

Section 2 - Agricultural Production

In addition to food and beverage manufacturing, agricultural production is the other core industry within the AFB cluster. In 2012, just over 24,000 farms in the fourteen county AFB study area produced \$3.4 billion in sales and accounted for 30,000 employees. The region's agricultural production sector largely produces crop and animal products to be used either as inputs to other value-added food products or sold to intermediate distributors for eventual consumer purchase at retail outlets. However, farms also produce a relatively small, but growing amount of food that is sold directly to consumers. To better understand this sizeable industry, the following overview of the region's agricultural producers includes perspectives on employment trends, scale of production, and other characteristics that could inform the development of the AFB cluster.

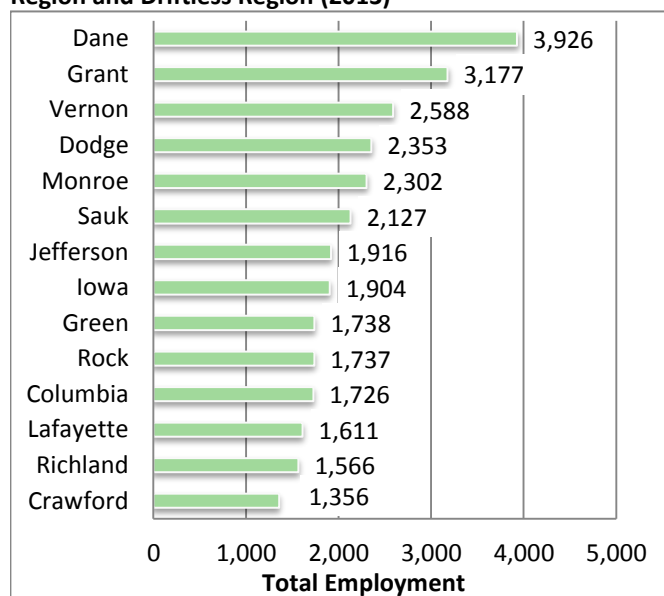
Agricultural producers include both crop production and animal production. Enterprises in the crop production subsector (NAICS 111) include "farms, orchards, groves, greenhouses, and nurseries that grow crops, plants, vines, or trees and their seeds. Specific categories of crop production are grouped by likeness of production activity, including biological and physiological characteristics; economic requirements; growing seasons; crop rotations; input specialization; labor requirements, and capital demands."¹²

As described by the Census Bureau, establishments in the animal production and aquaculture subsector (NAICS 112) "raise or fatten animals for the sale of animals or animal products; and/or raise aquatic plants and animals in controlled or selected aquatic environments for the sale of aquatic plants, animals, or their products. The subsector includes establishments, such as ranches, farms, and feedlots primarily engaged in keeping, grazing, breeding, or feeding animals. These animals are kept for the products they produce or for eventual sale. The animals are generally raised in assorted environments, varying from total confinement to feeding on an open range pasture."

Employment

In 2013, farms accounted for 17,400 employees in the Madison Region and 12,600 employees in the Driftless Region. The combined farm employment in these two regions is responsible for a third of all farm employees in the State of Wisconsin. While every county in the study area has more than 1,300 farm employees, Dane County and Grant County have the greatest employment levels (Figure 2.1). The total number of farm employees in Dane County may surprise those who often associate the area with employment in government, education, health care or knowledge-based industry sectors.

Figure 2.1 – Farm Employment by County in the Madison Region and Driftless Region (2013)



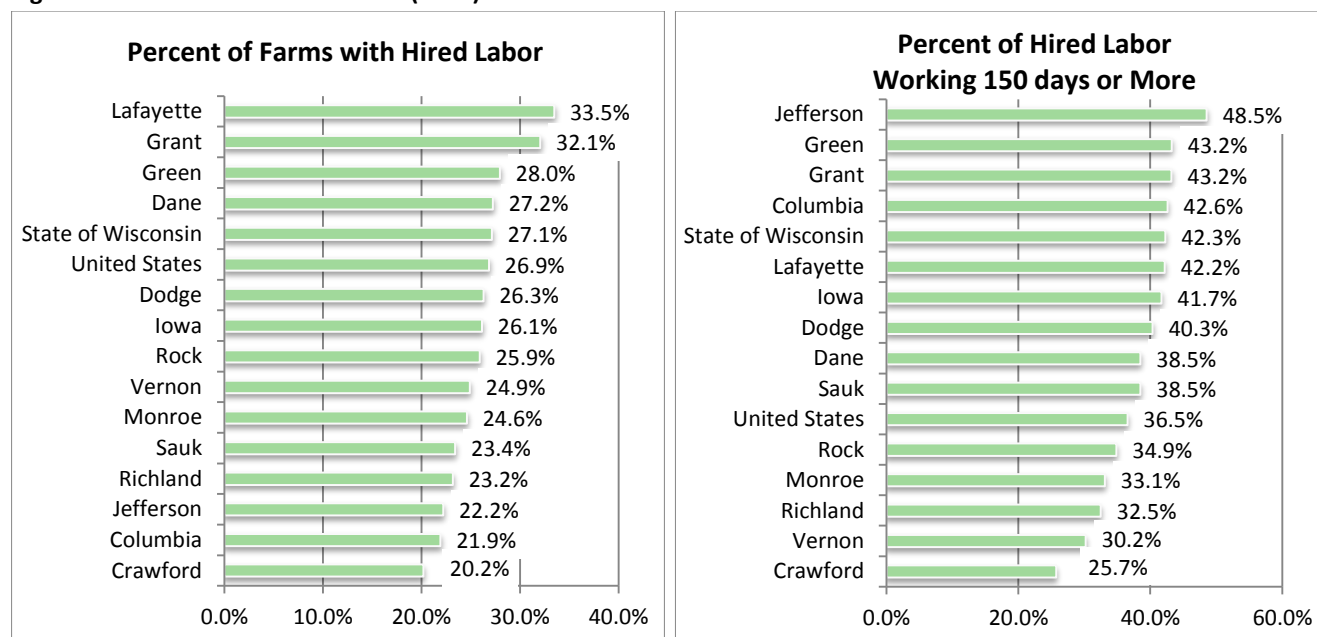
Source: Bureau of Economic Analysis

¹² Industry descriptions are based on NAICS definitions from the U.S. Census Bureau

When comparing farm employees to employment in other industry sectors, it is important to recognize some distinct differences in how farm employment is reported and recorded. In this AFB cluster abstract, employees reported in non-farm industries are mostly restricted to wage and salary employment. More specifically, employment figures for other sectors do not include business proprietors or owners. In contrast, farm employment figures used here encompass “workers engaged in the direct production of agricultural commodities, *whether as a sole proprietor, partner, or hired laborer.*”¹³ That is, farm employment figures include both wage and salary employees *and* farm owners.

A farm’s need for hired labor depends on a variety of characteristics such as size of the operation, types of products produced, and the number of operators involved. Overall, a relatively low share of farms in the United States reported having hired labor in 2012 (27 percent of all farms). In the AFB study area, the percent of farms with hired labor varied between 33.5 percent in Lafayette County to just 20.2 percent in Crawford County (Figure 2.2). By nature of the industry, a large share of farm employment also tends to be seasonal or part-time. In the United States just over one-third (36.5 percent) of hired laborers work 150 days or more at the same operation per year. In the AFB study area, the greatest share of hired laborers working 150 days or more at the same farm is found in Jefferson County (48.5 percent). Again, the lowest share occurs in Crawford County (25.7 percent). The regional distribution of hired laborers working 150 days or more partially reflects the relative presence or absence of large farms (particularly farms with animal operations) within study area counties.

Figure 2.2 – Farms with Hired Labor (2012)



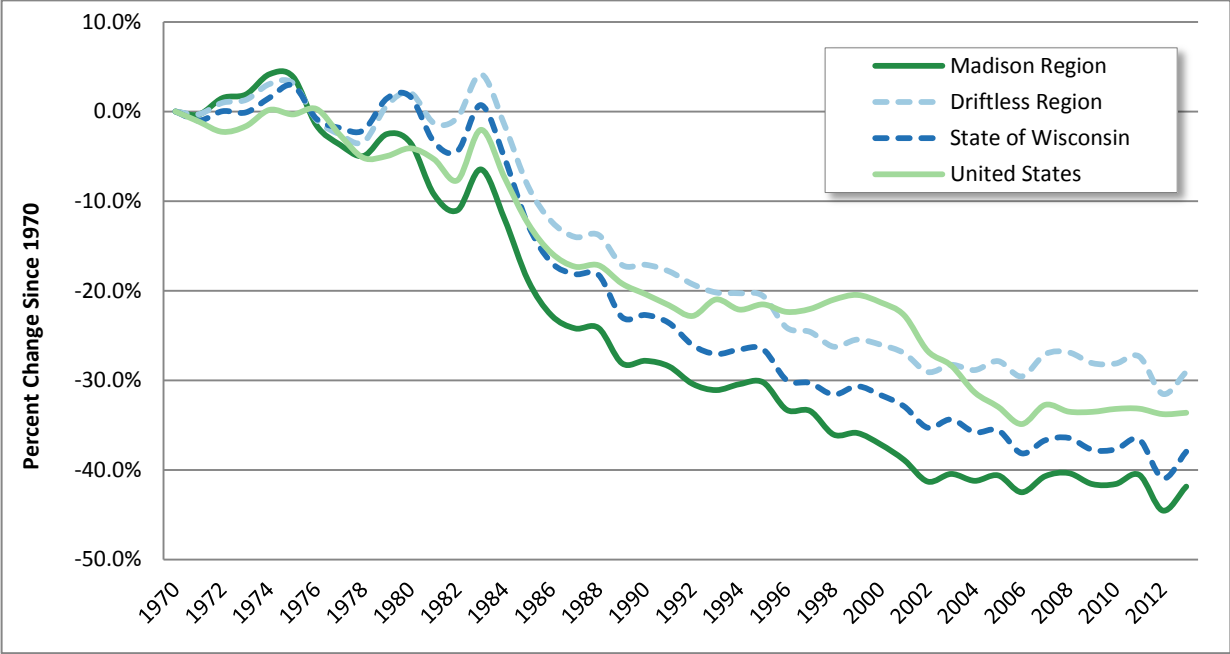
Source: USDA 2012 Census of Agriculture and Author’s Calculations

As noted in Section 1, national employment levels in food manufacturing have remained somewhat consistent across the past 20 years. However, it is not surprising that farm employment has declined over prior decades. Improved chemicals, new machinery, and the adoption of innovative technologies have greatly improved agricultural yields. Consequently, increases in agricultural productivity through the use of non-labor inputs

¹³ Definition from the Bureau of Economic Analysis

results in a need for fewer farm employees. Locally, farm employment in the Madison Region has declined by approximately 40 percent since 1970, largely mirroring the State of Wisconsin’s employment trend (Figure 2.3). Similarly, farm employment in the Driftless Region dropped by almost 30 percent between 1970 and 2013. Despite these long-term declines, farm employment levels in the Madison Region and the Driftless Region have stabilized somewhat in the past decade.

Figure 2.3 – Percent Change in Farm Employment 1970 to 2013

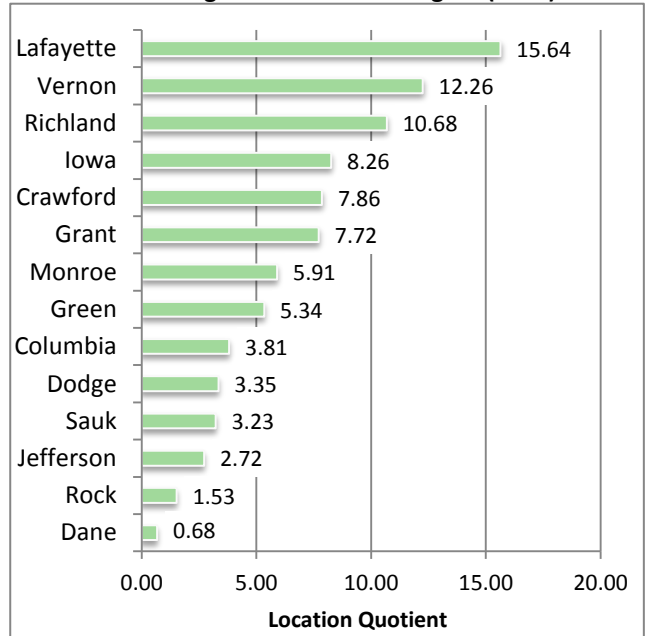


Source: Bureau of Economic Analysis and Author’s Calculations

Location Quotients

Location quotients provide another means of analyzing farm employment in the region. As noted in Section 1, a location quotient (LQ) is calculated by comparing farm employment’s share of total local employment to the industry’s share of overall national employment. Again, the critical value for a location quotient is 1.0. An LQ of 1.0 means an area has the *same* proportion of farm employment as that of the nation. An LQ *greater* than 1.0 denotes that an area’s share of farm employment is above the national share. Conversely, an LQ *less* than 1.0 indicates an area’s farm employment is below the national percentage. Due to accuracy issues with employment data, location quotients between 0.75 and 1.25 are generally considered not to be significantly different from 1.0.

Figure 2.4 - Farm Employment Location Quotients by County in the Madison Region and Driftless Region (2013)

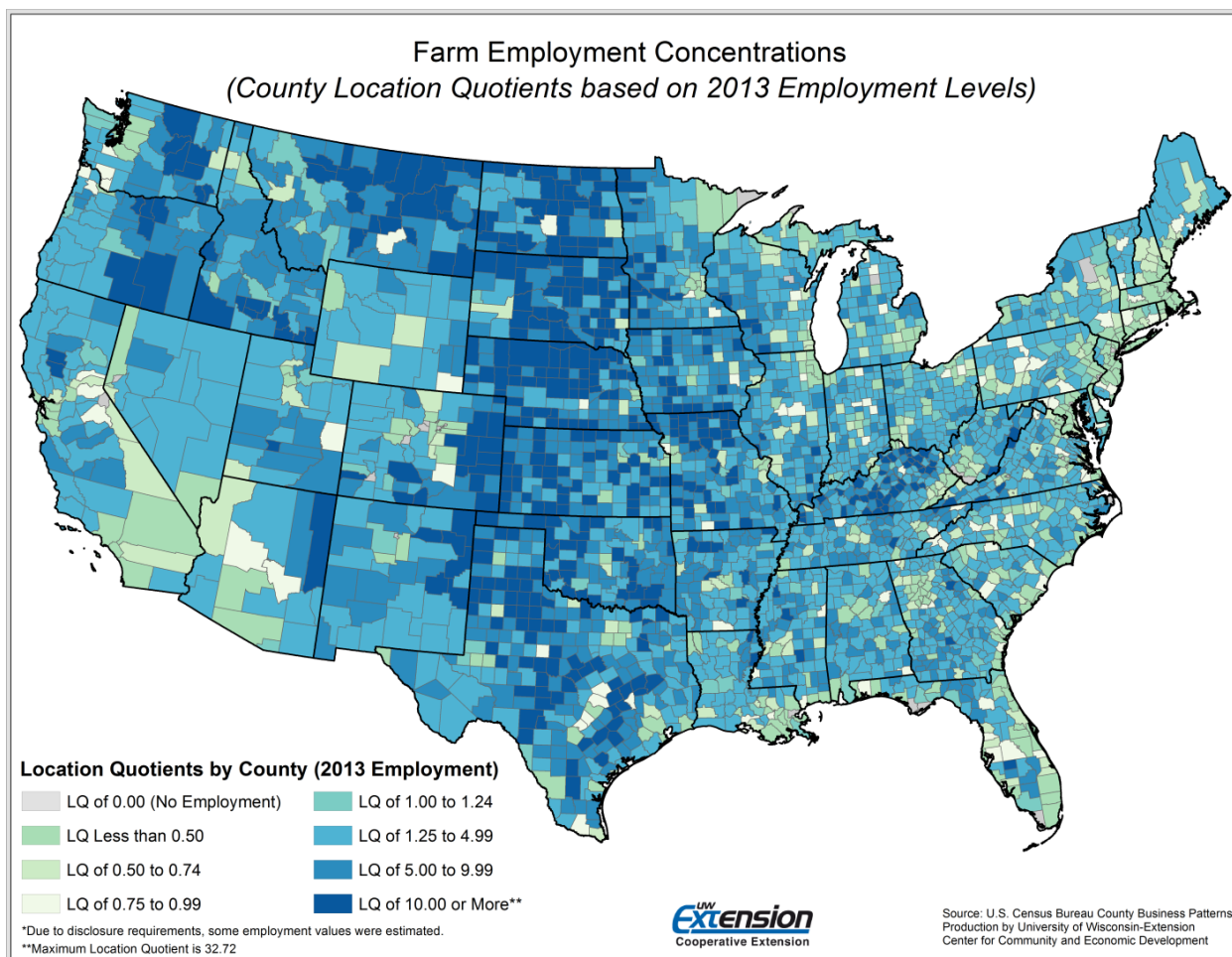


Source: Bureau of Economic Analysis and Author’s Calculations

With the exception of Dane County, every county in the AFB study area has a location quotient above 1.0 (Figure 2.4). A farm employment location quotient of just 0.68 in Dane County may seem counterintuitive given its large number of farm employees. However, the figure reflects the fact that Dane County is also the largest employment center in the region and farm employment simply comprises a lower share of total employment than in other study area counties. The location quotients in Figure 2.4 are important as they show the relative concentration of agriculture in the region. The figures also reiterate the export-based nature of agricultural production in the region, which brings external dollars into local communities.

