonable that Wisconsin may be in a position to export floriculture products out of the state, perhaps to the Chicago or Minneapolis market or beyond. One element of the floriculture industry that might warrant further consideration is the cut flower market. The U.S. is a major importer of cut flowers with many of those coming from South America, particularly Columbia. Is this a market that Wisconsin might consider for further exploration?

Farming sectors that are strengths for Wisconsin but appear to be losing some of that strength include potato farming, berry production—which for Wisconsin is cranberries—and corn production. Care must be taken with corn production because much of the corn produced in Wisconsin is sweet corn, but this industry includes all corn, including corn grown for ethanol production and livestock feed. The cranberry industry has been undergoing some restructuring, and care must be taken in drawing too much from the declining location quotient. It is not clear why potato farming appears to be losing some of its strength, but for the central part of Wisconsin this is a major industry. One potential reason was the closure of large potato processing plant in 2008 and the corresponding decline in potato production. While it does not appear that any of these farming sectors are at threat of collapsing, the relative weakening of these sectors could be a cause for concern.

In the “weakness but growing” sector, the one industry that appears to have some potential that may warrant further consideration is nursery and floriculture production. This result complements the observation above about floriculture but the distinction between the two centers on the immediate markets that these businesses are servicing. Nurseries here (weak but growing) tend to service local markets providing materials and services to home gardeners. Other farm sectors that fall into this “weakness but growing” category but may be too small include aquaculture and apple production. While these latter two sectors may have strong geographic concentrations, thus making them potentially important to those narrow geographic areas, they are perhaps too small at the current time to have a significant impact on the whole of Wisconsin’s economy.⁵

The observation on aquaculture points to a potential problem with the clustering approach used in this study; do historical patterns adequately suggest future potential? There are numerous examples where historical patterns cannot predict the potential expansion rate of future new markets. While aquaculture might be a “modest” industry in Wisconsin today, it may be a “significant” industry tomorrow. In addition, what defines the difference between what is considered “modest” and “significant”? These are subjective terms and reasonable people can draw different conclusions. Again, the intent of this cluster analysis is to provide additional insights into the Wisconsin agricultural economy.

There are a small handful of farm-based industries that fall into the “weakness and declining” sector that employs a fair number of people, including logging and nursery and tree production. The logging result might appear to be surprising given the forest resources within Wisconsin, but the logging industry has changed significantly over time. Most logging that occurs in Wisconsin today is small-scale, with small firms doing selected harvesting on predominately small privately owned wood lots. Large-scale commercial logging is difficult in Wisconsin given land ownership patterns along with the growing importance of tourism and large tracks of public forest land placed in conservation reserves. The nursery and tree production result seems to contradict the prior results on floriculture. Some care must be taken here because of the refined level of industry detail that we are exploring in this analysis. Some firms may classify themselves slightly differently when filing

⁵ For the economic contributions of aquaculture see the report prepared by the UW-Extension, Cooperative Extension in partnership with the UW-Stevens Point Northern Aquaculture Demonstration Facility at:

http://www.wisconsinaquaculture.com/Forms/2009_WI_Aqua_Industry_brochure_2.pdf

For an analysis of the contribution of specialty crops to the Wisconsin economy see the work of Paul Mitchell with the Department of Agricultural and Applied Economics, University of Wisconsin-Madison/Extension at:

<http://www.aae.wisc.edu/pubs/misc/docs/mitchell.crop.impacts.pdf>

their taxes thus causing two firms that are basically competitors being in different industry groupings.⁶ Taken in tandem, these results on floriculture and horticulture suggest that a more detailed analysis of the industry as a potential cluster for Wisconsin needs to be undertaken.

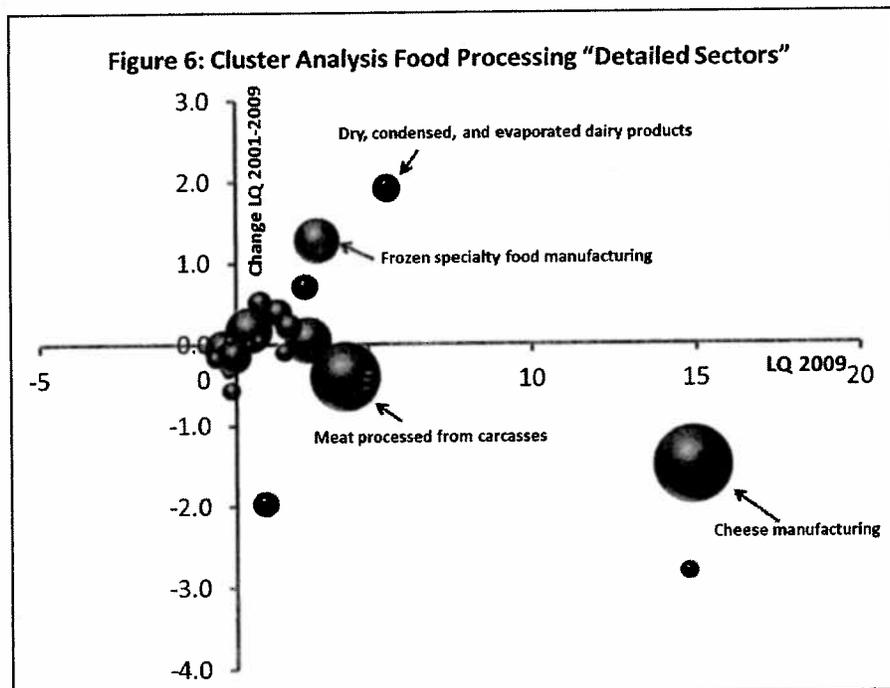
Cluster Analysis of Wisconsin Food Processing One piece of vital information that we gained from our study of the agriculture industry (Deller and Williams 2009) is the importance of food processing to employment, income and business sales. In many cases, some food processing industries, such as cheese production, can have a greater impact on the Wisconsin economy than their farm counterparts. To gain additional insights into the strengths and weaknesses of the food processing industry, we again look at the level of the location quotient in 2009 and the change in that location quotient from 2001 to 2009. The results of this analysis are provided in Figures 6 and Table 2.

Unlike on-farm production, there are numerous food processing sectors that fall into the “strength and growing” quadrant of the Porter based analysis. Of the 24 separate food processing industries included in the analysis, ten of them—or about 42%—are potential cluster industries that warrant further examination. For example, it is not necessarily surprising that

Wisconsin is a leader in dry, condensed and evaporated dairy products, but we must understand that much of the market for this industry is foreign exports. History has shown us that these types of export markets can be very volatile and care must be taken. Other strong food processing clusters include frozen specialty food manufacturing such as frozen pizzas, and fruit and vegetable canning. Animal food manufacturing, which includes livestock and horse feed, and confectionery manufacturing from purchased chocolate are also strong and growing industries in Wisconsin. But these tend to be known within Wisconsin as

relative strengths within the broader agricultural industry. There are others, however, such as spice and extract manufacturing along with the manufacturing of mixes and dough from flour, that could also be deemed to be potential clusters in Wisconsin.

Other food processing industries that have historically been strengths in Wisconsin that appear to be losing some strength include cheese as well as creamery butter manufacturing. In 2009 the location quotients for these two mainstays of the dairy industry are above 14.5, which are extremely large LQs by any measure and suggest that these remain important sectors but the declines over time may be a cause for concern. We hypothesize that the declines in the location quotients is a reflection of growth in employment in these two sectors outside of



⁶When firms file their taxes, either income or unemployment compensation, they are required to classify themselves within a particular industry classification. As these industry classifications become more detailed the potential for what statisticians call “noise in the data” become very real.

Table 2: Wisconsin Food Processing Cluster Analysis

	LQ 2009	Change in LQ 2001 to 2009	Percent of Jobs 2009
<u>Potential Cluster</u>			
Dry, condensed, and evaporated dairy products	5.59	1.93	0.07%
Frozen specialty food manufacturing	3.45	1.29	0.18%
Fruit and vegetable canning	3.17	0.06	0.19%
Spice and extract manufacturing	3.07	0.72	0.06%
All other miscellaneous food manufacturing	2.58	0.23	0.06%
Other animal food manufacturing	2.25	0.40	0.07%
Confectionery mfg. from purchased chocolate	1.71	0.52	0.05%
Mixes and dough made from purchased flour	1.69	0.05	0.02%
Animal, except poultry, slaughtering	1.38	0.18	0.19%
Rendering and meat byproduct processing	1.38	0.00	0.01%
<u>Strength Declining</u>			
Cheese manufacturing	14.88	-1.49	0.55%
Creamery butter manufacturing	14.77	-2.80	0.03%
Meat processed from carcasses	4.30	-0.39	0.44%
Mayonnaise, dressing, and sauce manufacturing	2.45	-0.09	0.03%
Frozen fruit and vegetable manufacturing	1.86	-1.96	0.06%
Dog and cat food manufacturing	1.15	-0.07	0.02%
<u>Weakness Growing</u>			
Bottled water manufacturing	0.79	0.06	0.01%
Ice manufacturing	0.67	0.43	0.00%
<u>Weakness Declining</u>			
Commercial bakeries	0.91	-0.13	0.11%
Perishable prepared food manufacturing	0.83	-0.56	0.03%
Fluid milk manufacturing	0.82	-0.26	0.04%
Ice cream and frozen dessert manufacturing	0.75	-0.34	0.01%
Poultry processing	0.60	-0.05	0.13%
Soft drink manufacturing	0.37	-0.17	0.03%

Wisconsin. In essence, the denominator in the location quotient equation is growing faster than the numerator. This begs the question why. Is there a growing market for cheese that Wisconsin is not capturing? Alternatively, because the location quotient is based on employment levels, is the Wisconsin cheese processing industry becoming less labor intensive? Are cheese processors shifting to labor saving technologies? Given our simple location quotient analysis we really cannot answer these questions; rather our analysis is aimed at helping refine some of the questions that need to be addressed as policy discussions move forward.