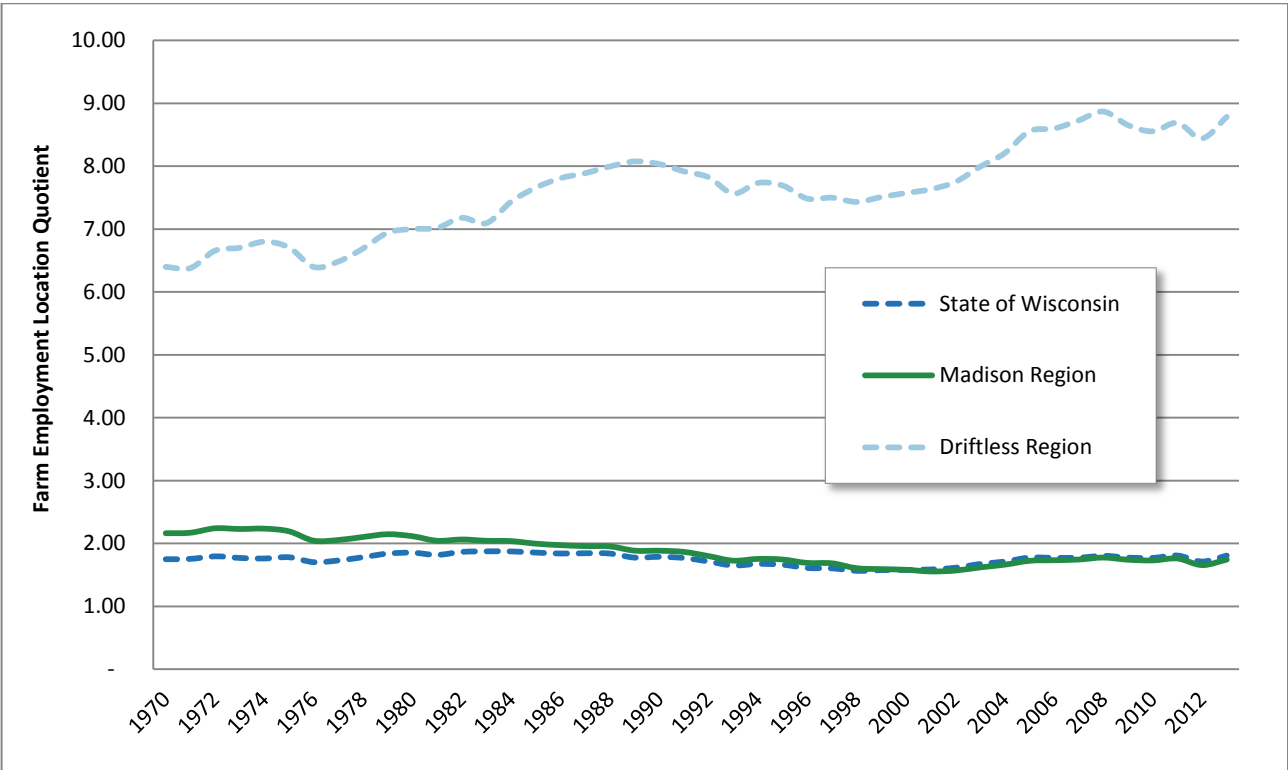
Farm employment location quotients are particularly large in Driftless Region counties. Lafayette, Vernon, Richland, Crawford, Grant and Monroe counties all have LQs of at least 5.9 and show the intensity of agricultural production employment in Southwest Wisconsin. Certainly other counties across the nation have large location quotients as well, particularly across the Great Plains states (Figure 2.5). However, comparing the map of farm employment location quotients to the map of food manufacturing location quotients in Section 1 (Figure 1.4) does suggest one potential advantage for the AFB study area. Compared to many areas with high farm employment location quotients, the AFB study area has a concentration of high location quotients in *both* farm employment and food manufacturing. That is, producers and processors are potentially within close geographic proximity of each other that could generate greater opportunities for networks and efficiencies.

Figure 2.5 - National Distribution of Farm Employment Location Quotients by County (2013)



Farm employment location quotients measured across the past four decades also provide additional context on employment change. Overall, the farm employment location quotient for the Madison Region has declined somewhat since 1970. Nonetheless, the region's location quotient has risen recently from 1.58 in 2000 to 1.74 in 2013. Within the Driftless Region, the farm employment location quotient increased from 6.40 in 1970 to 8.78 in 2013. The increasing LQ in the Driftless Region is partly a function of farm employment declining at a lesser rate in the region relative to the national rate of decline. The increasing location quotient also reflects non-farm employment in the Driftless Region growing at a slower rate than non-farm employment nationally. Regardless, the location quotient trend in the Driftless Region shows the area's potentially increasing importance on farm employment relative to the state and national economy.

Figure 2.6 – Farm Employment Location Quotient Trend 1970 to 2013



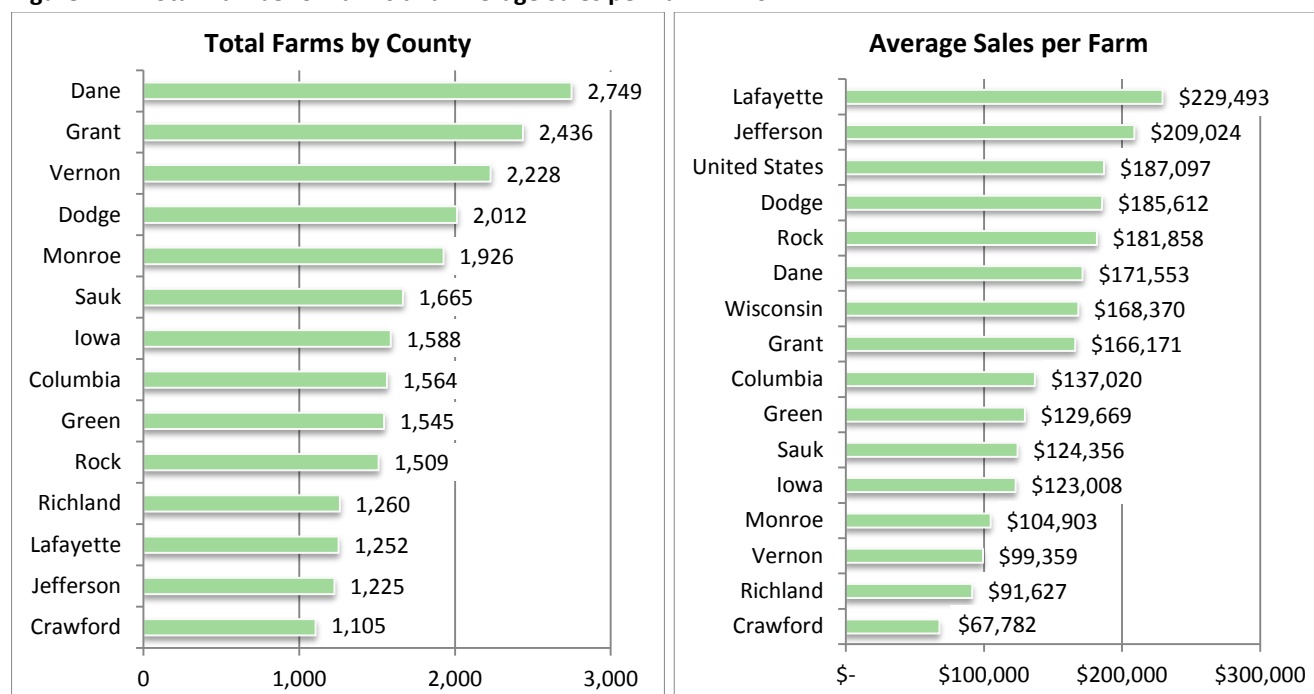
Source: Bureau of Economic Analysis and Author's Calculations

Farms and Value of Agricultural Products Sold

According to figures from the 2012 Census of Agriculture, the Madison Region is home to almost 13,900 farms. Furthermore, the Driftless Region contains approximately 10,200 farms. Reflecting the farm employment figures in Figure 2.1, the six counties with the greatest number of farms are also those with the largest number of farm employees (Figure 2.7). Not surprisingly, these counties are also among the largest counties in the AFB study area in terms of their total land area. Nonetheless, every county in the Madison Region and Driftless Region had at least 1,100 total farms in 2012.

When considering the large number of farms in the study area, it is important to understand the USDA's definition of a farm. A farm is currently defined as any place from which \$1,000 or more of agricultural goods (crops or livestock) were sold or normally would have been sold during the year under consideration. USDA's National Agricultural Statistics Service (NASS) also includes government payments as sales. In other words, a farm is defined as any place with any combination of sales, potential sales, and government payments totaling at least \$1,000. The phrase "normally would" aims to ensure the inclusion of farms that do, or could, contribute to agricultural production, even if they did not have \$1,000 in sales. These farms are included as any given operation could experience an adverse event, such as a drought, flood or disease that destroys the farm's production.¹⁴ *The inclusion of all operations is particularly important as Southern Wisconsin experienced a severe drought in 2012 which undoubtedly affects the figures reported in this abstract.*

Figure 2.7 - Total Number of Farms and Average Sales per Farm in 2012



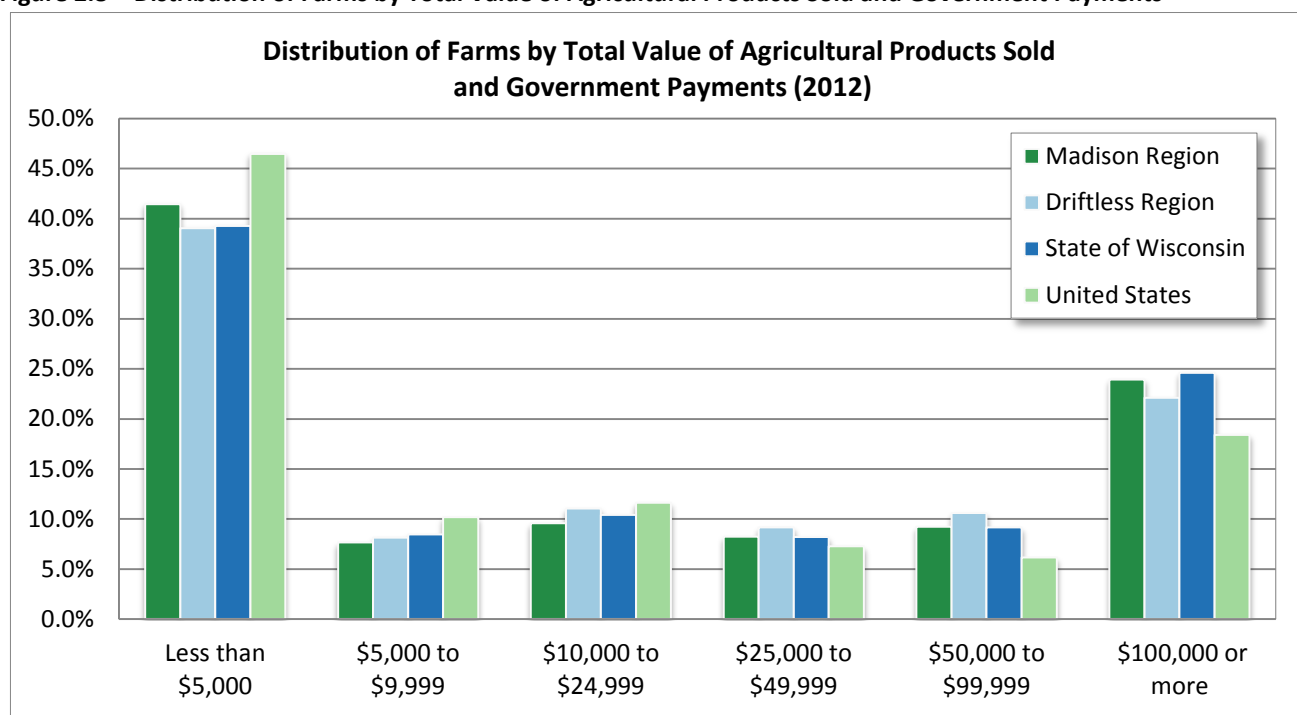
Source: USDA 2012 Census of Agriculture and Author's Calculations

¹⁴ Some commodities also require a long production cycle before sales are realized.

Given the USDA's inclusive definition of a farm, it is not surprising that a large share of farms have relatively low total values of agricultural products sold. Within the Madison Region, 41.4 percent of farms reported less than \$5,000 in sales of agricultural products (Figure 2.8). A slightly smaller percentage of farms in the Driftless Region (39.0 percent) reported values below \$5,000. In contrast, both the Madison Region and the Driftless Region have higher shares of farms with agricultural sales above \$25,000 than the national share.

Despite the large share of farms with agricultural sales under \$100,000 dollars, average sales per farm are over \$100,000 in all but three AFB study area counties (Figure 2.7). These seemingly contradictory figures are explained by a disproportionately large share of total agricultural sales produced by farms having sales of \$100,000 or more. In 2012, 24 percent of farms in the Madison Region had sales of \$100,000 or more. *However, these farms also accounted for 92 percent of all agricultural sales value in the Madison Region. In fact, farms with sales of \$500,000 or more account 67 percent of all sales.* Similarly, the 22.1 percent of farms in the Driftless Region with sales of \$100,000 or more accounted for 89 percent of total sales.

Figure 2.8 – Distribution of Farms by Total Value of Agricultural Products Sold and Government Payments



Source: USDA 2012 Census of Agriculture and Author's Calculations

Between 2007 and 2012, the number of farms declined across the Madison Region, the Driftless Region, the State of Wisconsin, and the United States (Table 2.1). These declines occurred across almost all sizes of farms. The exceptions being increases in the number of farms of 500 or more acres in the Driftless Region (4.9 percent) and the State of Wisconsin (0.5 percent). Compared to the national rate, overall farm numbers decreased at higher rates across Wisconsin (-11.1 percent), the Madison Region (-8.6 percent), and the Driftless Region (-12.8 percent). These higher rates of decline partially reflect a mild winter and a severe drought that occurred across Southern Wisconsin in 2012. *Again, the drought conditions during 2012 will impact many of the farm production figures and characteristics in this abstract. The drought conditions also preclude a detailed analysis of changes occurring between 2012 and prior Census of Agriculture years.*

Consequently, this analysis of agricultural production should be viewed as a snapshot. Those interested in longer term changes to farm production characteristics in Wisconsin should refer to the *Status of Wisconsin Agriculture* reports produced annually by UW-Madison's College of Agriculture and Life Sciences, and the University of Wisconsin-Extension. These reports are available at: www.aae.wisc.edu/pubs/status/

Table 2.1 – Change in the Number of Farms – 2007 and 2012

Size of Farm by Acres	Madison Region			Driftless Region			State of Wisconsin			United States		
	2007	2012	Change	2007	2012	Change	2007	2012	Change	2007	2012	Change
All Farms	15,155	13,857	-8.6%	11,707	10,207	-12.8%	78,463	69,754	-11.1%	2,204,792	2,109,303	-4.3%
1 to 9 acres	1,272	1,185	-6.8%	627	521	-16.9%	4,861	4,603	-5.3%	232,849	223,634	-4.0%
10 to 49 acres	4,307	4,049	-6.0%	2,750	2,284	-16.9%	19,895	17,825	-10.4%	620,283	589,549	-5.0%
50 to 179 acres	5,238	4,615	-11.9%	4,738	4,113	-13.2%	29,765	25,502	-14.3%	660,530	634,047	-4.0%
180 to 499 acres	3,101	2,800	-9.7%	2,834	2,494	-12.0%	17,837	15,688	-12.0%	368,368	346,038	-6.1%
500 acres or more	1,237	1,208	-2.3%	758	795	4.9%	6,105	6,136	0.5%	322,762	316,035	-2.1%

Source: USDA 2012 Census of Agriculture and Author's Calculations

In the Madison Region, the loss in farms between 2007 and 2012 translated to a decline of 102,000 acres in farmland (a change of -3.5 percent). The total land in farms declined by 69,600 acres in the Driftless Region (-3.2 percent). The greatest percentage losses occurred in Richland and Crawford counties, while acreage in Lafayette County and Rock County actually increased (Table 2.2). Again, it is unknown what levels of decline can be attributed to drought conditions relative to other factors.

Table 2.2 – Land in Farms (Change between 2007 and 2012)

Area	Acreage in 2012	Acreage in 2007	Numeric Change	Percent Change
Columbia County	307,973	316,193	-8,220	-2.6%
Dane County	504,420	535,756	-31,336	-5.8%
Dodge County	402,041	412,949	-10,908	-2.6%
Green County	302,295	306,859	-4,564	-1.5%
Iowa County	350,813	364,970	-14,157	-3.9%
Jefferson County	227,901	244,238	-16,337	-6.7%
Rock County	353,793	344,361	9,432	2.7%
Sauk County	332,649	358,919	-26,270	-7.3%
Madison Region Total	2,781,885	2,884,245	-102,360	-3.5%
Crawford County	216,584	238,225	-21,641	-9.1%
Grant County	587,587	610,914	-23,327	-3.8%
Lafayette County	368,501	342,617	25,884	7.6%
Monroe County	337,895	351,306	-13,411	-3.8%
Richland County	227,833	253,776	-25,943	-10.2%
Vernon County	345,892	357,090	-11,198	-3.1%
Driftless Region Total	2,084,292	2,153,928	-69,636	-3.2%

Source: USDA 2012 Census of Agriculture and Author's Calculations

Farms by Industry Classification and Commodity Production

Farm diversity in the Madison Region and the Driftless Region is an advantage for the AFB cluster. While some large agricultural producing regions of the United States are rooted in a handful of commodities, farms in the AFB study area produce a wide variety of crop and animal products. Production also occurs across an assortment of scales. To better understand the scale and scope of agricultural products produced in the study area, the following analysis provides a brief overview of the region's farms categorized by industrial classification and by commodity type.

An individual farm may produce a variety of agricultural products. However, many farms will have a primary commodity type that generates the majority of sales. Grouping farms by their primary type of production provides one means of understanding farm diversity in the study area. Specifically, the Census of Agriculture classifies agricultural production establishments according to the North American Industrial Classification System (NAICS).¹⁵ Agricultural production NAICS categories include:¹⁶

- *“Oilseed and grain farming (NAICS 1111) - Comprises establishments primarily engaged in (1) growing oilseed and/or grain crops and/or (2) producing oilseed and grain seeds. These crops have an annual life cycle and are typically grown in open fields. This category includes corn silage and grain silage;*
- *Vegetable and melon farming (NAICS 11121) - Comprises establishments primarily engaged in one or more of the following: (1) growing vegetables and/or melon crops, (2) producing vegetable and melon seeds, and (3) growing vegetable and/or melon bedding plants;*
- *Fruit and tree nut farming (NAICS 1113) - Comprises establishments primarily engaged in growing fruit and/or tree nut crops. These crops are generally not grown from seeds and have a perennial life cycle;*
- *Greenhouse, nursery, and floriculture production (NAICS 1114) - Comprises establishments primarily engaged in growing crops of any kind under cover and/or growing nursery stock and flowers. “Under cover” is generally defined as greenhouses, cold frames, cloth houses, and lath houses. Crops grown are removed at various stages of maturity and have annual and perennial life cycles. The category includes short rotation woody crops and Christmas trees that have a growing and harvesting cycle of 10 years or less;*
- *Other crop farming (NAICS 1119) - Comprises establishments primarily engaged in (1) growing crops such as tobacco, cotton, sugarcane, hay, sugarbeets, peanuts, agave, herbs and spices, and hay and grass seeds, or (2) growing a combination of the valid crops with no one crop or family of crops accounting for one-half of the establishment's agricultural production (value of crops for market);*
- *Beef cattle ranching and farming (NAICS 112111) - Comprises establishments primarily engaged in raising cattle (including cattle for dairy herd replacements). Pastureland-only farms, those with only 100 or more acres of pastureland, were classified as “All other animal production farming (11299);*
- *Cattle feedlots (NAICS 112112) - Establishments primarily engaged in feeding cattle for fattening;*

¹⁵ As mentioned in Section 1, NAICS is the North American Industrial Classification System. As noted by the U.S. Census Bureau, “NAICS is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.” For more information see: <http://www.census.gov/eos/www/naics/>.

¹⁶ These descriptions are cited from the *2012 Census of Agriculture: Appendix B. General Explanation and Census of Agriculture Report Form*. USDA, National Agricultural Statistics Service.

- *Dairy cattle and milk production (NAICS 11212)* - This industry comprises establishments primarily engaged in milking dairy cattle;
- *Poultry and egg production (NAICS 1123)* - This industry group comprises establishments primarily engaged in breeding, hatching, and raising poultry for meat or egg production;
- *Sheep and goat farming (NAICS 1124)* - This industry group comprises establishments primarily engaged in raising sheep, lambs, and goats, or feeding lambs for fattening;
- *Animal aquaculture (NAICS 1125)* - Comprises establishments primarily engaged in the farm raising of finfish, shellfish, or any other kind of animal aquaculture. These establishments use some form of intervention in the rearing process to enhance production, such as holding in captivity, regular stocking, feeding, and protecting from predators;
- *Other animal production (NAICS 1129)* - Comprises establishments primarily engaged in raising animals and insects (except cattle, hogs and pigs, poultry, sheep and goats, and aquaculture) for sale or product production. These establishments are primarily engaged in one of the following: bees, horses and other equine, rabbits and other fur-bearing animals, etc., and producing products such as honey and other bee products. *Establishments primarily engaged in raising a combination of animals with no one animal or family of animals accounting for one-half of the establishment's agricultural production are included in this industry group. Farms with only 100 acres or more of pastureland are classified here as well."*

In comparing the distribution of farms by NAICS categories, farms in the Madison Region and Driftless Region are much more likely to be classified as oilseed and grain farms than the national distribution (Table 2.3). Large shares of farms are also classified as other crop farming (NAICS 1119) which partially reflects farms where less than half of their sales comes from one crop. Not surprisingly, farms in the Madison Region and the Driftless Region are also distinguished by the high share classified under dairy cattle and milk production (NAICS 11212). When compared to the Madison Region and the State of Wisconsin, a high share of farms in the Driftless Region also are classified as beef cattle ranching and farming (NAICS 11211).

Table 2.3 – Farms by NAICS Classification

NAICS Description and Classification	Madison Region	Driftless Region	State of Wisconsin	United States
Total farms	13,857	10,207	69,754	2,109,303
Oilseed and grain farming (1111)	32.4%	24.6%	28.3%	17.5%
Vegetable and melon farming (1112)	1.9%	1.2%	1.9%	2.0%
Fruit and tree nut farming (1113)	1.2%	1.8%	1.8%	4.4%
Greenhouse, nursery, and floriculture production (1114)	2.1%	1.0%	2.5%	2.5%
Other crop farming (1119)	24.2%	23.6%	22.5%	23.6%
Beef cattle ranching and farming (11211)	12.0%	21.0%	14.7%	29.4%
Cattle feedlots (11212)	1.6%	1.7%	1.3%	0.7%
Dairy cattle and milk production (11212)	11.0%	15.9%	14.9%	2.2%
Hog and pig farming (1122)	1.0%	0.5%	0.7%	1.0%
Poultry and egg production (1123)	2.7%	1.4%	2.3%	2.5%
Sheep and goat farming (1124)	2.4%	2.3%	2.2%	3.5%
Animal aquaculture & other animal production (1125,1129)	7.5%	4.9%	6.9%	10.8%

Source: USDA 2012 Census of Agriculture and Author's Calculations

Agricultural enterprises also can be classified according to the individual commodities farms produce. Every farm recorded in the Census of Agriculture reports whether or not the establishment produces any given type of crop or animal production; not just by the primary type of commodity it produces. The following tables summarize the production of selected commodities in the AFB study area. The tables include the number of farms producing a specific agricultural product; the total value of sales for the product; and average sales per farm. Again, this information should be viewed as a snapshot of conditions in 2012. As with total average sales per farm reported in Figure 2.7, average sales for a given agricultural commodity also may be biased by the sizes of farm operations in an area.

Given the high share of farms classified as oilseed and grain farming operations in Table 2.2, the large number of study area farms producing corn, wheat and soybeans is expected (Table 2.4). Over 10,000 farms in the AFB study area produced corn in 2012. These farms combined for a total sales value of \$844 million. Not surprisingly, the highest average sales per farm were found in Rock County (\$159,974 per farm). Four other study area counties (Columbia, Dane, Dodge and Lafayette) also had average sales over \$100,000 per farm. While all study area counties had average corn sales per farm below the national average, the national value is skewed somewhat by extremely large operations in Corn Belt states.

In addition to corn, over 1,700 farms in the study area produced \$37.3 million in wheat sales. Furthermore, 6,120 farms had soybean sales of \$321.3 million. As with corn, most counties had average sales per farm below the national average for these commodities. Again, the national averages are influenced by large scale producers in the Midwest and Great Plains states.

Table 2.4 – Corn, Wheat and Soybeans in 2012 - Farms and Sales

Commodity	Corn			Wheat			Soybeans		
	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm
Columbia	731	\$88,010	\$120,397	172	\$4,230	\$24,593	410	\$19,562	\$47,712
Dane	1,069	\$113,307	\$105,993	290	\$7,198	\$24,821	759	\$41,078	\$54,121
Dodge	1,025	\$106,335	\$103,741	376	\$7,865	\$20,918	756	\$39,496	\$52,243
Green	616	\$41,541	\$67,437	152	\$3,532	\$23,237	399	\$20,298	\$50,872
Iowa	571	\$31,591	\$55,326	62	\$1,394	\$22,484	313	\$15,245	\$48,706
Jefferson	569	\$52,643	\$92,518	198	\$3,024	\$15,273	497	\$29,026	\$58,402
Rock	619	\$99,024	\$159,974	157	\$4,521	\$28,796	530	\$45,383	\$85,628
Sauk	730	\$43,924	\$60,170	105	\$2,194	\$20,895	455	\$16,052	\$35,279
Crawford	416	\$21,730	\$52,236	16	\$402	\$25,125	183	\$7,447	\$40,694
Grant	1,150	\$86,664	\$75,360	57	\$1,222	\$21,439	633	\$30,846	\$48,730
Lafayette	566	\$64,542	\$114,032	42	\$956	\$22,762	339	\$26,888	\$79,316
Monroe	850	\$31,700	\$37,294	16	\$205	\$12,813	324	\$9,273	\$28,620
Richland	415	\$20,442	\$49,258	19	\$221	\$11,632	186	\$6,409	\$34,457
Vernon	990	\$42,647	\$43,078	59	\$415	\$7,034	336	\$14,325	\$42,634
Wisconsin	28,802	\$2,345,697	\$81,442	5,127	\$124,468	\$24,277	17,106	\$879,153	\$51,394
United States	361,744	\$67,250,120	\$185,905	147,022	\$15,761,545	\$107,205	301,343	\$38,745,118	\$128,575

Source: USDA 2012 Census of Agriculture and Author's Calculations

Over 800 farms produced vegetables, melons, potatoes or sweet potatoes in 2012 (Table 2.5). While sales values are suppressed for Crawford County and Iowa County, the 12 counties with figures reported in Table 2.5 generated \$33.7 million in total sales. The types of vegetables grown may vary by year, but farms in the region produced a wide variety of products in 2012 (Appendix B). A smaller number of farms produce either fruits and tree nuts (206 farms) or berries (291 farms). However, every county in the AFB study area had at least four farms engaged in growing these products.

Relative to the national average, fruit and tree nut and berry operations tend to have much smaller sales per farm. However, berry operations in Monroe County had average sales well above the national value. The average sales figure in Monroe County reflects the large number of cranberry producers in the area. Furthermore, average sales per farm for fruit and tree nut farms in Richland County were much higher than other study area counties. The higher values in Richland County likely reflect larger apple growing operations in the area.