Perhaps more important than the weakening of the creamery butter industry is the weakening of the meat processing industry from carcasses due to the relatively larger share of total number of jobs that are in this sector. While the decline in the location quotient might be considered small, the growth in animal slaughtering, other than poultry, coupled with the decline in meat processing raises an interesting question. If our animal slaughtering industry is growing but our meat processing industry is declining, there is *prima facie* evidence of a “disconnect” between the two industries. Are these slaughtered animals being shipped out of Wisconsin for processing? Are we losing a market opportunity?

Also notice the differences between canned fruits and vegetables (which in Wisconsin is primarily vegetables) processing, which is identified as a “strength and growing,” and the “strength but weakening” of frozen fruits and vegetables. Indeed, the drop in the location quotient for frozen fruits and vegetables is alarming. Are Wisconsin fruits and vegetables grown for processing simply being shifted from frozen to canned, or is something more fundamental occurring within these two industries? The decline in potato farming identified in the on-farm production section above warrants further analysis.

Other food processing sectors that warrant mentioning include bottled water, which is not necessarily a strength for Wisconsin, but it is demonstrating some growth and might be an industry worth looking at more closely. In addition, given the strength of the dairy industry in Wisconsin, it is somewhat surprising to find that fluid milk processing for direct consumption is a weakness and declining. This speaks to the fact that the bulk of Wisconsin milk production goes into the manufacturing process, in particularly cheese production. We know from the location quotient analysis milk is not moving into ice cream and frozen dessert production in any significant way.

What this cluster analysis has provided us is additional insights into the strengths and weaknesses along with the opportunities and threats (SWOT) of the Wisconsin agricultural industry. We have seen that some sectors are strong and becoming stronger; how can we build on these strengths? We have also seen that some of our strongest sectors, such as cheese processing, is losing some of its strength from a national perspective; are these threats that need to be addressed? There are also a small number of up-and-coming industries, such as some elements of horticulture, that may warrant further consideration.

This analysis has also demonstrated that Wisconsin agriculture is extremely heterogeneous and vertically integrated. This means that we produce a range of on farm agricultural commodities ranging from milk to potatoes to cranberries and ginseng; Wisconsin cannot be described as having a monoculture agricultural base. Vertically integrated indicates that we are capturing significant value added processing to our farm grown products. The most evident of this is Wisconsin produced milk flowing to a Wisconsin cheese processor who in turns sells to a Wisconsin frozen pizza manufacturer. We add value to much of the farm-produced commodities and products. The presence of such a strong food processing industry makes Wisconsin’s agricultural sector stand out as an important part of the Wisconsin economy.

Economic Impacts

A Simple Review of Methods As discussed at length in Deller (2004) and Deller and Williams (2009) the power of input-output analysis is the ability to use the tool to track small changes in one part of the economy

throughout the entire economy. For example the expansion of dairy farms or a vegetable canning processor in the local (county) economy introduces new or additional levels of spending in the local economy. This new spending causes a ripple or multiplier effect throughout the economy. Using input-output analysis, we can track and measure this ripple effect.

The impact of an expansion of dairy farms is composed of three parts: the *direct*, *indirect* and *induced*. First, the *direct* or *initial* effect captures the event that caused the initial change in the economy; say a new dairy beginning its operations. The dairy farm contributes directly to the local economy by selling farm products, employing people and paying wages and salaries (generating income). Our new dairy farm has two types of expenditures that can be used to better understand the second two parts of the impact or multiplier. The first are business-to-business transactions, such as the purchase of feed from other farms or feed suppliers, fertilizer, seed and chemicals, veterinary services, trucking services to haul milk and livestock, electric and other utilities, insurance, interest and other financial services, land rent, farm and equipment repairs and maintenance and many others. These business-to-business transactions are captured in the model through the *indirect* effect. For example, a grain farmer uses the proceeds from feed sales to dairy farmers to pay his or her own farm's operating expenses, make investments, or buy new equipment.

The second type of expenditure dairy farms introduce into the local economy is wages and salaries paid to employees as well as to the farmer him- or herself. Spending this income in the local economy is captured by the *induced* effect. Dairy farmers and their employees spend their income at local grocery stores, movie theaters, restaurants and many other retail outlets. The theater owner, for example, could use part of the money spent by dairy farmers to pay theater employees, and the cycle continues.

The combination of the *direct*, *indirect* and *induced* tells us what the impact or contribution of any particular industry has on the whole of the economy. By looking at the *indirect* and *induced* impacts we can gain insights into how the industry of interest is connected or linked into the local economy. For example, industries that tend to be labor intensive and offer high wages tend to have larger *induced* effects on the local economy. Industries that are more capital intensive or offer lower wages tend to have larger *indirect* effects. We can also gain additional insights into the make-up of the local economy by examining the relative size of the multiplier effects. Smaller economies tend to have smaller multiplier or ripple effects than larger economies. This is because the "leakages" out of the local economy occurs faster in smaller economies, hence capturing less or smaller multiplier effects. Larger economies have greater opportunities to keep those dollars within the local economy for a longer period of time, hence capturing more of the multiplier effect. Some smaller more rural communities that have pursued tourism development have used multiplier analysis to better understand that simply bringing more tourists to the community is not sufficient, there must be someplace for those tourists to spend their money.

For this study, the input-output modeling system IMPLAN (IMppact analysis for PLANning) is used. The IMPLAN system was originally developed by the U.S. Forest Service in the 1980s in response to a federal mandate requiring the Forest Service to assess the economic impact of alternative uses of forested lands under the control of the Forest Service. Today, the IMPLAN system is maintained by the Minnesota IMPLAN Group in Stillwater, Minnesota. In addition to the modeling system software, which allows users to build input-output models and the next generation of social account matrices (SAMS), IMPLAN also provides detailed databases that include county level information. These databases cover 440 individual industries including 19 on-farm sectors and 33 agricultural processing industries. The data is drawn from the Bureau of Economic Analysis' Regional Economic Information System (BEA-REIS), County Business Patterns, and the Economic Censuses including the Census of Agriculture.

Economic Impact Results For this study, summary information of the economic impacts of agriculture (on farm and food processing) at the county level is presented for all 72 of Wisconsin's counties in Table 3. Metrics

are provided for employment (jobs), industrial (business sales) and income and for simplicity we report out only the total economic impacts (i.e. the direct, indirect and induced effects combined).

One challenge of considering the economic impacts of agriculture at the county level is context. What is an important or significant contribution of some sector of a local (county) economy to the entire local (county) economy? As we saw with the cluster analysis above there is somewhat of an arbitrary judgment call that must be made when interpreting these results. For example, we commonly dismissed some agricultural sectors from further consideration, such as ice making, because the size of the industry is too small. But what or who defines what is "too small"? The fur production industry has a huge location quotient and is growing, but is the absolute size of the industry too small to warrant further consideration from a state-wide policy perspective?

One way of considering the relevance of a given economic impact is to consider that impact as a share or percentage of the total economy. For each of the three metrics (employment, business or industry sales and income) the percentage of that metric as a share of the total metric for the county is presented. Summary maps for the combined on-farm and food processing impacts are provided for each of the three metrics in absolute and percentage levels. Accompanying each map are details for the 10 largest counties is also provided.

A detailed discussion of each of the six reported set of results (six maps) would be lengthy and tedious. Rather we will outline three broad observations that we have drawn from the analysis.

1. If we consider the counties with the largest impacts in absolute number of jobs, income and business sales generated they tend to be dominated by mostly larger, more urban counties. These are counties with larger populations, city centers with larger food processing firms including Brown (Green Bay), Dane (Madison) and Milwaukee counties. While at first thought this result may seem counterintuitive, but upon deep reflection these results are as expected. First, many of the larger food processing facilities need to be able to draw on a larger labor pool, which can be more readily found in more urban areas. Second, these are total economic impacts of the whole of the agricultural industry and as discussed above, more urban counties will tend to have larger multiplier effects than smaller more rural counties. In essence, larger more urban economies are better able to capture more of those inter-industry linkages (i.e., indirect) as well as labor spending (i.e., induced). There are, however, a number of more rural counties that are within the "top ten" in terms of total economic impact including Barron, Dodge and Clark counties.
2. If we look at the relative contribution of agriculture on each counties' economy measured in terms of percent of total (e.g., total jobs generated by agriculture as a percent of the county's total employment) a different picture is painted. For many more rural counties agriculture's economic impacts may be more modest in term of total jobs, income or business sales, but as a percentage of the local county economy agriculture becomes much larger. In general, these counties are not heavily populated, do not have large city centers and are more distant from population centers and interstate transportation infrastructure. Counties where agriculture accounts for a larger share of total economic activity include Lafayette, Clark, Richland, Vernon, Buffalo, Marquette, Taylor, Pepin, Oconto, Green and Trempealeau.
3. In addition to generating employment, income and business sales, agriculture also helps generate state and local government revenues. Consistent with the first general observation the counties with the largest absolute value of state and local government revenue generated tend to be more urban: Milwaukee, Brown, Dane, Jefferson, Outagamie, Marathon, Fond du Lac, La Crosse, Dodge and Sheboygan

Table 3: Contribution of Agriculture to Wisconsin Counties (2008)