Table 2.5 – Vegetables, Fruits and Tree Nuts, and Berries in 2012 - Farms and Sales

Commodity	Vegetables, melons, potatoes, and sweet potatoes			Fruits and tree nuts			Berries		
	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm
Columbia	98	\$2,609	\$26,622	13	\$142	\$10,923	23	\$85	\$3,696
Dane	143	\$4,138	\$28,937	33	\$822	\$24,909	45	\$225	\$5,000
Dodge	135	\$8,101	\$60,007	10	\$230	\$23,000	10	(D)	(D)
Green	20	\$1,999	\$99,950	7	\$77	\$11,000	5	(D)	(D)
Iowa	22	(D)	(D)	7	\$82	\$11,714	6	\$23	\$3,833
Jefferson	33	\$2,880	\$87,273	11	(D)	(D)	4	(D)	(D)
Rock	62	\$5,110	\$82,419	12	\$134	\$11,167	10	\$129	\$12,900
Sauk	43	\$1,974	\$45,907	6	(D)	(D)	18	(D)	(D)
Crawford	17	(D)	(D)	21	(D)	(D)	10	\$50	\$5,000
Grant	28	\$311	\$11,107	9	\$126	\$14,000	8	\$54	\$6,750
Lafayette	13	\$268	\$20,615	5	\$42	\$8,400	7	(D)	(D)
Monroe	49	\$754	\$15,388	14	\$270	\$19,286	78	\$44,565	\$571,346
Richland	27	\$548	\$20,296	9	\$923	\$102,556	8	\$9	\$1,125
Vernon	146	\$5,056	\$34,630	49	\$563	\$11,490	59	(D)	(D)
Wisconsin	2,880	\$555,432	\$192,858	713	\$20,981	\$29,426	903	\$198,290	\$219,590
United States	72,267	\$16,851,235	\$233,180	86,675	\$22,427,436	\$258,753	24,553	\$3,442,264	\$140,197

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

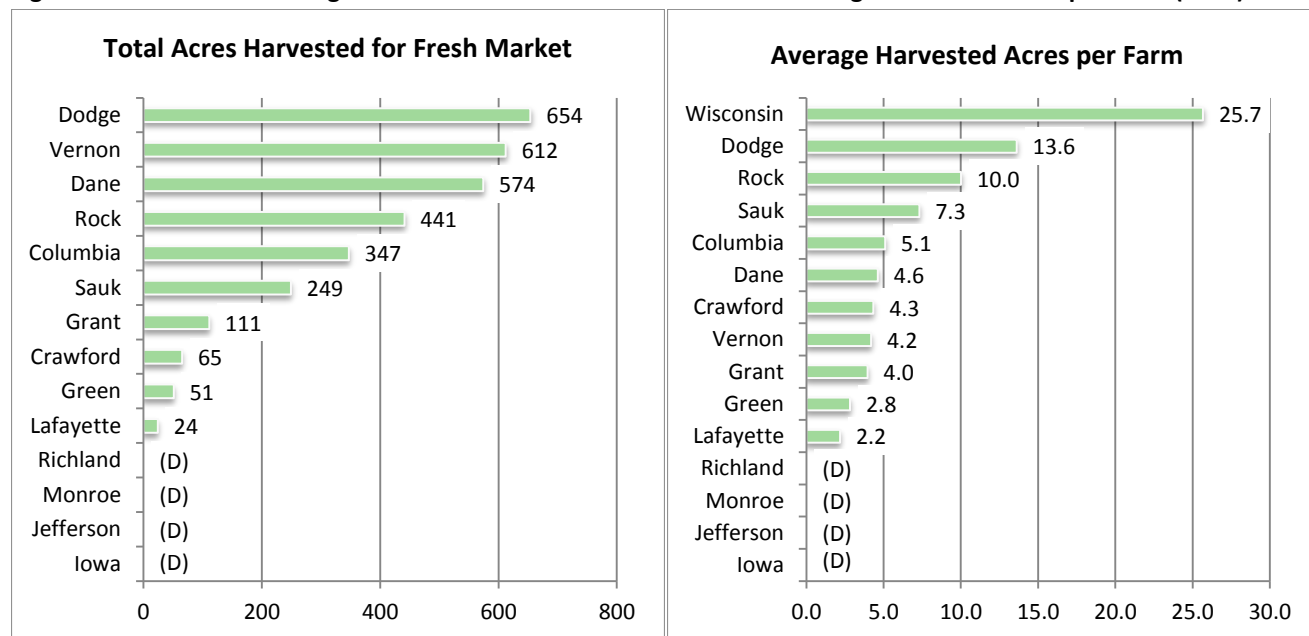
When considering vegetable farm figures in Table 2.5, it is important to note that there is a distinct difference between vegetables produced for the fresh market and those produced for processing. Vegetables produced for the fresh market tend to require higher levels of quality and appearance. Consequently, fresh market vegetables typically involve additional production costs and also command higher prices. A portion of these higher production costs are attributed to greater labor costs as many vegetables for the fresh market are harvested using manual labor. In comparison, many vegetables grown for processing do not require the same aesthetic qualities, allowing them to be harvested using mechanical means and transported in bulk to processors. As vegetables for processing have lower costs, they are often grown under contracts that reduce production costs. The need for lower costs may also require vegetables for processing to be grown at larger scales.

Accordingly, several of the counties with high vegetable sales totals have a large number of acres devoted to vegetables harvested for processing. In 2012, over 8,400 acres of vegetables for processing were harvested in Dodge County. Several other study area counties also had notable acreages devoted to vegetables grown for processing including: Columbia (1,806 acres), Dane (1,509 acres), Green (969 acres), Rock (4,732 acres) and Sauk (1,835 acres). Most of the vegetables grown for processing are peas, sweet corn, lima beans and snap beans. *These farms contribute to Wisconsin's position as one of the top states growing vegetables for processing purposes.* More information on vegetables harvested for processing (as well as those intended for the fresh market) is available in Appendix B.

When compared to operations growing vegetables for processing, study area farms producing vegetables for the fresh market tend to be small in scale. Dodge County had the greatest number acres of vegetables harvested for the fresh market, as well as the largest average acres harvested per farm (Figure 2.9). Nonetheless, Dodge County's average vegetable acres harvested for the fresh market was well below Wisconsin's overall average. Furthermore, the average fresh market acres harvested in study area counties are well below the values found in those states producing a large amount of fresh market vegetables. As an example, California accounted for 32 percent of the United States' fresh market vegetable sales value in 2012. *California farms growing fresh market vegetables harvested an average of 142 acres.* Consequently, the scale of fresh market operations in the AFB study area is significantly different.

While the scale of fresh market vegetable production in study area counties is smaller, the difference also suggests a high value of products grown. For instance, Vernon County farms producing fresh market vegetables harvested an average of just 4.2 acres and reported no acres harvested for processing. Nonetheless, Vernon County still produced average vegetable sales per farm well above many other study area counties. Some of these figures may be skewed by the 2012 drought, but the Driftless Region remains home to many small farms producing high quality, high value produce. Cluster development opportunities and challenges related to the scale of vegetable production are considered later in this abstract.

Figure 2.9 - Total Acres of Vegetables Harvested for Fresh Market and Average Harvested Acres per Farm (2012)



Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

In 2012, almost 8,800 study area farms raised cattle and calves, with a total sales value of \$522 million (excluding Crawford County). Over 2,100 of these farms were found in either Grant County or Vernon County (Table 2.6). As with other comparisons in these tables, average sales per farm in the study area were lower than the national average (with the exception of Lafayette County). While a smaller number of farms produced milk from cows (3,420 farms), these farms reported significant total sales of \$1.31 billion (excluding Crawford County). Average milk sales per farm varied from \$173,249 in Vernon County to \$700,217 in Dane County.

Table 2.6 – Cattle and Calves and Milk from Cows in 2012 - Farms and Sales

Commodity	Cattle and Calves			Milk from Cows		
	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm
Columbia	423	\$27,396	\$64,766	130	\$61,878	\$475,985
Dane	745	\$59,977	\$80,506	293	\$205,193	\$700,317
Dodge	647	\$40,924	\$63,252	305	\$149,157	\$489,039
Green	557	\$26,070	\$46,804	276	\$98,822	\$358,051
Iowa	652	\$53,153	\$81,523	216	\$77,590	\$359,213
Jefferson	300	\$25,557	\$85,190	110	\$57,828	\$525,709
Rock	366	\$27,595	\$75,396	101	\$70,638	\$699,386
Sauk	604	\$29,566	\$48,950	222	\$93,119	\$419,455
Crawford	473	(D)	(D)	121	(D)	(D)
Grant	1,180	\$89,209	\$75,601	449	\$164,759	\$366,947
Lafayette	627	\$66,603	\$106,225	262	\$113,240	\$432,214
Monroe	764	\$21,355	\$27,952	352	\$87,090	\$247,415
Richland	500	\$24,143	\$48,286	150	\$53,909	\$359,393
Vernon	1,041	\$30,306	\$29,112	433	\$75,017	\$173,249
Wisconsin	25,614	\$1,416,881	\$55,317	11,295	\$4,952,039	\$438,428
United States	740,978	\$76,380,153	\$103,080	50,556	\$35,512,120	\$702,431

Source: USDA 2012 Census of Agriculture and Author's Calculations

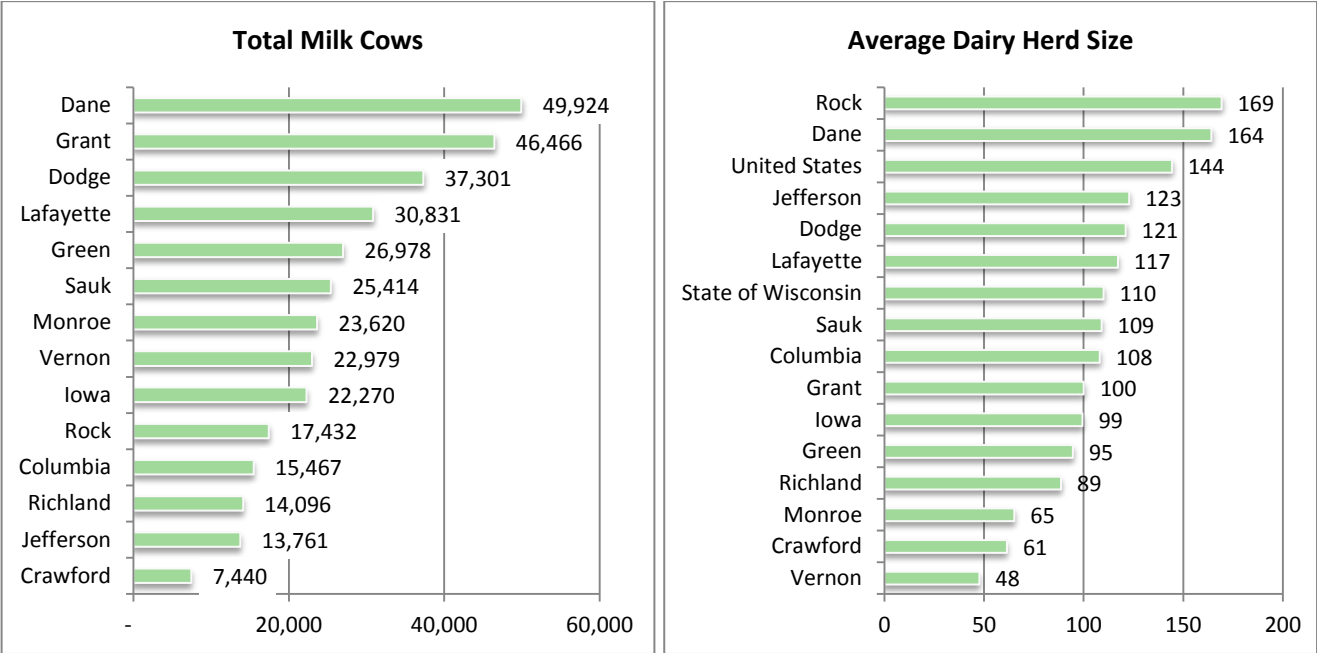
(D) Withheld to avoid disclosing data for individual farms.

The sales per farm values in Table 2.6 largely reflect average dairy herd sizes throughout study area counties. That is, those counties with the largest average sales per farm (Dane, Rock, Jefferson, Dodge, Lafayette, Sauk and Columbia) also have the largest average dairy herd sizes (Figure 2.10). However, average herd sizes do not reflect the diversity of farms with large and small dairy herds (Figure 2.11). In general, counties in the Madison Region tend to have a greater share of dairy farms with larger herds than Driftless Region counties. Some of this difference may reflect organic producers concentrated in the Driftless Region. For instance, Organic Valley has over 500 member farms, with two-thirds of them located in the southwestern part of the Wisconsin that encompasses the Driftless Region. These organic dairy producers who partner with Organic Valley have an average herd size of 65, smaller than the overall state average of 110 dairy cows (Jesse and Mitchell 2014).

From a cluster development perspective, the diversity of large and small dairy farms in Figure 2.11 should be viewed as a potential advantage. As noted by Jesse and Mitchell (2014) "large farmers contribute significantly to an expanding milk supply for processors, encouraging investment and innovation in that sector. In turn, this strengthens markets for smaller dairies. Small farmers help maintain the state's dairy infrastructure, which is

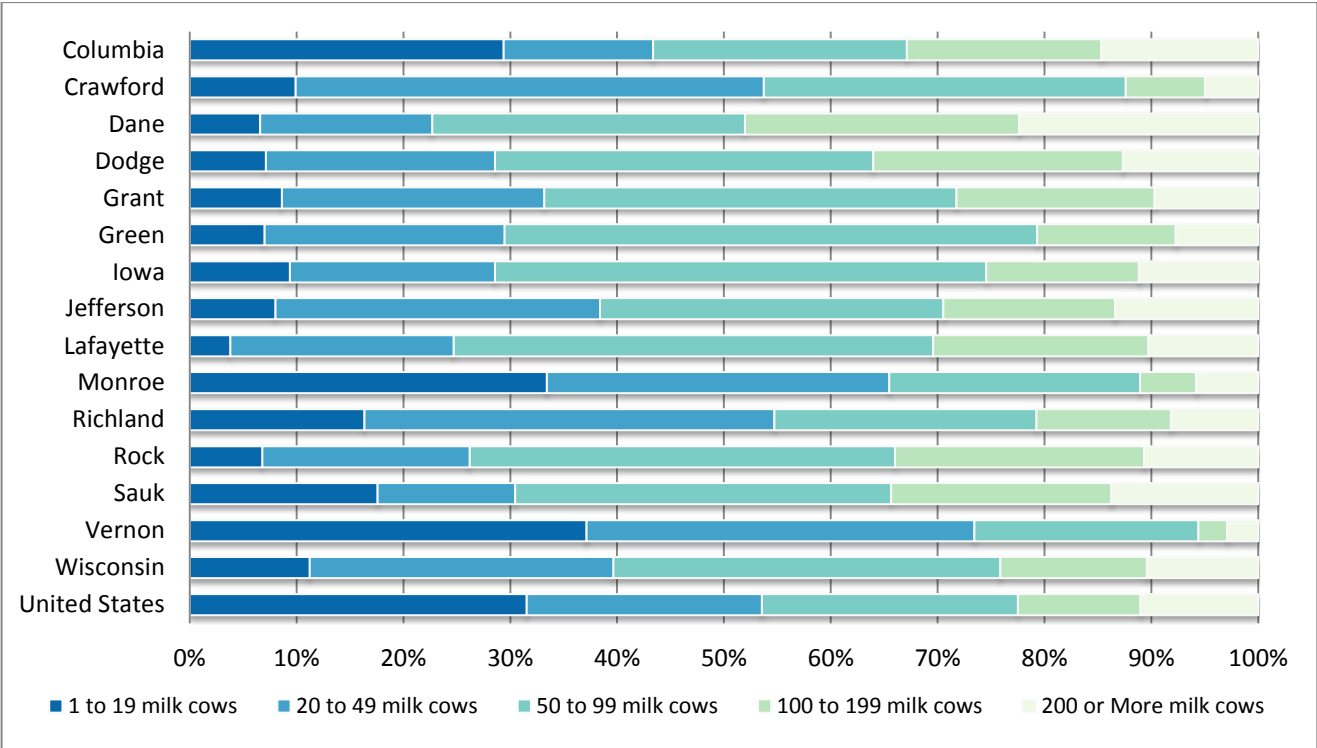
based on both number of customers and volume of milk. Large numbers of smaller dairy farms help sustain their local rural communities, benefiting both themselves and the owners and employees of larger dairies. Finally, smaller operations pair well with the smaller artisan cheese plants that have played a big role in advancing the Wisconsin brand.”