County	Jobs	%	Business		Income		State & Local Govt Revenues
			Sales (M\$)	%	(M\$)	%	(M\$)
Adams	1,194	14.2	196	22.4	72	16.5	6.6
Ashland	531	4.7	43	3.2	15	2.4	2.0
Barron	8,231	28.6	1,376	38.6	367	25.9	28.6
Bayfield	536	9.2	98	17.5	32	11.4	4.5
Brown	21,037	11.6	5,711	20.0	1,558	11.8	138.8
Buffalo	3,045	36.1	528	48.7	141	28.2	13.2
Burnett	848	12.4	158	20.3	32	9.4	3.0
Calumet	4,093	19.2	1,173	37.3	253	23.2	23.8
Chippewa	4,387	13.9	622	14.3	170	10.3	18.9
Clark	7,697	45.5	1,547	63.1	404	47.2	36.2
Columbia	4,527	15.6	1,004	24.5	261	14.6	24.1
Crawford	1,488	14.2	161	13.2	48	9.0	4.2
Dane	16,766	4.4	3,451	6.6	1,206	4.2	117.2
Dodge	9,608	20.0	2,317	32.4	559	19.7	47.4
Door	2,098	11.1	288	13.9	90	9.3	9.0
Douglas	686	3.5	105	3.4	36	2.8	3.1
Dunn	3,881	18.3	688	27.1	193	16.3	16.8
Eau Claire	4,481	6.4	1,097	13.0	275	6.8	23.1
Florence	214	15.2	48	28.3	7	11.6	2.1
Fond du Lac	8,691	14.7	2,306	21.6	576	14.4	52.1
Forest	193	4.1	7	1.7	3	1.4	0.2
Grant	6,456	24.5	985	32.4	312	21.8	29.5
Green	5,911	27.8	1,387	41.1	328	26.0	39.6
Green Lake	1,463	15.0	320	26.5	88	16.3	7.4
Iowa	2,765	17.8	332	15.0	108	8.7	9.6
Iron	72	2.7	7	2.7	3	2.3	0.2
Jackson	2,543	22.1	321	25.0	105	16.9	9.1
Jefferson	8,732	18.1	2,141	27.0	564	18.3	62.7
Juneau	1,577	14.0	246	17.5	70	11.6	5.9
Kenosha	2,507	3.6	811	9.0	180	4.0	13.2
Kewaunee	2,618	25.0	488	27.6	148	17.9	13.1
La Crosse	4,062	5.1	1,366	13.6	257	5.3	48.6
Lafayette	3,561	54.2	841	85.3	215	62.6	19.9
Langlade	1,926	15.6	267	15.7	79	10.8	6.5
Lincoln	1,309	8.4	142	6.2	39	4.3	3.2
Manitowoc	4,871	11.1	1,436	18.3	276	8.8	20.4

Table 3 (cont): Contribution of Agriculture to Wisconsin Counties (2008)

County	Jobs	%	Business		Income		State & Local Govt
			Sales (M\$)	%	(M\$)	%	Revenues (M\$)
Marathon	13,266	14.9	2,411	17.6	630	11.0	57.9
Marinette	1,146	4.7	128	3.7	47	3.5	4.5
Marquette	1,935	34.9	357	52.0	107	39.2	8.7
Milwaukee	14,228	2.2	6,032	6.4	1,390	2.9	220.9
Monroe	4,281	17.3	858	26.4	205	14.5	16.5
Oconto	3,997	30.2	788	44.6	181	27.7	15.9
Oneida	627	2.5	71	2.6	27	1.9	2.3
Outagamie	11,592	9.3	2,797	13.8	705	7.8	58.0
Ozaukee	1,614	3.1	544	6.3	100	2.6	5.6
Pepin	1,035	31.7	166	44.8	50	29.9	4.9
Pierce	2,378	16.6	287	18.9	98	12.8	8.7
Polk	3,692	18.4	725	26.8	177	16.3	18.8
Portage	5,551	12.9	1,105	17.7	339	12.1	32.2
Price	547	6.6	34	2.6	12	2.6	1.0
Racine	3,205	3.5	702	4.1	206	2.6	17.9
Richland	3,699	41.0	774	48.6	158	32.9	13.6
Rock	6,265	7.6	1,448	9.2	445	7.5	36.5
Rusk	1,157	15.8	111	14.1	39	11.4	3.2
St. Croix	3,605	9.3	533	11.1	158	7.2	15.4
Sauk	4,731	9.9	676	11.2	219	7.7	20.4
Sawyer	500	5.1	51	5.5	20	4.0	1.7
Shawano	4,266	22.5	487	24.0	175	18.9	15.6
Sheboygan	8,137	10.8	3,152	23.7	597	11.6	46.5
Taylor	3,744	33.1	615	43.5	192	32.9	16.9
Trempealeau	4,778	28.3	786	33.3	207	20.8	17.1
Vernon	5,371	37.0	576	38.9	186	26.1	18.7
Vilas	289	2.8	30	3.2	11	2.2	1.0
Walworth	3,780	7.1	600	9.0	209	6.8	17.7
Washburn	1,081	16.1	248	28.4	45	12.4	3.6
Washington	3,505	5.3	746	8.0	218	4.9	21.0
Waukesha	3,231	1.1	980	2.1	207	0.9	14.3
Waupaca	4,427	17.2	872	23.7	209	14.2	20.1
Waushara	1,547	18.9	230	22.9	81	18.4	7.0
Winnebago	2,625	2.5	529	2.9	145	1.9	11.2
Wood	4,616	9.1	1,017	12.3	253	6.6	21.9

Several other general observations can be noted:

- In 35 Wisconsin counties agriculture impacts 3,561 or more jobs
- In 34 Wisconsin counties agriculture supports more than 14.2 percent (a seventh) of all the jobs in the county.
- In 35 Wisconsin counties agriculture stimulates more than \$615M in industry sales
- In 34 Wisconsin counties the share of total industry sales stimulated by agriculture exceeds 18.4 percent
- In 35 Wisconsin counties agriculture contributes more than \$177.5M in total income
- In 35 Wisconsin counties the share of total county income contributed by agriculture exceeds 11.6%
- In 16 Wisconsin counties agriculture generates more than \$25.1M in state and local government revenue (not including taxes paid for K-12 education).

We should note that in the analysis just reviewed we define agriculture as the aggregate of on farm and food processing. We do not consider what some might consider being part of agricultural value added processing. For example, we do not consider ethanol production nor do we consider clothing production such as using Wisconsin produced leather that is used in leather goods. We exclude these types of industries to remain consistent with prior studies of Wisconsin's agricultural industries.

Conclusions

In this modest study we have updated three sets of analysis. First, we have revisited basic trends in agricultural employment from 1990 to 2009. While we found that agriculture as a source of employment growth is limited, the downward trend in employment appears to have stabilized with some evidence of modest growth. Second, we updated a "Porter style" cluster analysis of numerous on farm and food processing sectors. We identified several sectors that are "strong and strengthening" and may serve as potential clusters for future development. Examples include certain elements of horticulture and frozen specialty foods such as frozen pizzas. We also found that dairy, while extremely important to Wisconsin's economy, is losing some of its strength when compared to the nation. We hypothesize that the dairy industry is growing outside of Wisconsin but is stable inside Wisconsin.

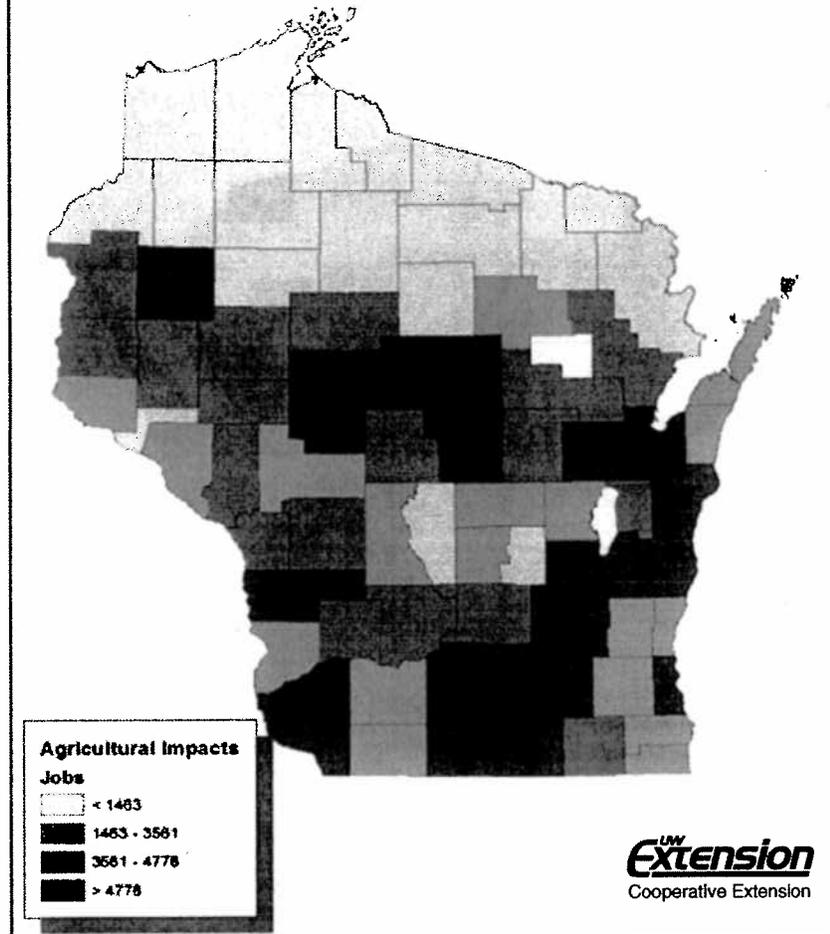
The more important contribution of this analysis is the county-by-county economic impact analysis. We find that agriculture, which includes both on farm as well as food processing, is important in nearly every county in Wisconsin except for perhaps the very northern counties. Some of the most urban counties in Wisconsin, including Brown, Dane and Milwaukee, have some of the largest absolute agricultural impacts in terms of jobs, income and business sales. But in terms of relative contributions, specifically agriculture's contribution as a share of the total county's economy, some of the most rural counties are most dependent upon agriculture including Lafayette, Taylor and Trempealeau. The analysis presented here can be described at best as descriptive. Agricultural markets ebb and flow over time, as is the case with dry, condensed and evaporated dairy products and export markets. Next steps involve a more detailed analysis of some of the sectors that could serve as the foundation for promotion as a future potential cluster.

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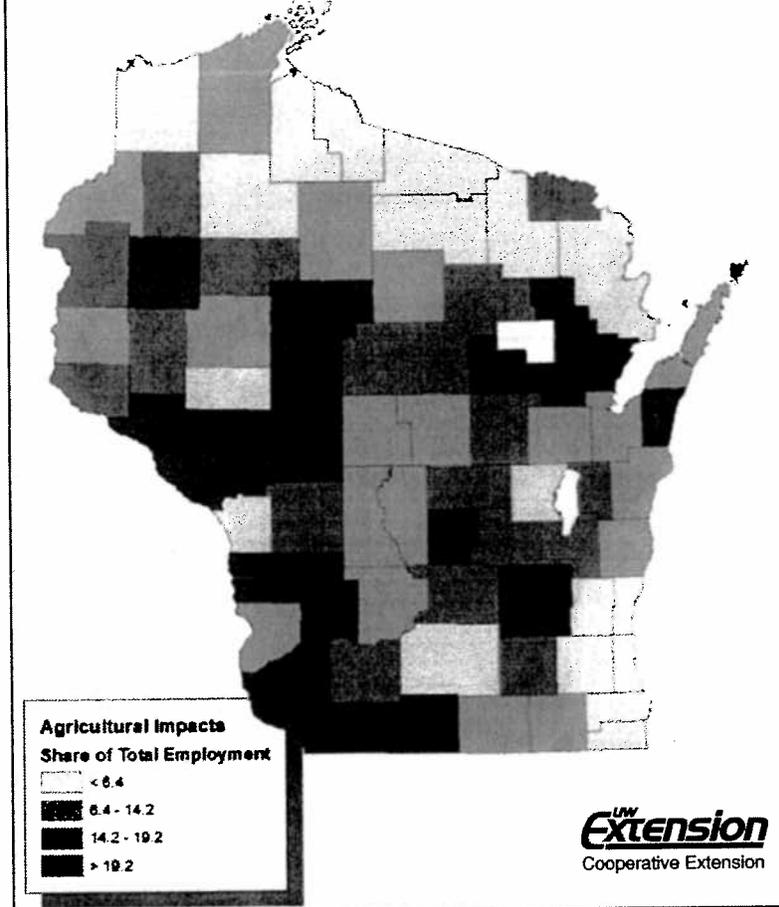
Agricultural Impacts on Employment On Farm and Agricultural Processing



Top 10 Counties 2008

	County	Jobs	Percent of all Jobs
1.	Brown	21,037	11.6
2.	Dane	16,766	4.4
3.	Milwaukee	14,228	2.2
4.	Marathon	13,266	14.9
5.	Outagamie	11,592	9.3
6.	Dodge	9,608	20.0
7.	Jefferson	8,732	18.1
8.	Fond du Lac	8,691	14.7
9.	Barron	8,231	28.6
10.	Sheboygan	8,137	10.8

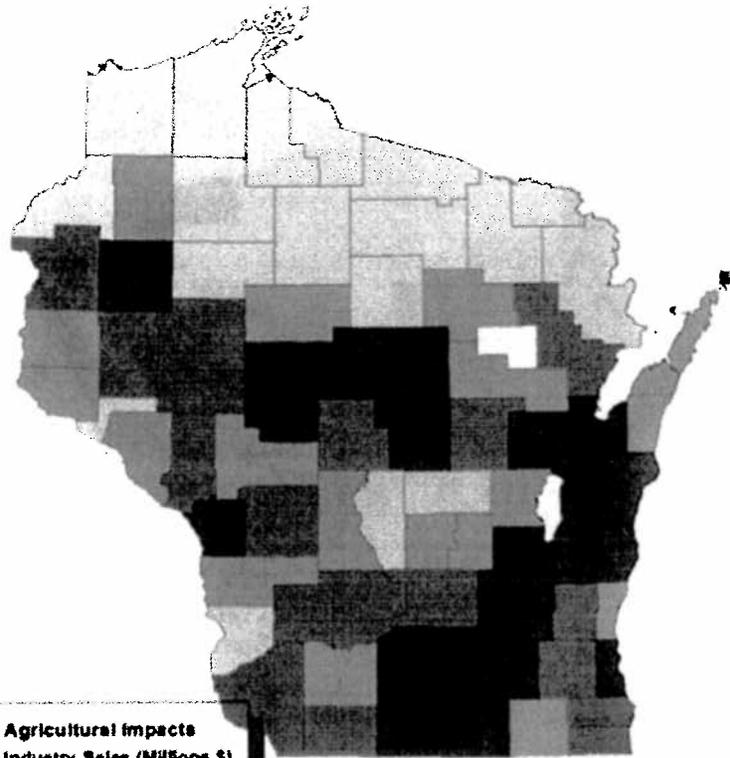
**Agricultural Impacts on Employment:
Share of Total Employment
On Farm and Agricultural Processing**



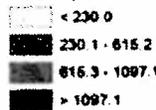
Top 10 Counties 2008

	County	Jobs	Percent of all Jobs
1.	Lafayette	3,561	54.2
2.	Clark	7,697	45.5
3.	Richland	3,699	41.0
4.	Vernon	5,371	37.0
5.	Buffalo	3,045	36.1
6.	Marquette	1,935	34.9
7.	Taylor	3,744	33.1
8.	Pepin	1,035	31.7
9.	Oconto	3,997	30.1
10.	Trempealeau	4,778	28.3

Agricultural Impacts on Industry Sales (M\$)
On Farm and Agricultural Processing



**Agricultural impacts
 Industry Sales (Millions \$)**

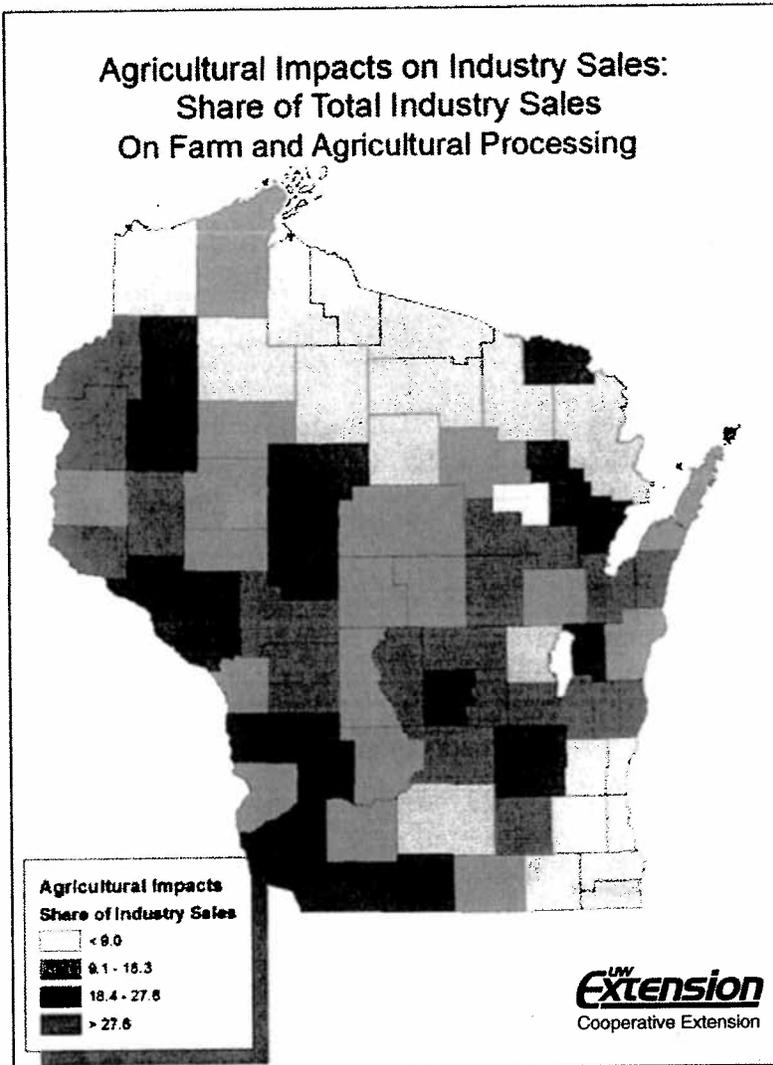


UW Extension
 Cooperative Extension

Top 10 Counties 2008

	County	Industrial Sales (M\$)	Share of Total Industry Sales (%)
1.	Milwaukee	6,031.79	6.4
2.	Brown	5,711.49	20.4
3.	Dane	3,450.50	6.6
4.	Sheboygan	3,151.69	23.7
5.	Outagamie	2,797.48	13.8
6.	Marathon	2,411.10	17.6
7.	Dodge	2,317.14	32.4
8.	Fond du Lac	2,305.81	21.6
9.	Jefferson	2,141.12	27.0
10.	Clark	1,546.52	63.1