Figure 2.10 - Total Milk Cows and Average Dairy Herd Size (2012)



Source: USDA 2012 Census of Agriculture and Author’s Calculations

Figure 2.11 — Percentage of Farms of Dairy Farms by Herd Size (2012)



Source: USDA 2012 Census of Agriculture and Author’s Calculations

In addition to cattle and calves, and milk cows, study area farmers also raise a number of other animals and animal products (Table 2.7). In 2012, more than 1,800 poultry and egg producers generated at least \$70 million in sales.¹⁷ By far the greatest amount was generated by farms in Jefferson County which is home to sizeable operations at Daybreak Foods. In addition, almost 800 pork producers were located in the study area, accounting for over a third of Wisconsin's hog and pig farms. Finally, 1,076 farms producing sheep and goat products were found in the Madison Region and Driftless Region. Average sales per farm in many counties also exceeded the national average for these products.

Table 2.7 – Poultry and Eggs; Hogs and Pigs; and Sheep, Goats, Wool, Mohair, and Milk in 2012 - Farms and Sales

Commodity	Poultry and Eggs			Hogs and Pigs			Sheep, goats, wool, mohair, and milk		
	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm	Number of Farms	Total Value of Sales (\$1000s)	Average Sales per Farm
Columbia	110	\$3,199	\$29,082	44	\$1,438	\$32,682	83	\$653	\$7,867
Dane	185	\$2,253	\$12,178	86	\$7,590	\$88,256	93	\$503	\$5,409
Dodge	139	\$3,432	\$24,691	62	\$7,306	\$117,839	72	\$615	\$8,542
Green	134	\$163	\$1,216	42	\$930	\$22,143	81	\$1,460	\$18,025
Iowa	79	(D)	(D)	40	\$681	\$17,025	67	\$1,087	\$16,224
Jefferson	109	\$55,360	\$507,890	54	(D)	(D)	50	(D)	(D)
Rock	112	(D)	(D)	51	(D)	(D)	90	\$691	\$7,678
Sauk	163	\$2,177	\$13,356	52	\$9,933	\$191,019	67	\$704	\$10,507
Crawford	49	\$32	\$653	16	(D)	(D)	30	\$209	\$6,967
Grant	121	\$1,354	\$11,190	75	\$15,821	\$210,947	109	\$3,314	\$30,404
Lafayette	69	\$771	\$11,174	55	\$3,425	\$62,273	64	\$2,645	\$41,328
Monroe	217	\$541	\$2,493	84	\$280	\$3,333	87	\$692	\$7,954
Richland	63	\$25	\$397	36	(D)	(D)	43	\$402	\$9,349
Vernon	260	(D)	(D)	97	\$608	\$6,268	140	\$1,145	\$8,179
Wisconsin	5,350	\$465,717	\$87,050	2,210	\$90,589	\$40,990	2,737	\$29,673	\$10,841
United States	137,541	\$42,751,468	\$310,827	55,882	\$22,492,611	\$402,502	114,746	\$939,662	\$8,189

Source: USDA 2012 Census of Agriculture and Author's Calculations (D) Withheld to avoid disclosing data for individual farms.

¹⁷ Sales do not include values from Iowa, Rock and Vernon counties.

Other Selected Farm Characteristics

Farms in the Madison Region and the Driftless Region clearly are responsible for a large number of employees and produce a diversity of agricultural goods. These farms also generate a sizeable economic impact. However, farms in the AFB study area have a number of other characteristics that could potentially create opportunities to distinguish the AFB study area somewhat from many other agricultural areas. Specific characteristics explored below include organic production, direct sales, and other selected operational characteristics.

Organic Production

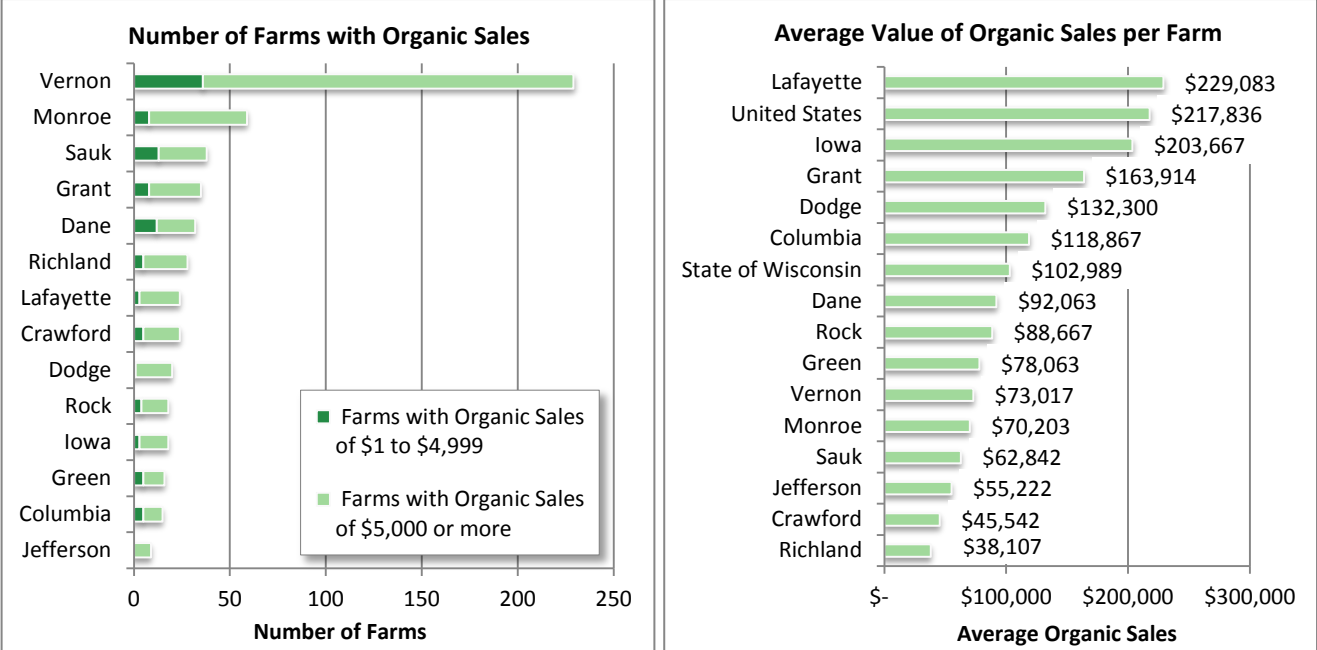
According to the USDA's Agricultural Market Service, "organic is a labeling term that indicates that the food or other agricultural product has been produced through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used." While organic products accounted for less than one percent of the national value of all agricultural product sales in 2012, the demand for organic food products has grown significantly over the past decade. Growth is expected to continue as organic products are increasingly available to consumers. Once the domain of natural food stores, organic products are available in nearly 3 out of 4 conventional grocery stores (USDA Economic Research Service).¹⁸

Both the State of Wisconsin and the AFB study area are prominent in organic agricultural production. In 2012, the State of Wisconsin ranked fourth among all states in the value of organic product sales. Farms in the AFB study area contributed over \$51 million dollars to the state's organic product sales, or 42 percent of Wisconsin's total organic production value. Importantly, the total value of organic products produced in the AFB study area grew by 31 percent between 2007 and 2012. Similarly, the value of organic products in Wisconsin grew by 36 percent during the same period.

In 2012, 565 farms in the AFB study area had organic sales. The majority of organic farms are located in the Driftless Region, with Vernon County alone accounting for 41 percent of the study area's organic farms (Figure 2.12). While average organic sales per farm were the greatest in Lafayette County, Vernon County farms also generated about a third of total organic sales in the AFB study area. Four out of every five organic farms in the region had sales of \$5,000 or more. (Farms with \$5,000 or more in organic sales in a given year are significant as they must be certified by the National Organic Program). The study area's overall concentrations of farms with organic sales of \$5,000 or more is perhaps the largest in the Midwest and one of the largest in the nation (Figure 2.13)

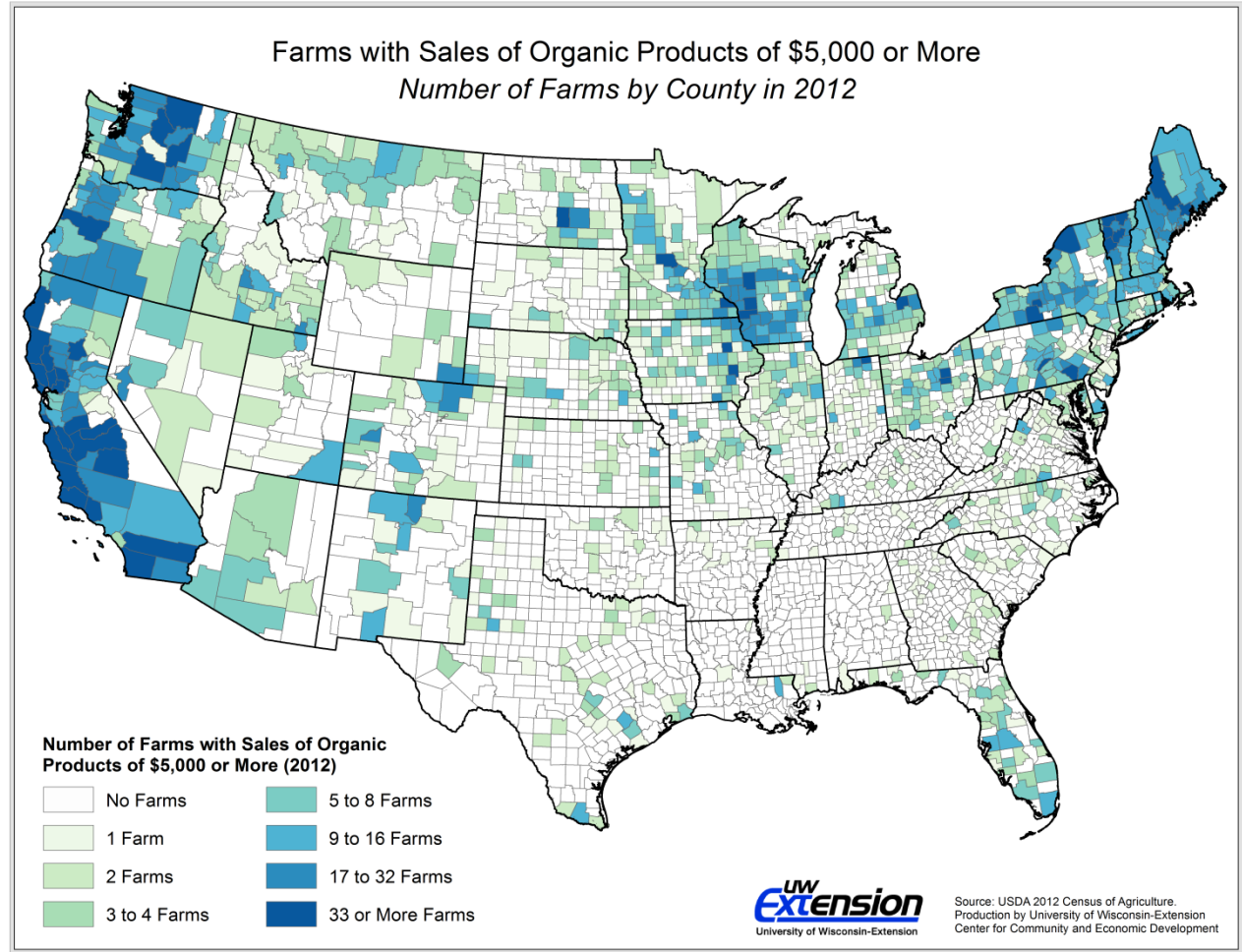
¹⁸ More information on organic food trends is available in Section 3.

Figure 2.12 – Farms with Organic Sales and Average Value of Organic Sales per Farm



Source: USDA 2012 Census of Agriculture and Author's Calculations

Figure 2.13 – Farms with Organic Product Sales of \$5,000 or More (2012)



Direct Sales and Other Selected Practices

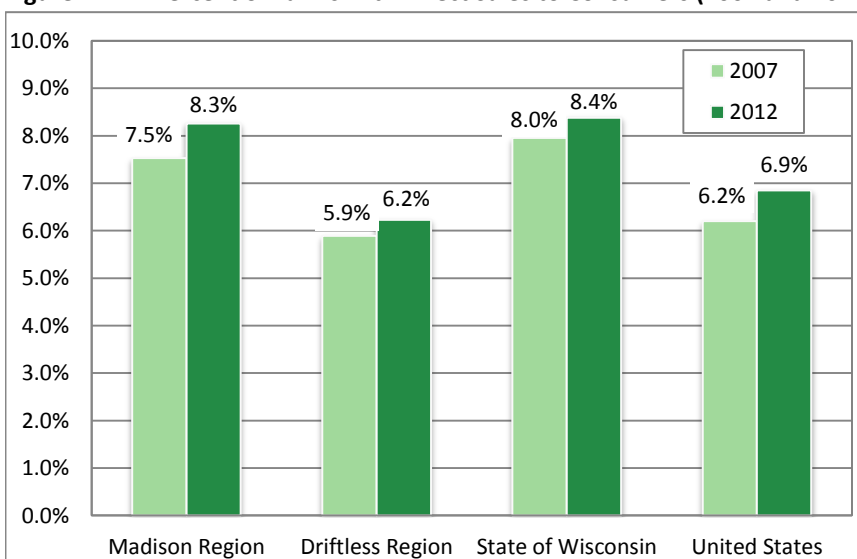
Interest in food produced locally has grown over the past decade. Economic and community development practitioners tout many potential benefits of food that is produced, marketed or consumed locally. While the exact economic, environmental and health impacts are still being explored, most research agrees that production and consumption of local food is hard to measure. The difficulty in measuring local food activity partially stems from an inconsistent definition of local food. While some definitions are based on a distance or radius around an area (e.g. 100-mile or 400-mile radius), this abstract considers local foods from a marketing channel perspective. That is, local foods are those sold through direct-to-consumer channels and intermediated sales¹⁹ (Hand and Martinez 2010; Martinez et al 2010; Low and Vogel 2011).

The Census of Agriculture provides some indicators of local food production and marketing. One measure is the number of farms with direct-to-consumer sales. These farms produce and sell agricultural products directly to individuals for human consumption from venues such as farmers' markets, community supported agriculture (CSA) programs, and roadside stands.²⁰ However, sales of agricultural products by vertically integrated operations through their own processing and marketing operations are excluded from these figures.

In 2012, 8.3 percent of Madison Region farms reported direct sales to consumers (Figure 2.14). The share of farms with direct sales was almost identical to the state share and 1.4 percent greater than the national share. The share of farms with direct sales also increased from 7.5 percent in 2007. A smaller share of farms reported direct sales in the Driftless Region. The difference between the Madison Region and the Driftless Region may be partially driven by geography. Nationally, a large share of farms with local food sales are located in metropolitan counties, suggesting that proximity to urban markets is strongly related to farms engaging in direct sales (Low and Vogel 2011). As farms in the Driftless Region are somewhat removed from urban centers, this distance potentially could influence direct sales activities among some farms in the region.

Those farms in the Driftless Region that do have direct sales tend to have higher average sales values (Figure 2.15). Furthermore, average direct sales per farm in the region also increased notably between 2007 and 2012. Consequently, direct sales operations in the Driftless Region may be operating at increasingly larger scales.