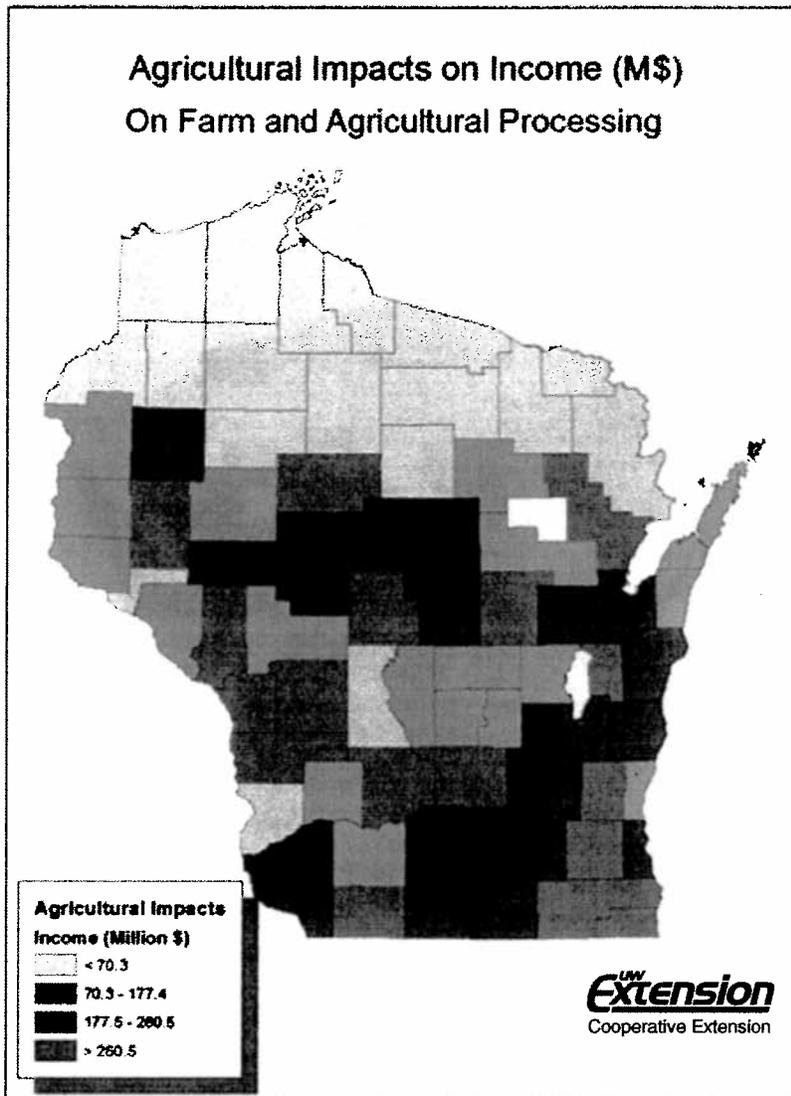
**Agricultural Impacts on Industry Sales:
Share of Total Industry Sales
On Farm and Agricultural Processing**



Top 10 Counties 2008

	County	Industrial Sales (\$M)	Share of Total Industrial Sales (%)
1.	Lafayette	840.61	85.3
2.	Clark	1,546.52	63.1
3.	Marquette	356.68	52.0
4.	Buffalo	527.64	48.7
5.	Richland	774.29	48.6
6.	Pepin	165.64	44.8
7.	Oconto	788.21	44.6
8.	Taylor	615.22	43.5
9.	Green	1,386.66	41.1
10.	Vernon	575.81	38.9

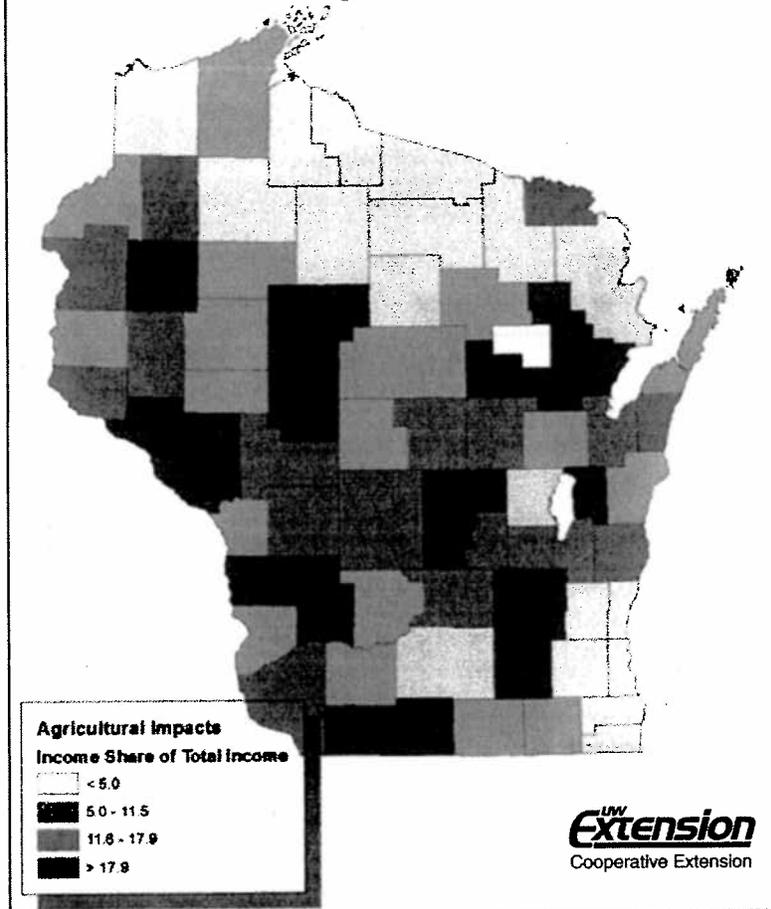
**Agricultural Impacts on Income (M\$)
On Farm and Agricultural Processing**



Top 10 Counties 2008

	County	Income (M\$)	Share of Total Income (%)
1.	Brown	1,557.50	11.8
2.	Milwaukee	1,389.83	2.9
3.	Dane	1,205.66	4.2
4.	Outagamie	704.55	7.8
5.	Marathon	629.60	11.0
6.	Sheboygan	596.77	11.6
7.	Fond du Lac	576.44	14.4
8.	Jefferson	563.87	18.3
9.	Dodge	558.72	19.7
10.	Rock	444.58	7.5

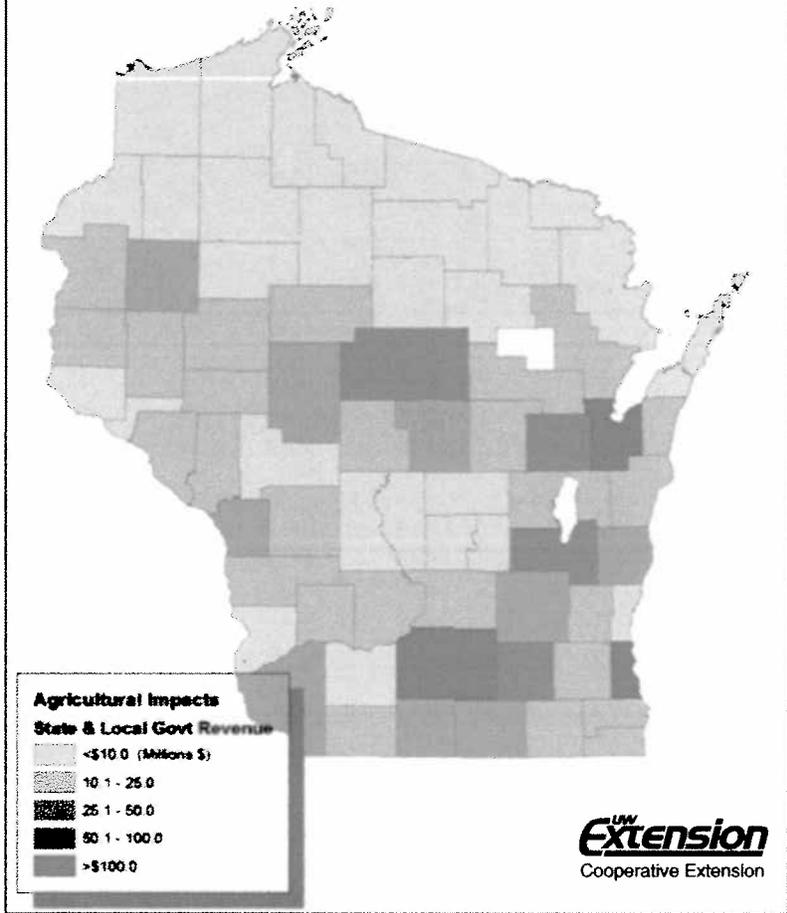
**Agricultural Impacts on Income:
Share of Total Income
On Farm and Agricultural Processing**



Top 10 Counties 2008

	County	Income (\$M)	Share of Total Income (%)
1.	Lafayette	214.61	62.6
2.	Clark	403.52	47.2
3.	Marquette	107.49	39.2
4.	Taylor	192.44	32.9
5.	Richland	158.24	32.9
6.	Pepin	50.37	29.9
7.	Buffalo	140.85	28.2
8.	Oconto	181.36	27.7
9.	Vernon	185.99	26.1
10.	Green	328.18	26.0

Agricultural Impacts State & Local Govt Rev. (\$M)
On Farm and Agricultural Processing

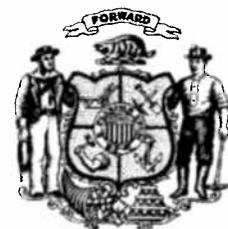


Top 10 Counties 2008

	County	State and Local Government Revenue (\$M)
1.	Milwaukee	220.91
2.	Brown	138.75
3.	Dane	117.15
4.	Jefferson	62.71
5.	Outagamie	58.04
6.	Marathon	57.89
7.	Fond du Lac	52.08
8.	La Crosse	48.57
9.	Dodge	47.38
10.	Sheboygan	46.51



WISCONSIN STATE LEGISLATURE





COOPERATIVE EXTENSION: WORKING WITH WISCONSIN ON THE PATH TO PROSPERITY

Times are challenging. Wisconsin citizens—in each of the 72 counties they call home—need tools to meet those challenges. UW-Extension, Cooperative Extension is there to help.

Cooperative Extension practical expertise in:

- job creation
- economic development
- lean government and streamlined business

When communities and businesses see opportunities, they turn to Cooperative Extension for training, support, and building expertise and relationships. We are agile partners, responsive to local needs and experienced in meeting them successfully. Whether it's creating jobs, expanding a business, or funding growth, we connect people with the resources they need.



All Wisconsin citizens share a singleness of purpose: focus on success, eliminate waste, and infuse resources into the most effective programs and services. Cooperative Extension is proud to champion solutions that foster Wisconsin's vitality in innovation and job creation.

Please turn the page for successful programs and projects that couldn't have happened without Cooperative Extension.



Great things are happening in Wisconsin

BUSINESSES THAT INNOVATE

Cooperative Extension has proven expertise in developing businesses, identifying economic opportunities, nurturing entrepreneurs, and promoting innovation. Listen to this local success story.

Business development: the Gilman Cheese story

What do you get when you mix these ingredients: delicious cheese, local Cooperative Extension resources, and a big splash of creativity? Let's let Tom Hand, the owner of Gilman Cheese, tell you:

Gilman Cheese is building an 8,700-foot expansion that will increase our capacity and add up to 20 jobs. We couldn't have done this without our Taylor County Cooperative Extension partners and village officials. The local Cooperative Extension office has been a true resource over the years to help us grow our business and increase employment in Gilman.

Every day, Cooperative Extension local educators help Wisconsin businesses like Gilman Cheese. Delicious.

PEOPLE WHO EXCEL

Cooperative Extension's leadership programs, economic development training, organizational development training, and workforce retention and development programs give individuals the training, tools, and opportunities they need to succeed.



Leadership programs: Community Leadership Alliance

In Southwest Wisconsin, the Community Leadership Alliance (CLA) has been teaching people how to lead and excel for over a decade in Grant, Iowa, and Lafayette counties. CLA graduates—over 300 of them—are making important differences in their communities, businesses, and organizations.

With Cooperative Extension, people—people who excel—learn how to lead.

COMMUNITIES THAT PROSPER

Cooperative Extension strengthens communities with innovative programs on downtown revitalization, community preparedness, community funding, and tourism and recreation.

Community funding: Hurley & Mercer story

How does Cooperative Extension help build community, communities that prosper, in Iron County?

In 2010, Cooperative Extension helped the Town of Mercer garner a \$1.1 million U.S. Economic Development grant to build a business park, then helped the town's planning commission with planning, designing, and marketing it.

The result: 245 projected jobs.

In the City of Hurley, Cooperative Extension helped obtain a \$1.4 million Wisconsin grant for downtown renovation.

The result: 20–25 new jobs.

Every day, Cooperative Extension local educators help Wisconsin communities like the City of Hurley and the Town of Mercer prosper.

Wisconsin Inventor & Entrepreneur Clubs: Paving the way for innovation



"America is undergoing a time of rapid change. Old ways and businesses that don't keep up with the times are passing away. But at the same time, new opportunities are springing up like never before. We must foster a culture that embraces and supports the innovators and entrepreneurs within our communities; they will be the ones to lead our economy to higher ground."

*—Terry Whipple, President,
7 Rivers Region, and Executive Director,
Juneau County Economic Development
Corporation*

Situation

The image of an entrepreneur as a rugged individualist who identifies an economic opportunity and pursues it successfully plays well in the popular imagination. But in reality, entrepreneurs need substantial technical, educational, social and community support to be successful.

Inventors and entrepreneurs—especially in rural areas—face significant challenges. Low population density, a relative lack of resources and a shortage of peers with whom to share ideas and experiences are major obstacles to promoting entrepreneurship in rural areas.

While research shows that rural areas support a disproportionately high number of entrepreneurs, they lag far behind their non-rural counterparts in the income and revenue they earn. In Wisconsin, the challenge lies in finding viable ways to help rural entrepreneurs achieve economic success.

Response

The Wisconsin Entrepreneurs' Network (WEN) was created by the Wisconsin Legislature as part of the "Grow Wisconsin" initiative. WEN's mission is to create easy access to resources and expertise from across Wisconsin to help spawn new ventures and expand existing businesses.

One of WEN's early activities was providing \$1000 grants to counties to support Inventor & Entrepreneur (I & E) clubs.

I & E clubs offer a place for individuals to share new ideas, develop networks and obtain support for their efforts. They can offer a venue for entrepreneurs to explore and move their ideas to reality, as well as provide education on issues related to market feasibility, intellectual property, marketing, financing and business planning. I & E clubs also seem to play a significant role in bolstering the confidence of individual entrepreneurs by offering them a sense of legitimacy.

Most I & E clubs rely on volunteer staff, often drawn from local economic development organizations, chambers of commerce and the University of Wisconsin-Extension. The majority of clubs meet monthly, with a typical meeting including a guest speaker followed by an opportunity for networking. Popular speakers have included successful inventors and entrepreneurs.



neers and intellectual property experts. Tax advisors, patent attorneys, advertising agency staff and motivational speakers are among the other professionals who participate in I & E meetings.

The clubs have established an e-mail network (listserv) for the facilitators, with WEN providing other resources and support.

Community resource development educators from UW-Extension's Center for Community Economic Development (CCED) are among the resource providers that have taken part in meetings and provided support to many I & E clubs. CCED educators also surveyed I & E clubs to learn what aspects of the clubs were most useful to members. This information has been helpful in supporting existing clubs and planning future groups.

Outcomes

Wisconsin's Inventor and Entrepreneur Clubs have aided the state's entrepreneurs by providing:

- Support and a social network that research shows is essential for innovators and entrepreneurs to flourish.
- Connections to educational opportunities and larger support services outside the community.
- Resources for members to develop their ideas and apply for patents on new products and inventions.
- Help in creating and getting new jobs.
- A local venue for entrepreneurs to network among themselves.
- Information and assistance in getting grants for research and business development.

- Help in overcoming the challenges entrepreneurs face in rural areas, such as smaller populations, greater distances to travel, lack of a peer group and fewer financial resources.

Based on a UW-Extension survey of 30 I & E club facilitators, an impressive number of club participants have created new jobs, obtained patents, and received grants for their ideas and enterprises.

Most of the clubs included in the survey were established in 2006, with the oldest founded in 2002.

Many club facilitators reported that their groups were inspired to form after listening to the executive director of the Juneau County Economic Development Corporation and facilitator for the the Juneau County I & E club. Seven of the facilitators specifically credited Terry Whipple, the Juneau County's club facilitator and a strong proponent of I & E clubs across Wisconsin and nationally, for motivating them to organize their groups.

Other outcomes of the survey included the following:

- When asked about the major benefits of their club for members, more than two out of every three facilitators identified networking as the major benefit, followed by education and access to information.
- Most respondents mentioned three elements that they considered to be the club's mission: 1) business formation; 2) networking; and 3) education. Two-thirds said their club's major focus was on networking.
- More than eight in ten of the club facilitators surveyed (83%) reported jobs had been created in their region as a result of participation in the club.

- Sixty-three percent of respondents indicated that a new patent had been filed by a member as a result of their club participation.

- Twenty-three percent of respondents indicated that members had received research grants to develop their business or idea. Most of these grants came in the form of angel financing. In one case, a company received a grant for the design of a hydroponic greenhouse, while another club member received funding from a private furniture company for a project.

In summary, although the concept of I & E clubs is still evolving, these groups are becoming an important place for potential entrepreneurs to share ideas, obtain information and make connections with other entrepreneurs.

As Wisconsin grapples with the impacts of a changing economy, I & E clubs provide an important tool for helping the state's entrepreneurial spirit continue to flourish.

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<http://www.uwex.edu/ces/cced/>



Boosting downtown economic development in Wisconsin communities



"UW-Extension's role in boosting downtown economic development in Wisconsin has been priceless. Many Main Street communities and downtowns have used Extension's assistance with market analysis and the webinar series to start successful business development projects."

*—Jim Engle, Director
Wisconsin Main Street Program*



Situation

Wisconsin's downtowns reigned as the centers of business and economic activity for many years. But beginning in the 1960s, competition from large discount stores and regional shopping centers began drawing consumers and residents away, leaving downtowns vulnerable to the hazards of vacant buildings and a poor business mix.

Downtowns continue to face other challenges.

- Chains and large-format stores tend to bypass downtowns when they move into a community.
- Maintaining public facilities downtown can be problematic.
- Residents sometimes perceive downtown areas as unsafe.
- Lifestyle and new town centers continue to spring up far from downtown areas.

Overall, the combined effects of ailing downtowns, a struggling economy and reduced tourism have resulted in a loss of vitality in many Wisconsin communities.

Yet when downtowns can obtain the resources and support they need to flourish, they play a fundamental role in a community's identity. Downtowns often serve as centers of local government and can provide a significant tax base, representing both public and private investments. They are frequently the community's historic core and home to unique shops and services. Tourists are often drawn to downtowns, which offer a glimpse into the community's character and sense of place.

Response

As cities cope with less-than-robust downtowns and fewer tourist dollars, Cooperative Extension community development specialists from the Center for Community and Economic Development (CCED) have provided ongoing help through educational programs and resources designed to bring people back to Wisconsin's downtowns.

Based on their research, Extension specialists have found compelling reasons for optimism about business districts' ability to rebound from the economy. For example:

- Many downtowns have recession-proof draws. While high-priced restaurants and live theatre might bring fewer customers in a recession, farmers' markets and children's

museums will still be on the list of local outings. Numerous downtowns focus on education, health care and government services, which are more insulated from consumer spending swings.