Figure 2.14 – Percent of Farms with Direct Sales to Consumers (2007 and 2012)



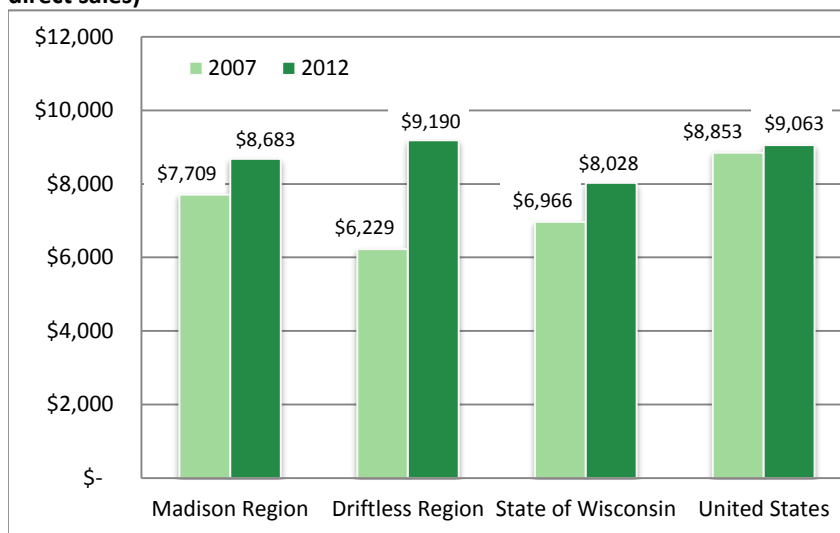
Source: USDA 2012 Census of Agriculture and Author's Calculations

¹⁹ Intermediated sales are direct-to-grocer or direct-to-restaurant.

²⁰ Direct sales figures exclude non-edible products such as nursery crops, cut flowers, and wool.

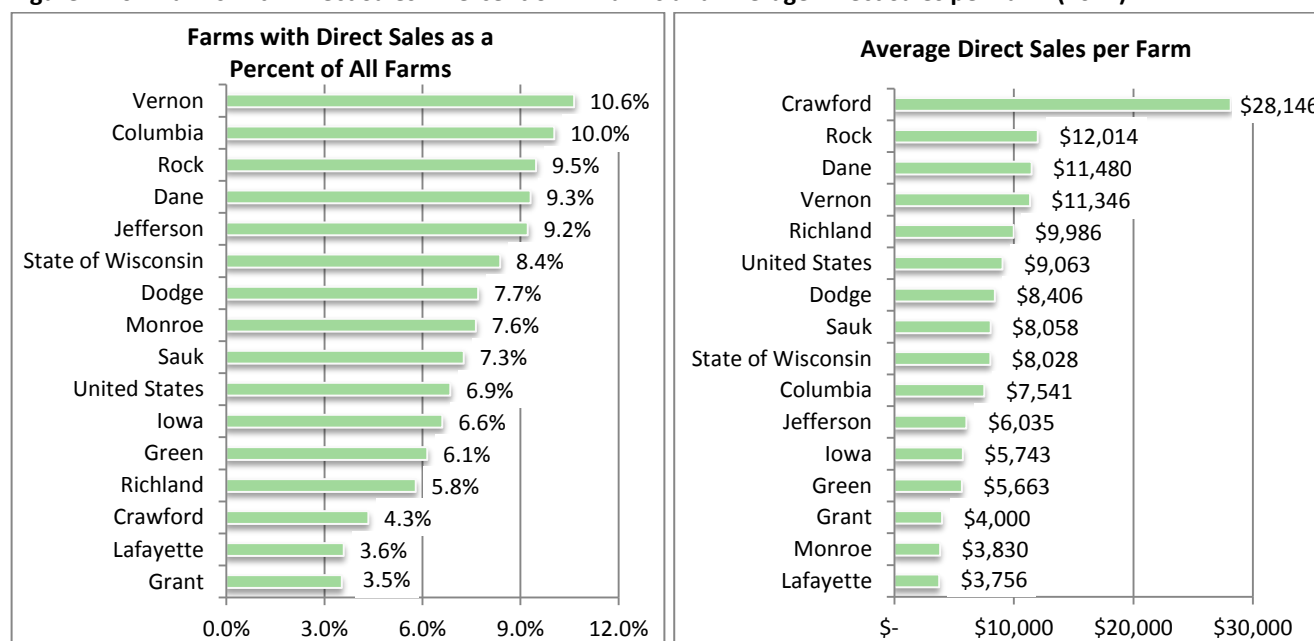
While the Driftless Region has a smaller overall share of farms with direct-to-consumer sales, Vernon County has the highest share of any study area county. Crawford, Vernon and Richland counties also have average direct sales per farm figures above the national average (Figure 2.16). In contrast, some counties in the Madison Region also have low shares of farms with direct sales. Consequently, aggregating direct sales figures at a regional level may miss some of these important variations.

Figure 2.15 – Average Direct Sales per Farm 2007 and 2012 (for farms with direct sales)



Source: USDA 2012 Census of Agriculture and Author's Calculations

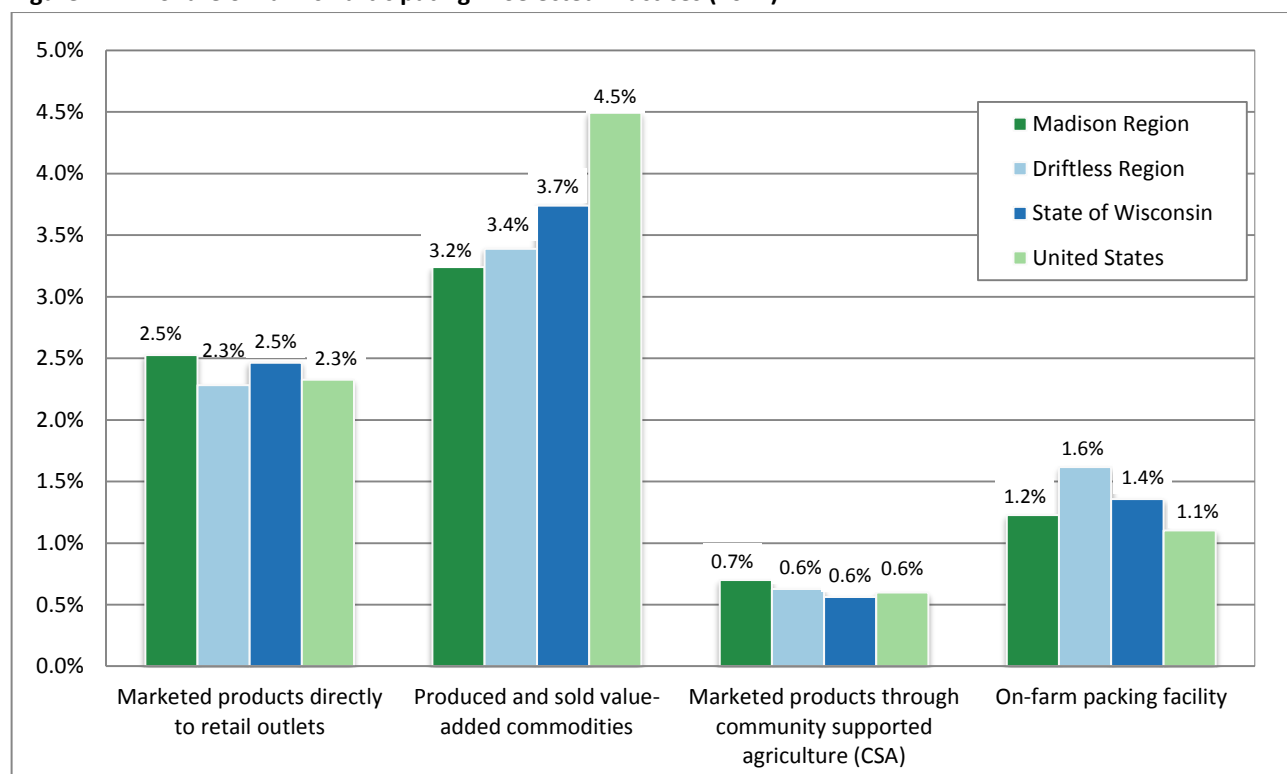
Figure 2.16 – Farms with Direct Sales – Percent of All Farms and Average Direct Sales per Farm (2012)



Source: USDA 2012 Census of Agriculture and Author's Calculations

While direct-to-consumer sales are increasing in the Region, they still comprise less than one percent of food production values nationally. However, direct-to-consumer sales are but one the channels for bringing local foods to market. Other means include selling directly to regional distributors, retailers, restaurants or government institutions (such as farm-to-school programs). When including these other local foods sales channels, the total national amount of sales increases fourfold (Low and Vogel 2011). Sales of local foods through intermediate channels cannot be measured in similar manner locally, but farms participating in marketing products directly to retailers or having on-farm packing facilities provide some insight into local intermediate sales activity (Figure 2.17).

Figure 2.17 – Share of Farms Participating in Selected Practices (2012)



Source: USDA 2012 Census of Agriculture and Author's Calculations

Finally, it is important to realize that the market is still emerging when considering local foods as an economic development strategy. *Even when direct-to-consumer and intermediate sales of local foods are combined, they account for approximately 2.0 percent of gross farm sales nationwide (Low and Vogel 2011).* Because of these scale issues, the connection between regional economic growth and local food production is still somewhat uncertain (Brown et al 2014; Deller et al 2014). This uncertainty is in no way a criticism of local foods as economic opportunity. *In particular, economic benefits may certainly be realized by individual producers selling local foods.* However, the scale of local food sales will likely need to be increased before more noticeable regional effects are experienced.

Conclusion

This overview of agricultural production in the AFB study area shows a region that is diverse in its farms and products. The variety of goods produced in the region, combined with close proximity of food and beverage manufacturing capacity, is one of the cluster's strengths. Certainly, the region's concentration of dairy production and organics are also distinct opportunities to differentiate the Madison Region and Driftless Region from many other agricultural areas. Local foods and fresh market vegetables are also emerging opportunities that could potentially expand with efforts to increase their scales of production. Some of these opportunities are further considered in Section 3.

Appendix B – Vegetable Production Characteristics by County (2012)

Columbia County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	98	2,152	22.0	30	1,806	60	68	347	5.1
Asparagus, bearing age	8	33	4.1	-	-	-	8	33	4.1
Beans, green lima	-	-	-	-	-	-	-	-	-
Beans, snap (bush and pole)	28	730	26.1	15	720	48	13	10	0.8
Beets	5	1	0.2	-	-	-	5	1	0.2
Broccoli	6	2	0.3	-	-	-	6	2	0.3
Brussels sprouts	9	1	0.1	-	-	-	9	1	0.1
Cabbage, Chinese	4	(Z)	N/A	-	-	-	4	N/A	N/A
Cabbage, head	7	6	0.9	-	-	-	7	6	0.9
Cantaloupes and muskmelons	13	16	1.2	-	-	-	13	16	1.2
Carrots	5	1	0.2	-	-	-	5	1	0.2
Cucumbers and pickles	22	9	0.4	-	-	-	22	9	0.4
Eggplant	1	(D)	(D)	-	-	-	1	(D)	N/A
Garlic	1	(D)	(D)	-	-	-	1	(D)	N/A
Herbs, fresh cut	-	-	-	-	-	-	-	-	-
Kale	1	(D)	-	-	-	-	1	(D)	-
Lettuce, all	4	1	0.3	-	-	-	4	1	0.3
Lettuce, head	2	(D)	-	-	-	-	2	(D)	-
Lettuce, leaf	2	(D)	(D)	-	-	-	2	(D)	-
Onions, dry	14	5	0.4	-	-	-	14	5	0.4
Onions, green	2	(D)	(D)	-	-	-	2	(D)	-
Parsley	2	(D)	(D)	-	-	-	2	(D)	-
Peas, Chinese (sugar and snow)	7	(D)	(D)	6	(D)	-	1	(D)	-
Peas, green (excluding southern)	20	(D)	(D)	12	(D)	-	8	1	0.1
Peppers, bell (excluding pimientos)	25	17	0.7	-	-	-	25	17	0.7
Peppers other than bell	14	10	0.7	-	-	-	14	10	0.7
Potatoes	19	10	0.5	-	-	-	19	10	0.5
Pumpkins	35	47	1.3	-	-	-	35	47	1.3
Radishes	5	2	0.4	-	-	-	5	2	0.4
Rhubarb	1	(D)	(D)	-	-	-	1	(D)	N/A
Spinach	6	1	0.2	-	-	-	6	1	0.2
Squash, all	34	61	1.8	-	-	-	34	61	1.8
Squash, summer	15	13	0.9	-	-	-	15	13	0.9
Squash, winter	28	48	1.7	-	-	-	28	48	1.7
Sweet corn	36	671	18.6	13	595	46	23	77	3.3
Sweet potatoes	-	-	-	-	-	-	-	-	-
Tomatoes in the open	32	18	0.6	-	-	-	32	18	0.6
Turnip greens	2	(D)	(D)	-	-	-	2	(D)	(D)
Turnips	3	2	0.7	-	-	-	3	2	0.7
Watermelons	13	8	0.6	-	-	-	13	8	0.6
Other vegetables	7	5	0.7	-	-	-	7	5	0.7

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Dane County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	145	2,083	14.4	21	1,509	71.9	124	574	4.6
Asparagus, bearing age	15	14	0.9	-	-	-	15	14	0.9
Beans, green lima	1	(D)	(D)	1	(D)	(D)	-	-	-
Beans, snap (bush and pole)	46	334	7.3	4	320	80.0	42	14	0.3
Beets	18	6	0.3	-	-	-	18	6	0.3
Broccoli	8	6	0.8	-	-	-	8	6	0.8
Brussels sprouts	8	2	0.3	-	-	-	8	2	0.3
Cabbage, Chinese	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, head	5	1	0.2	-	-	-	5	1	0.2
Cantaloupes and muskmelons	9	3	0.3	-	-	-	9	3	0.3
Carrots	19	6	0.3	-	-	-	19	6	0.3
Cauliflower	3	2	0.7	-	-	-	3	2	0.7
Celery	2	(D)	(D)	-	-	-	2	(D)	(D)
Cucumbers and pickles	15	8	0.5	-	-	-	15	8	0.5
Daikon	-	-	-	-	-	-	-	-	-
Eggplant	10	2	0.2	-	-	-	10	2	0.2
Garlic	15	7	0.5	-	-	-	15	7	0.5
Herbs, fresh cut	3	2	0.7	-	-	-	3	2	0.7
Honeydew melons	-	-	-	-	-	-	-	-	-
Horseradish	1	(D)	(D)	-	-	-	1	(D)	(D)
Kale	5	3	0.6	-	-	-	5	3	0.6
Lettuce, all	19	9	0.5	-	-	-	19	9	0.5
Lettuce, head	8	(D)	(D)	-	-	-	8	(D)	(D)
Lettuce, leaf	12	4	0.3	-	-	-	12	4	0.3
Lettuce, romaine	1	(D)	(D)	-	-	-	1	(D)	(D)
Mustard greens	-	-	-	-	-	-	-	-	-
Okra	3	(D)	(D)	-	-	-	3	(D)	(D)
Onions, dry	9	5	0.6	-	-	-	9	5	0.6
Onions, green	8	1	0.1	-	-	-	8	1	0.1
Parsley	-	-	-	-	-	-	-	-	-
Peas, Chinese (sugar and snow)	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, green (excluding southern)	21	820	39.0	19	(D)	(D)	2	(D)	(D)
Peppers, bell (excluding pimientos)	42	24	0.6	-	-	-	42	24	0.6
Peppers other than bell	33	9	0.3	-	-	-	33	9	0.3
Potatoes	42	34	0.8	-	-	-	42	34	0.8
Pumpkins	52	167	3.2	-	-	-	52	167	3.2
Radishes	6	4	0.7	-	-	-	6	4	0.7
Rhubarb	7	1	0.1	-	-	-	7	1	0.1
Spinach	3	(D)	(D)	-	-	-	3	(D)	(D)
Squash, all	20	27	1.4	-	-	-	20	27	1.4
Squash, summer	8	7	0.9	-	-	-	8	7	0.9
Squash, winter	14	21	1.5	-	-	-	14	21	1.5
Sweet corn	38	469	12.3	7	(D)	(D)	31	(D)	(D)
Sweet potatoes	1	(D)	(D)	-	-	-	1	(D)	(D)
Tomatoes in the open	57	32	0.6	-	-	-	57	32	0.6
Turnips	2	(D)	(D)	-	-	-	2	(D)	(D)
Watermelons	4	2	0.5	-	-	-	4	2	0.5
Other vegetables	17	23	1.4	-	-	-	17	23	1.4