- Downtowns will benefit from a growing interest in supporting the local economy. "Buy local" is becoming a nationwide theme.
- Downtown development often goes hand-in-hand with the desire for a "green" economy. People can often simply walk downtown, rather than drive. And there are environmental benefits to reusing and improving older downtown structures using green technology.
- Downtowns support entrepreneurship, becoming a location of choice for many small-business people. They yield social and business interaction, diversity, authenticity and amenities that appeal to people with different talents. The downtown can also offer a variety of quality spaces from lofts to storefronts.
- Downtowns provide a sense of place that is increasingly important to residents. Renewed interest in quality of life means increased value in what makes the local community special.

Armed with knowledge and the right tools, communities can take advantage of consumer, economic and environmental trends that steer activity back to their central business districts. CCED specialists, working with partners such as the Wisconsin Main Street Program and the Wisconsin Downtown Action Council, advise communities and economic development professionals on ways to take full advantage of their downtowns' competitive strengths. Some of the

resources they've developed include:

- **Downtown and Business District Market Analysis Toolbox.** Tools and techniques for understanding the market, identifying business opportunities and developing market-driven strategies.
- **Innovative Downtown Businesses Clearinghouse.** Information from a group of unique retail and service businesses that are successfully bringing people back downtown.
- **Tourism Business Development Toolbox.** Business planning resources to assist restaurant, lodging and retail entrepreneurs.
- **Downtown Economics e-Newsletter.** Monthly electronic newsletter with articles about downtown business and economic development topics.
- **Revitalizing Wisconsin's Downtowns monthly webinar (web-based) series.** A learning and networking series conducted with partners Wisconsin Downtown Action Council and Wisconsin Main Street Program.

Outcomes

CCED educational programs increase people's ability to build business relationships and put data about their communities to work. Here are a few examples:

- CCED faculty and staff have assisted over 50 cities in the state, including Main Street and non-Main Street communities from Milwaukee to New Holstein to Superior, in assembling information on their local markets to support downtown economic development. Working with Extension county educators, CCED has assisted local study groups in each community in their efforts to gather meaningful data that supports business retention, expansion and recruitment.

- The "Revitalizing Wisconsin's Downtowns" webinar series, with partners Wisconsin Downtown Action Council and Wisconsin Main Street Program, was held at 17 sites around the state in one year alone. Approximately 175 business leaders participated. Besides gaining valuable information, those who attended reported that they valued the professional relationships they had developed at the webinars.
- CCED specialists gave presentations at the International Downtowns Association Conference, the national Main Streets Conference, UW-Madison classes and various community events and programs.

CCED specialists provide resources and information that guide residents in answering the question: *What can we do to make our community better?*

...

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For more on CCED's work to support and revitalize Wisconsin's downtowns and tourism industry, go to:
<http://www.uwex.edu/ces/cced/downtowns/index.cfm>

Laying the groundwork for new jobs and informed economic development



"The idea is that if we build this and it's going to provide high-tech training, it's going to draw more businesses to this area that will employ more people."

—Mike Berry, Associate Dean of the Technology and Trades Division at Northcentral Technical College.

"...Every meeting we have—county board meeting, economic development meeting—we ask about the technology center."

—Langlade County Board Chair Mike Klimoski

Situation

Wisconsin's northern counties—roughly defined as the counties north of U.S. Highway 29—are home to some of the state's most abundant natural resources.

The forests and woodlands of northern Wisconsin give the state a strong national edge in the area of wood products manufacturing. In fact, according to Harvard University's Cluster Mapping Project, Wisconsin is ranked as the number one state in the National Forest Products Cluster. Twenty-eight of Wisconsin's 72 counties look to the forest industry as their primary manufacturing employment sector.

But wood products manufacturing, like many other American industries, has come under intense foreign competition in recent years. Wisconsin competes well on quality, but not as well on price. To become more price competitive, the forest products industry needed to adopt more sophisticated production technology—and recruit a more highly skilled labor force.

Response

When UW-Extension community economic development specialist Andy Lewis spoke at a 2006 conference about the roles local officials could play in the economic development process, Antigo city administrator Dale Soumis was listening. Soumis asked Lewis to make a similar presentation to local officials in Langlade County. Lewis obliged, and included industry cluster maps created by his Center for Community and Economic Development (CCED) colleague, Matt Kures in his presentation. One image in particular attracted Langlade County officials' attention—the wood products manufacturing cluster in northern Wisconsin.

With the goal of finding a way to support industry and provide high-tech training to the local workforce, Langlade County leaders asked Lewis to explore the feasibility of creating a wood technology education program at the Northcentral Technical College in Antigo.

Lewis and Dr. Roger Nacker, President of the Wisconsin Economic Development Institute (WEDI), undertook a comprehensive study, gathering and analyzing information to discover whether support existed for a wood technology education program in the region.

The researchers developed a survey that was sent to all 125 wood products businesses in Langlade County, including sawmills, wood preservation, millwork, window and door manufacturers.



These businesses employ nearly 9,000 workers with an annual payroll of more than \$270 million. Twelve percent of the employees live in counties adjacent to Langlade County.

Ninety-five percent of the businesses responded to the survey. They identified workforce costs such as health care, workers' compensation and wages as their most important issues, followed by global competition, the supply of raw materials and operating costs.

Three out of five businesses reported that skilled workers were not readily available in their geographic area. At the same time, half of the businesses indicated that the potential existed to hire up to 10% more workers in the coming year.

Lewis and Nacker's analysis had revealed a clear need for additional skilled workers to help the county's wood manufacturers grow and compete in the global marketplace.

The researchers also estimated that more than 400 new jobs could be created in Langlade County for workers with high-tech wood manufacturing skills, and that the industry could potentially generate more than \$14 million in private investment in the region.

The economic feasibility analysis demonstrated that there was a very large market and a compelling need for wood technology training in Langlade County.

Outcomes

The results of the study were embraced by the president of the Northcentral Technical College, a panel of industry leaders, the mayor of Antigo, and county board members.

In September 2008, the Langlade County Board of Supervisors approved more than \$2.5 million for a new Wood Technology Center of Excellence on the Northcentral Technical College campus in Antigo.

But before construction began, the county used the information from the feasibility study to apply for federal stimulus dollars to assist in the project.

The result was a \$1.3 million grant from the U.S. Department of Commerce to help in building the new Wood Technology Center of Excellence in Antigo.

With the additional support from the federal grant and the county's financial commitment in place, groundbreaking took place at the Technical College in 2009 with courses scheduled to begin late in 2010.

The new center's programs will include the latest training in wood technology, and the building itself will provide entrepreneurial space to support new businesses. The technical college will offer an associate degree in wood processes and a technical diploma in wood manufacturing technologies.

Local officials expect the benefits of the wood technology center to extend beyond the development of a high-tech workforce and new forest products jobs. They see a future in which the wood technology center will attract more businesses to Langlade County, which in turn will provide more jobs to boost the economy.

Using the information from the study conducted by UW-Extension and WEDI, Langlade County officials invested in an educational program that will reap economic benefits not only for residents of Langlade County, but for the entire state of Wisconsin.

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"...This is great because we'll have people ready to work when they come here and they'll understand the concepts of new machinery and manufacturing processes."

—Kretz Lumber employee

University of Wisconsin, U.S. Department of Agriculture and Wisconsin counties cooperating.
UW-Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements.

March 2010

UW Extension Impact Report

Community, Natural Resource and Economic Development Program Building a regional economy in Northeast Wisconsin

Situation

Over a thirty month period beginning in late 2000, Wisconsin's Fox Valley lost over 10,000 good paying jobs, many of them manufacturing jobs, as companies cut back, closed, or outsourced to Mexico and China. The Fox Cities area, along the Fox River and Lake Winnebago, is one of the fastest growing urban centers in Wisconsin. With a population of more than 200,000, it is made up of 18 communities, the largest of which is Appleton. Manufacturing continues to be a strong part of the area's economy, accounting for 29.2 percent of total employment. Paper products and paper machinery dominate local manufacturing.

In implementing part of a previous UW-Extension study, the Fox Cities Economic Development Partnership (FCEDP) held a conference in April 2003, the purpose of which was to raise awareness of the need for Northeast Wisconsin to become more diversified in its economy; to encourage residents to think more regionally; and to encourage more entrepreneurship.

Response

UW-Extension CNRED educators began their involvement by leading a "Plan for the Plan" session with the Fox Valley Workforce Development Board's Economic Development Committee. The group outlined the basis for an economic development study, which would ultimately involve three parts: Phase 1 - Demographics, led by East Central Wisconsin Regional Planning Commission; Phase 2 - Economic Analysis, led by UW-Extension; and Phase 3 - Develop an economic development strategy. A 17-county project, called Northeastern Wisconsin Economic Opportunity Study (NEW EOS) was launched. The project was designed to study and raise awareness about the present economy and to develop a strategy to create a vibrant regional economy.

From early on, UW-Extension CNRED educators played important roles in the project. In addition to three CNRED educators serving on the Fox Valley Workforce Development Board (FVWDB) Economic Development Committee from the beginning, UW-Extension colleagues serve on the large NEW EOS Partnership Committee, along with their Northeastern Wisconsin Regional Economic Partners Group (NEWREP), part of the State-identified Tech Zone for this area.

Through it all, the relationship between NEWREP and the UW-Extension CNRED educators has grown to be a close one. In January, Dave Muench began working with Steve Deller of UW-Madison/Extension to establish guidelines for the information and develop ways to "report out" the information (Phase 2). They determined what would be included in the study and how it was to be analyzed in order to be useful for Phase 3 and easily understood by the public. Between February and June, Deller provided IMPLAN and Woods and Poole Data on each of the two Workforce Development Areas and on each of the smaller, 2-4 county subregions. Muench analyzed and synthesized the data, and was the principle author of six subregional reports and the two area reports. These reports were shared with colleagues in the subregions who, in turn, presented them to their constituents. A web site (www.neweconomyproject.org) was developed by FVWDB to house all reports and other information, including articles and related studies. Once the reports were finished and available for use in Phase 3, NorthStar Economics created the Strategic Plan. During this time, Muench worked with the FVWDB



Economic Development Committee to implement the study. A CORE Committee (Coalition on the Regional Economy) was formed to develop priorities and methods to proceed. The CORE Committee continues to be active.