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Dodge County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	135	9,069	67.2	89	8,414	94.5	48	654	13.6
Asparagus, bearing age	4	2	0.5	-	-	-	4	2	0.5
Beans, green lima	23	1079	46.9	21	(D)	(D)	2	(D)	(D)
Beans, snap (bush and pole)	24	393	16.4	9	(D)	(D)	15	(D)	(D)
Beets	5	1	0.2	-	-	-	5	1	0.2
Broccoli	5	2	0.4	-	-	-	5	2	0.4
Brussels sprouts	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, Chinese	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, head	5	8	1.6	-	-	-	5	8	1.6
Cantaloupes and muskmelons	5	9	1.8	-	-	-	5	9	1.8
Carrots	3	(D)	(D)	1	(D)	(D)	3	1	0.3
Cauliflower	1	(D)	(D)	-	-	-	1	(D)	(D)!
Collards	4	4	1.0	-	-	-	4	4	1.0
Cucumbers and pickles	6	2	0.3	-	-	-	6	2	0.3
Eggplant	2	(D)	(D)	-	-	-	2	(D)	(D)
Garlic	3	(Z)	(D)	-	-	-	3	(D)	(D)
Herbs, fresh cut	2	(D)	(D)	-	-	-	2	(D)	(D)
Honeydew melons	2	(D)	(D)	-	-	-	2	(D)	(D)
Horseradish	2	(D)	(D)	-	-	-	2	(D)	(D)
Kale	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, all	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, leaf	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, romaine	2	(D)	(D)	-	-	-	2	(D)	(D)
Mustard greens	2	(D)	(D)	-	-	-	2	(D)	(D)
Onions, dry	6	(D)	(D)	-	-	-	6	(D)	(D)
Onions, green	2	(D)	(D)	-	-	-	2	(D)	(D)
Parsley	2	(D)	(D)	-	-	-	2	(D)	(D)
Peas, Chinese (sugar and snow)	4	2	0.5	-	-	-	4	2	0.5
Peas, green (excluding southern)	60	3929	65.5	56	3,928	70.1	4	1	0.3
Peppers, bell (excluding pimientos)	15	7	0.5	-	-	-	15	7	0.5
Peppers other than bell	9	3	0.3	-	-	-	9	3	0.3
Potatoes	8	6	0.8	-	-	-	8	6	0.8
Pumpkins	26	50	1.9	-	-	-	26	50	1.9
Radishes	5	3	0.6	-	-	-	5	3	0.6
Rhubarb	2	(D)	(D)	-	-	-	2	(D)	(D)
Spinach	5	6	1.2	-	-	-	5	6	1.2
Squash, all	19	42	2.2	-	-	-	19	42	2.2
Squash, summer	9	9	1.0	-	-	-	9	9	1.0
Squash, winter	17	33	1.9	-	-	-	17	33	1.9
Sweet corn	56	3,188	56.9	40	2,917	72.9	17	270	15.9
Sweet potatoes	2	(D)	(D)	-	-	-	2	(D)	(D)
Tomatoes in the open	22	14	0.6	-	-	-	22	14	0.6
Turnip greens	4	8	2.0	-	-	-	4	8	2.0
Turnips	4	2	0.5	-	-	-	4	2	0.5
Watermelons	6	(D)	(D)	-	-	-	6	(D)	(D)
Other vegetables	8	8	1.0	-	-	-	8	8	1.0

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Green County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	21	1,020	48.6	3	969	323.0	18	51	2.8
Asparagus, bearing age	4	2	0.5	-	-	-	4	2	0.5
Beans, green lima	1	(D)	(D)	1	(D)	(D)	-	-	-
Beans, snap (bush and pole)	8	2	0.3	-	-	-	8	2	0.3
Beets	3	1	0.3	-	-	-	3	1	0.3
Broccoli	3	1	0.3	-	-	-	3	1	0.3
Brussels sprouts	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, head	1	(D)	(D)	-	-	-	1	(D)	(D)
Cantaloupes and muskmelons	-	-	-	-	-	-	-	-	-
Carrots	1	(D)	(D)	-	-	-	1	(D)	(D)
Cucumbers and pickles	1	(D)	(D)	-	-	-	1	(D)	(D)
Garlic	4	(D)	(D)	-	-	-	4	(D)	(D)
Herbs, fresh cut	3	1	0.3	-	-	-	3	1	0.3
Kale	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, all	3	(D)	(D)	-	-	-	3	(D)	(D)
Lettuce, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, leaf	-	-	-	-	-	-	-	-	-
Lettuce, romaine	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, dry	4	2	0.5	-	-	-	4	2	0.5
Onions, green	-	-	-	-	-	-	-	-	-
Peas, green (excluding southern)	2	(D)	(D)	2	(D)	(D)	-	-	-
Peppers, bell (excluding pimientos)	9	3	0.3	-	-	-	9	3	0.3
Peppers other than bell	9	3	0.3	-	-	-	9	3	0.3
Potatoes	8	7	0.9	-	-	-	8	7	0.9
Pumpkins	7	6	0.9	-	-	-	7	6	0.9
Radishes	1	(D)	(D)	-	-	-	1	(D)	(D)
Spinach	-	-	-	-	-	-	-	-	-
Squash, all	3	1	0.3	-	-	-	3	1	0.3
Squash, summer	2	(D)	(D)	-	-	-	2	(D)	(D)
Squash, winter	2	(D)	(D)	-	-	-	2	(D)	(D)
Sweet corn	8	600	75.0	3	594	198.0	5	6	1.2
Tomatoes in the open	14	7	0.5	-	-	-	14	7	0.5
Watermelons	-	-	-	-	-	-	-	-	-
Other vegetables	2	(D)	(D)	-	-	-	2	(D)	

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Iowa County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	22	(D)	(D)	-	-	-	22	(D)	(D)
Asparagus, bearing age	6	2	0.3	-	-	-	6	2	0.3
Beans, snap (bush and pole)	8	8	1.0	-	-	-	8	8	1.0
Beets	1	(D)	(D)	-	-	-	1	(D)	(D)
Broccoli	-	-	-	-	-	-	-	-	-
Brussels sprouts	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, Chinese	-	-	-	-	-	-	-	-	-
Cabbage, head	4	(D)	(D)	-	-	-	4	(D)	(D)
Cantaloupes and muskmelons	5	6	1.2	-	-	-	5	6	1.2
Carrots	4	(D)	(D)	-	-	-	4	(D)	(D)
Cauliflower	4	(D)	(D)	-	-	-	4	(D)	(D)
Cucumbers and pickles	8	6	0.8	-	-	-	8	6	0.8
Garlic	-	-	-	-	-	-	-	-	-
Herbs, fresh cut	-	-	-	-	-	-	-	-	-
Kale	4	(D)	(D)	-	-	-	4	(D)	(D)
Lettuce, all	5	1	0.2	-	-	-	5	1	0.2
Lettuce, head	4	(D)	(D)	-	-	-	4	(D)	(D)
Lettuce, leaf	5	1	0.2	-	-	-	5	1	0.2
Onions, dry	-	-	-	-	-	-	-	-	-
Onions, green	-	-	-	-	-	-	-	-	-
Peas, Chinese (sugar and snow)	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, green (excluding southern)	-	-	-	-	-	-	-	-	-
Peppers, bell (excluding pimientos)	11	7	0.6	-	-	-	11	7	0.6
Peppers other than bell	8	2	0.3	-	-	-	8	2	0.3
Potatoes	15	(D)	(D)	-	-	-	15	(D)	(D)
Pumpkins	11	34	3.1	-	-	-	11	34	3.1
Rhubarb	1	(D)	(D)	-	-	-	1	(D)	(D)
Spinach	-	-	-	-	-	-	-	-	-
Squash, all	7	17	2.4	-	-	-	7	17	2.4
Squash, summer	5	(D)	(D)	-	-	-	5	(D)	(D)
Squash, winter	5	(D)	(D)	-	-	-	5	(D)	(D)
Sweet corn	6	53	8.8	-	-	-	6	53	8.8
Sweet potatoes	-	-	-	-	-	-	-	-	-
Tomatoes in the open	13	19	1.5	-	-	-	13	19	1.5
Watermelons	1	(D)	(D)	-	-	-	1	(D)	(D)
Other vegetables	7	(D)	(D)	-	-	-	7	(D)	(D)

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Jefferson County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	31	1,343	43.3	2	(D)	(D)	30	(D)	(D)
Asparagus, bearing age	2	(D)	(D)	-	-	-	2	(D)	(D)
Beans, snap (bush and pole)	7	3	0.4	-	-	-	7	3	0.4
Beets	5	(D)	(D)	1	(D)	(D)	4	(D)	(D)
Broccoli	6	1	0.2	-	-	-	6	1	0.2
Brussels sprouts	3	(D)	(D)	1	(D)	(D)	2	(D)	(D)
Cabbage, Chinese	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Cantaloupes and muskmelons	6	1	0.2	-	-	-	6	1	0.2
Carrots	6	(D)	(D)	1	(D)	(D)	5	3	0.6
Cauliflower	3	(D)	(D)	-	-	-	3	(D)	(D)
Collards	1	(D)	(D)	-	-	-	1	(D)	(D)
Cucumbers and pickles	5	1	0.2	-	-	-	5	1	0.2
Daikon	2	(D)	(D)	-	-	-	2	(D)	(D)
Eggplant	1	(D)	(D)	-	-	-	1	(D)	(D)
Garlic	2	(D)	(D)	-	-	-	2	(D)	(D)
Herbs, fresh cut	2	(D)	(D)	-	-	-	2	(D)	(D)
Kale	3	(D)	(D)	1	(D)	(D)	2	(D)	(D)
Lettuce, all	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, leaf	2	(D)	(D)	-	-	-	2	(D)	(D)
Onions, dry	2	(D)	(D)	-	-	-	2	(D)	(D)
Onions, green	1	(D)	(D)	-	-	-	1	(D)	(D)
Parsley	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, Chinese (sugar and snow)	2	(D)	(D)	1	(D)	(D)	1	(D)	(D)
Peas, green (excluding southern)	-	-	-	-	-	-	-	-	-
Peppers, bell (excluding pimientos)	7	4	0.6	-	-	-	7	4	0.6
Peppers other than bell	4	1	0.3	-	-	-	4	1	0.3
Potatoes	14	(D)	(D)	-	-	-	14	(D)	(D)
Pumpkins	17	19	1.1	-	-	-	17	19	1.1
Radishes	-	-	-	-	-	-	-	-	-
Rhubarb	2	(D)	(D)	-	-	-	2	(D)	(D)
Spinach	2	(D)	(D)	-	-	-	2	(D)	(D)
Squash, all	13	7	0.5	-	-	-	13	7	0.5
Squash, summer	5	1	0.2	-	-	-	5	1	0.2
Squash, winter	12	6	0.5	-	-	-	12	6	0.5
Sweet corn	12	159	13.3	1	(D)	(D)	11	(D)	(D)
Sweet potatoes	2	(D)	(D)	-	-	-	2	(D)	(D)
Tomatoes in the open	18	19	1.1	-	-	-	18	19	1.1
Turnips	1	(D)	(D)	-	-	-	1	(D)	(D)
Watermelons	1	(D)	(D)	-	-	-	1	(D)	(D)
Other vegetables	2	(D)	(D)	-	-	-	2	(D)	(D)

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Rock County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	62	5,173	83.4	18	4,732	262.9	44	441	10.0
Asparagus, bearing age	8	10	1.3	-	-	-	8	10	1.3
Beans, green lima	3	(D)	(D)	3	(D)	(D)	-	-	-
Beans, snap (bush and pole)	18	5	0.3	-	-	-	18	5	0.3
Beets	4	1	0.3	-	-	-	4	1	0.3
Broccoli	4	2	0.5	-	-	-	4	2	0.5
Brussels sprouts	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, Chinese	3	2	0.7	-	-	-	3	2	0.7
Cabbage, head	4	3	0.8	-	-	-	4	3	0.8
Cantaloupes and muskmelons	6	5	0.8	-	-	-	6	5	0.8
Carrots	4	(D)	(D)	-	-	-	4	(D)	(D)
Cauliflower	3	1	0.3	-	-	-	3	1	0.3
Celery	3	1	0.3	-	-	-	3	1	0.3
Collards	3	1	0.3	-	-	-	3	1	0.3
Cucumbers and pickles	6	2	0.3	-	-	-	6	2	0.3
Eggplant	3	1	0.3	-	-	-	3	1	0.3
Escarole and endive	3	1	0.3	-	-	-	3	1	0.3
Garlic	5	4	0.8	-	-	-	5	4	0.8
Herbs, fresh cut	2	(D)	(D)	-	-	-	2	(D)	(D)
Honeydew melons	4	5	1.3	-	-	-	4	5	1.3
Kale	3	1	0.3	-	-	-	3	1	0.3
Lettuce, all	5	5	1.0	-	-	-	5	5	1.0
Lettuce, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, leaf	5	3	0.6	-	-	-	5	3	0.6
Lettuce, romaine	3	(D)	(D)	-	-	-	3	(D)	(D)
Mustard greens	5	1	0.2	-	-	-	5	1	0.2
Okra	2	(D)	(D)	-	-	-	2	(D)	(D)
Onions, dry	5	2	0.4	-	-	-	5	2	0.4
Onions, green	3	1	0.3	-	-	-	3	1	0.3
Parsley	3	1	0.3	-	-	-	3	1	0.3
Peas, Chinese (sugar and snow)	4	(D)	(D)	1	(D)	(D)	3	2	0.7
Peas, green (excluding southern)	16	1,216	76.0	13	1,216	93.5	3	(D)	(D)
Peppers, bell (excluding pimientos)	17	4	0.2	-	-	-	17	4	0.2
Peppers other than bell	12	2	0.2	-	-	-	12	2	0.2
Potatoes	17	8	0.5	-	-	-	17	8	0.5
Pumpkins	20	(D)	(D)	-	-	-	20	(D)	(D)
Radishes	3	1	0.3	-	-	-	3	1	0.3
Rhubarb	4	1	0.3	-	-	-	4	1	0.3
Spinach	4	1	0.3	-	-	-	4	1	0.3
Squash, all	18	19	1.1	-	-	-	18	19	1.1
Squash, summer	8	5	0.6	-	-	-	8	5	0.6
Squash, winter	15	14	0.9	-	-	-	15	14	0.9
Sweet corn	29	3,038	104.8	9	2,783	309.2	20	255	12.8
Sweet potatoes	7	1	0.1	-	-	-	7	1	0.1
Tomatoes in the open	24	13	0.5	-	-	-	24	13	0.5
Turnip greens	2	(D)	(D)	-	-	-	2	(D)	(D)
Turnips	3	1	0.3	-	-	-	3	1	0.3
Watermelons	10	9	0.9	-	-	-	10	9	0.9
Other vegetables	9	22	2.4	-	-	-	9	22	2.4