Outcomes

Overall interest in improving the economy by moving to a fast growing, high wage economy is at an all-time high. The suggestion of these terms as applied to the economy of Northeast Wisconsin would not have been possible before this project. Nor would the idea of regionalism. But both are happening. Economic development professionals and public officials in the northeast part of the state know they need to shift gears in order to deal with current problems, namely the loss of college educated residents and lower-than-average wages and incomes. In addition, due to the project, most of the area's players in economic development now know each other and UW-Extension has been recognized as an important resource in economic development.

UW-Extension helped bring the counties and chambers to the same table, and they continue to work together. As a sign that regionalism is beginning to work in Northeast Wisconsin, the four major chambers of commerce in the area conducted a joint 2004 wage and benefit survey. The Governor has provided a \$369,000 grant to a marketing group made up of industry leaders that has formed to develop a plan for the region. UW-Extension CNRED Educators throughout Northeast Wisconsin continue to use the study's information to educate and assist their local economic development groups to develop strategies for improving their economies and encourage them to work together for the benefit of all.

Contact

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WISCONSIN DAIRY MODERNIZATION SURVEY

Mark Mayer, Agriculture Agent, UW-Extension Green County



The UW-Extension Dairy Team recently surveyed Wisconsin producers who had modernized their dairy facilities within the past several years. UW-Extension county agriculture agents assisted in identifying 99 farms from 30 counties across the state to be included in this survey.

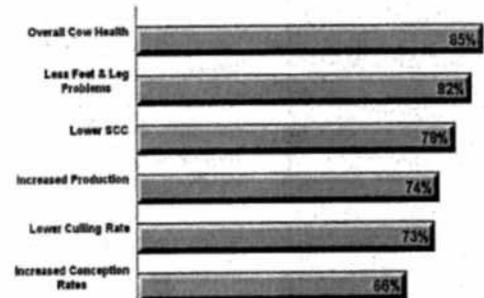
Dairy farms targeted for the survey included mostly medium sized family farms. The average herd size in the survey was 82 milk cows prior to modernization and increased to 202 milk cows after modernizing. The herd sizes after modernization ranged from a start up herd with 15 cows to the largest herd now milking 865 cows. The survey included 14 grazing and 85 confinement operations. Fifty-five of the farms had built retrofit parlors into existing facilities and 34 constructed their parlor in a new building.

The survey was conducted to determine what the producers had observed as being the major benefits to modernizing, both from the personal and the cow standpoint. The survey was also used to determine what educational resources the producers used and valued the most in the modernization process; what they thought was the most challenging part of the process; and the one thing producers would change in their modernization process/project if they could do it over again.

The dairies converting from a stall barn to some type of parlor milking system reported an average of 22 cows per person per hour being milked in the stall barn prior to modernization, and 42 cows per person per hour being milked in a parlor system after modernization. Parlor types in the survey included: flat, parabone (swing), parallel, herringbone and rotary. The average time spent feeding the milk cows also dropped, from 1.48 minutes per cow per day in the stall barn to .55 minutes per cow per day after modernizing.

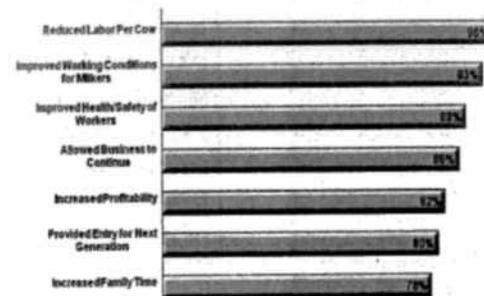
When asked what the biggest benefits to the cows were from modernizing 85 percent of the producers indicated overall cow health was improved. Less foot and leg problems were listed as the second highest benefit to the cows, followed in order by: lower somatic cell counts, increased production, lower culling rate and increased conception rates.

Cow Benefits Observed



The reduction in labor per cow was listed as the number one personal benefit the producers gained from modernizing their facilities with 96 percent of producers reporting it as a benefit. Improved working conditions and safety for workers was listed second, and allowing the business to continue was seen as the third most important personal benefit. These were followed in order by: increased profitability, providing entry for the next generation and increased family time.

People Benefits Observed



For more information, please contact:

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The most used and most useful educational resources identified by the producers were:

- Touring other farms (99 percent)
- Farm visits and seminars conducted by UW-Extension state specialists and county agents (86 percent)
- Magazines and newspapers
- Farm shows
- U.W. publications and newsletters

The survey showed the average planning time for the modernization project was 23 months on the 99 farms in the survey. The average time it took for dairies to convert from a stall barn to a parlor milking system (from the start of construction to completion) was 17 weeks. When asked if they would still be in the dairy business if they had not modernized their facilities 46 percent indicated they would no longer be in the dairy business had they not modernized.

When producers were asked what the biggest challenge was they faced in the modernization process the top answer was working with contractors and/or serving as the general contractor on the project. The next biggest challenges they reported were: deciding what system and number of cows would work the best on their farm, followed by budgeting and financing, facility design, cost overruns, and finding good and knowledgeable contractors.



The number one response to what the producers would change if they could do it over was they would have done the modernization sooner. The second most popular response was they would have made either the parlor or the freestall barns bigger, and the third highest comment was they would have started at an alternate site to allow for future expansion.

Several significant impacts were observed on the farms after modernization. Milk production per cow increased by an average of 1,439 pounds while the average herd size increased by 121 cows. This resulted in an average increase of over 2.7 million pounds of milk sold per farm. The amount of labor per cow was also reduced 50% after modernizing. These impacts are shown in the table below.

A complete listing of the 2008 modernization survey results are available from your local county UW-Extension office, and online at the UW-Extension Dairy Team Modernization website: <http://www.uwex.edu/ces/dairymod/index.cfm>

Dairy Modernization Impacts

	Pre Modernization	Post Modernization	Change
Average Herd Size	82	203	+121
Average Production per Cow (lbs)	20,245	21,684	+1,439
Milk Production per Farm Annually (lbs.)	1,660,090	4,401,852	+2,741,762
Annual Hours of Labor per Cow	51.8	26.0	25.8
Milk Cows / F.T.E.	35	50	15

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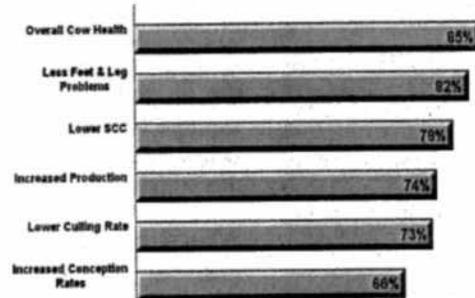
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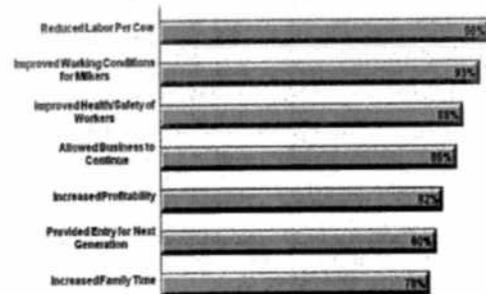
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Broadband: The Road to Prosperity May Not Require Asphalt

Broadband is a must-have infrastructure for Wisconsin communities to thrive in the 21st century. With increased broadband penetration Wisconsin will:

- Make more Wisconsin businesses capable of competing globally.
- Reduce business operating costs.
- Address needs of unemployed through access to employment prospects and online resources.
- Improve educational and training opportunities through access to specialized online learning opportunities.
- Increase the option for telecommuting and expansion of labor pools.
- Increase the likelihood that businesses and workers will want to continue to move here and stay.

Wisconsin is ranked just 43rd in the nation in broadband connectivity (www.broadbandmap.gov), falling short of the top 10 states in the nation in this regard (Akamai Technologies; see table below).

"The simple answer is that rural communities will be economically crippled without broadband access. That's the long and the short of it. Broadband will not bring immediate economic transformation to rural America. But regions that lack broadband will be crippled. Having broadband may not necessarily mean a sharp increase in jobs; however, not having broadband will probably mean fewer jobs."

—Sharon Stover, Director of the Telecommunications and Information Policy Institute at the University of Texas.

We need to change that if we want to combat the decline of traditional rural industries.

High Broadband Connectivity, Fastest U.S. States

State	% Above 5 Mbps	QoQ Change	YoY Change
1 Delaware	67%	3.8%	-8.4%
2 Rhode Island	62%	21%	84%
3 New Hampshire	54%	0.5%	4.7%
4 District Of Columbia	52%	12%	17%
5 New Jersey	47%	5.7%	-0.3%
6 Massachusetts	47%	5.1%	3.9%
7 Maryland	45%	4.1%	-5.7%
8 Maine	44%	20%	27%
9 New York	43%	4.9%	-4.4%
10 Nevada	43%	9.1%	3.7%



Source: The State of the Internet, Q4, 2010, Akamai

Regardless of whether or not it is profitable to serve rural areas, there will always be more populated markets where it will be more profitable to make investments.

"Summing the conservative, low-end estimates of 11 categories of economic impact yields an aggregate estimate of the current costs of digital exclusion at over \$55 billion per year." —The Economic Impact of Digital Exclusion, March 5, 2010: <http://www.digitalimpactgroup.org/costofexclusion.pdf>