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Sauk County (Madison Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	43	2,084	48.5	11	1,835	166.8	34	249	7.3
Asparagus, bearing age	2	(D)	(D)	-	-	-	2	(D)	(D)
Beans, snap (bush and pole)	23	1,712	74.4	8	1,709	213.6	15	3	0.2
Beets	7	1	0.1	-	-	-	7	1	0.1
Broccoli	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, head	3	1	0.3	-	-	-	3	1	0.3
Cantaloupes and muskmelons	3	(D)	(D)	-	-	-	3	(D)	(D)
Carrots	5	1	0.2	-	-	-	5	1	0.2
Cauliflower	1	(D)	(D)	-	-	-	1	(D)	(D)
Celery	2	(D)	(D)	-	-	-	2	(D)	(D)
Cucumbers and pickles	4	1	0.3	-	-	-	4	1	0.3
Eggplant	4	(D)	(D)	-	-	-	4	(D)	(D)
Garlic	1	(D)	(D)	-	-	-	1	(D)	(D)
Herbs, fresh cut	4	2	0.5	-	-	-	4	2	0.5
Honeydew melons	1	(D)	(D)	-	-	-	1	(D)	(D)
Kale	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, all	4	2	0.5	-	-	-	4	2	0.5
Lettuce, head	3	(D)	(D)	-	-	-	3	(D)	(D)
Lettuce, leaf	-	-	-	-	-	-	-	-	-
Lettuce, romaine	1	(D)	(D)	-	-	-	1	(D)	(D)
Okra	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, dry	6	1	0.2	-	-	-	6	1	0.2
Onions, green	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, green (excluding southern)	4	(D)	(D)	1	(D)	(D)	4	(D)	(D)
Peppers, bell (excluding pimientos)	18	3	0.2	-	-	-	18	3	0.2
Peppers other than bell	13	2	0.2	-	-	-	13	2	0.2
Potatoes	11	2	0.2	-	-	-	11	2	0.2
Pumpkins	20	63	3.2	-	-	-	20	63	3.2
Radishes	2	(D)	(D)	-	-	-	2	(D)	(D)
Rhubarb	4	(D)	(D)	-	-	-	4	(D)	(D)
Squash, all	12	39	3.3	-	-	-	12	39	3.3
Squash, summer	6	2	0.3	-	-	-	6	2	0.3
Squash, winter	9	37	4.1	-	-	-	9	37	4.1
Sweet corn	13	182	14.0	2	(D)	(D)	12	(D)	(D)
Sweet potatoes	3	1	0.3	-	-	-	3	1	0.3
Tomatoes in the open	19	6	0.3	-	-	-	19	6	0.3
Turnips	1	(D)	(D)	-	-	-	1	(D)	(D)
Watermelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Other vegetables	7	5	0.7	-	-	-	7	5	0.7

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Crawford County (Driftless Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	15	65	4.3	-	-	-	15	65	4.3
Asparagus, bearing age	3	(D)	(D)	-	-	-	3	(D)	(D)
Beans, snap (bush and pole)	2	(D)	(D)	-	-	-	2	(D)	(D)
Beets	1	(D)	(D)	-	-	-	1	(D)	(D)
Broccoli	2	(D)	(D)	-	-	-	2	(D)	(D)
Brussels sprouts	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, Chinese	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, head	1	(D)	(D)	-	-	-	1	(D)	(D)
Cantaloupes and muskmelons	1	(D)	(D)	-	-	-	1	(D)	(D)
Carrots	2	(D)	(D)	-	-	-	2	(D)	(D)
Cauliflower	1	(D)	(D)	-	-	-	1	(D)	(D)
Celery	1	(D)	(D)	-	-	-	1	(D)	(D)
Collards	1	(D)	(D)	-	-	-	1	(D)	(D)
Cucumbers and pickles	1	(D)	(D)	-	-	-	1	(D)	(D)
Eggplant	3	(D)	(D)	-	-	-	3	(D)	(D)
Escarole and endive	1	(D)	(D)	-	-	-	1	(D)	(D)
Garlic	3	1	0.3	-	-	-	3	1	0.3
Herbs, fresh cut	2	(D)	(D)	-	-	-	2	(D)	(D)
Kale	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, all	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, head	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, leaf	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, romaine	1	(D)	(D)	-	-	-	1	(D)	(D)
Okra	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, dry	2	(D)	(D)	-	-	-	2	(D)	(D)
Onions, green	1	(D)	(D)	-	-	-	1	(D)	(D)
Parsley	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, Chinese (sugar and snow)	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, green (excluding southern)	-	-	-	-	-	-	-	-	-
Peppers, bell (excluding pimientos)	3	1	0.3	-	-	-	3	1	0.3
Peppers other than bell	3	(D)	(D)	-	-	-	3	(D)	(D)
Potatoes	4	3	0.8	-	-	-	4	3	0.8
Pumpkins	9	20	2.2	-	-	-	9	20	2.2
Radishes	3	(D)	(D)	-	-	-	3	(D)	(D)
Spinach	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, all	7	12	1.7	-	-	-	7	12	1.7
Squash, summer	2	(D)	(D)	-	-	-	2	(D)	(D)
Squash, winter	6	(D)	(D)	-	-	-	6	(D)	(D)
Sweet corn	4	10	2.5	-	-	-	4	10	2.5
Sweet potatoes	1	(D)	(D)	-	-	-	1	(D)	(D)
Tomatoes in the open	3	1	0.3	-	-	-	3	1	0.3
Turnips	1	(D)	(D)	-	-	-	1	(D)	(D)
Watermelons	3	(D)	(D)	-	-	-	3	(D)	(D)
Other vegetables	1	(D)	(D)	-	-	-	1	(D)	(D)

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Grant County (Driftless Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	28	111	4.0	-	-	-	28	111	4.0
Asparagus, bearing age	3	2	0.7	-	-	-	3	2	0.7
Beans, snap (bush and pole)	3	(D)	(D)	-	-	-	3	(D)	(D)
Beets	4	2	0.5	-	-	-	4	2	0.5
Broccoli	2	(D)	(D)	-	-	-	2	(D)	(D)
Brussels sprouts	-	-	-	-	-	-	-	-	-
Cabbage, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Cantaloupes and muskmelons	3	3	1.0	-	-	-	3	3	1.0
Carrots	3	1	0.3	-	-	-	3	1	0.3
Cauliflower	1	(D)	(D)	-	-	-	1	(D)	(D)
Cucumbers and pickles	1	(D)	(D)	-	-	-	1	(D)	(D)
Eggplant	2	(D)	(D)	-	-	-	2	(D)	(D)
Garlic	4	4	1.0	-	-	-	4	4	1.0
Herbs, fresh cut	2	(D)	(D)	-	-	-	2	(D)	(D)
Horseradish	-	-	-	-	-	-	-	-	-
Lettuce, all	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, head	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, leaf	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, romaine	1	(D)	(D)	-	-	-	1	(D)	(D)
Okra	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, dry	3	2	0.7	-	-	-	3	2	0.7
Peas, green (excluding southern)	3	1	0.3	-	-	-	3	1	0.3
Peppers, bell (excluding pimientos)	6	2	0.3	-	-	-	6	2	0.3
Peppers other than bell	4	1	0.3	-	-	-	4	1	0.3
Potatoes	9	10	1.1	-	-	-	9	10	1.1
Pumpkins	10	25	2.5	-	-	-	10	25	2.5
Radishes	1	(D)	(D)	-	-	-	1	(D)	(D)
Rhubarb	1	(D)	(D)	-	-	-	1	(D)	(D)
Spinach	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, all	4	3	0.8	-	-	-	4	3	0.8
Squash, summer	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, winter	3	(D)	(D)	-	-	-	3	(D)	(D)
Sweet corn	12	35	2.9	-	-	-	12	35	2.9
Tomatoes in the open	11	7	0.6	-	-	-	11	7	0.6
Turnips	-	-	-	-	-	-	-	-	-
Watermelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Other vegetables	2	(D)	(D)	-	-	-	2	(D)	(D)

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Lafayette County (Driftless Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	11	24	2.2	-	-	-	11	24	2.2
Asparagus, bearing age	2	(D)	(D)	-	-	-	2	(D)	(D)
Beans, snap (bush and pole)	4	1	0.3	-	-	-	4	1	0.3
Broccoli	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, head	3	(D)	(D)	-	-	-	3	(D)	(D)
Cantaloupes and muskmelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Carrots	3	1	0.3	-	-	-	3	1	0.3
Cucumbers and pickles	4	2	0.5	-	-	-	4	2	0.5
Garlic	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, all	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, head	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, dry	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, green	1	(D)	(D)	-	-	-	1	(D)	(D)
Peas, green (excluding southern)	1	(D)	(D)	-	-	-	1	(D)	(D)
Peppers, bell (excluding pimientos)	6	1	0.2	-	-	-	6	1	0.2
Peppers other than bell	4	1	0.3	-	-	-	4	1	0.3
Potatoes	6	4	0.7	-	-	-	6	4	0.7
Pumpkins	5	1	0.2	-	-	-	5	1	0.2
Rhubarb	1	(D)	(D)	-	-	-	1	(D)	(D)
Spinach	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, all	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, summer	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, winter	1	(D)	(D)	-	-	-	1	(D)	(D)
Sweet corn	5	2	0.4	-	-	-	5	2	0.4
Tomatoes in the open	6	1	0.2	-	-	-	6	1	0.2
Watermelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Other vegetables	1	(D)	(D)	-	-	-	1	(D)	(D)

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Monroe County (Driftless Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	47	131	2.8	1	(D)	(D)	46	(D)	(D)
Asparagus, bearing age	3	2	0.7	-	-	-	3	2	0.7
Beans, green lima	1	(D)	(D)	-	-	-	1	(D)	(D)
Beans, snap (bush and pole)	7	2	0.3	-	-	-	7	2	0.3
Beets	3	7	2.3	-	-	-	3	7	2.3
Broccoli	-	-	(D)	-	-	-	-	-	-
Brussels sprouts	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, Chinese	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Cantaloupes and muskmelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Carrots	-	-	-	-	-	-	-	-	-
Cauliflower	-	-	-	-	-	-	-	-	-
Celery	-	-	-	-	-	-	-	-	-
Collards	1	(D)	(D)	-	-	-	1	(D)	(D)
Cucumbers and pickles	5	3	0.6	-	-	-	5	3	0.6
Eggplant	2	(D)	(D)	-	-	-	2	(D)	(D)
Garlic	4	1	0.3	-	-	-	4	1	0.3
Ginseng	1	(D)	(D)	1	(D)	(D)	-	-	-
Herbs, fresh cut	1	(D)	(D)	-	-	-	1	(D)	(D)
Honeydew melons	-	-	-	-	-	-	-	-	-
Horseradish	-	-	-	-	-	-	-	-	-
Kale	6	3	0.5	-	-	-	6	3	0.5
Lettuce, all	1	(D)	(D)	-	-	-	1	(D)	(D)
Lettuce, leaf	1	(D)	(D)	-	-	-	1	(D)	(D)
Mustard greens	1	(D)	(D)	-	-	-	1	(D)	(D)
Onions, dry	18	12	0.7	-	-	-	18	12	0.7
Onions, green	-	-	-	-	-	-	-	-	-
Parsley	2	(D)	(D)	-	-	-	2	(D)	(D)
Peas, Chinese (sugar and snow)	2	(D)	(D)	-	-	-	2	(D)	(D)
Peas, green (excluding southern)	3	2	0.7	-	-	-	3	2	0.7
Peppers, bell (excluding pimientos)	9	2	0.2	-	-	-	9	2	0.2
Peppers other than bell	1	(D)	(D)	-	-	-	1	(D)	(D)
Potatoes	9	4	0.4	-	-	-	9	4	0.4
Pumpkins	11	11	1.0	-	-	-	11	11	1.0
Radishes	5	1	0.2	-	-	-	5	1	0.2
Rhubarb	-	-	-	-	-	-	-	-	-
Spinach	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, all	17	14	0.8	-	-	-	17	14	0.8
Squash, summer	10	8	0.8	-	-	-	10	8	0.8
Squash, winter	11	6	0.5	-	-	-	11	6	0.5
Sweet corn	9	12	1.3	-	-	-	9	12	1.3
Tomatoes in the open	23	17	0.7	-	-	-	23	17	0.7
Turnips	-	-	-	-	-	-	-	-	-
Watermelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Other vegetables	10	10	1.0	-	-	-	10	10	1.0

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Richland County (Driftless Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	27	217	8.0	1	(D)	(D)	26	(D)	(D)
Asparagus, bearing age	5	2	0.4	-	-	-	5	2	0.4
Beans, snap (bush and pole)	9	(D)	(D)	1	(D)	(D)	8	5	0.6
Beets	2	(D)	(D)	-	-	-	2	(D)	(D)
Broccoli	3	(D)	(D)	-	-	-	3	(D)	(D)
Brussels sprouts	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, Chinese	1	(D)	(D)	-	-	-	1	(D)	(D)
Cabbage, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Cantaloupes and muskmelons	-	-	-	-	-	-	-	-	-
Carrots	1	(D)	(D)	-	-	-	1	(D)	(D)
Cucumbers and pickles	11	6	0.5	-	-	-	11	6	0.5
Eggplant	1	(D)	(D)	-	-	-	1	(D)	(D)
Garlic	3	3	1.0	-	-	-	3	3	1.0
Herbs, fresh cut	2	(D)	(D)	-	-	-	2	(D)	(D)
Honeydew melons	2	(D)	(D)	-	-	-	2	(D)	(D)
Kale	7	8	1.1	-	-	-	7	8	1.1
Lettuce, all	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, head	2	(D)	(D)	-	-	-	2	(D)	(D)
Lettuce, leaf	-	-	-	-	-	-	-	-	-
Onions, dry	4	(D)	(D)	-	-	-	4	(D)	(D)
Onions, green	3	3	1.0	-	-	-	3	3	1.0
Peas, Chinese (sugar and snow)	-	-	-	-	-	-	-	-	-
Peas, green (excluding southern)	-	-	-	-	-	-	-	-	-
Peppers, bell (excluding pimientos)	9	4	0.4	-	-	-	9	4	0.4
Peppers other than bell	1	(D)	(D)	-	-	-	1	(D)	(D)
Potatoes	14	9	0.6	-	-	-	14	9	0.6
Pumpkins	2	(D)	(D)	-	-	-	2	(D)	(D)
Radishes	-	-	-	-	-	-	-	-	-
Rhubarb	1	(D)	(D)	-	-	-	1	(D)	(D)
Spinach	1	(D)	(D)	-	-	-	1	(D)	(D)
Squash, all	8	11	1.4	-	-	-	8	11	1.4
Squash, summer	-	-	-	-	-	-	-	-	-
Squash, winter	8	11	1.4	-	-	-	8	11	1.4
Sweet corn	6	5	0.8	-	-	-	6	5	0.8
Tomatoes in the open	9	7	0.8	-	-	-	9	7	0.8
Turnips	2	(D)	(D)	-	-	-	2	(D)	(D)
Watermelons	2	(D)	(D)	-	-	-	2	(D)	(D)
Other vegetables	2	(D)	(D)	-	-	-	2	(D)	(D)

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

Vernon County (Driftless Region)

Vegetable Type	Total Harvested			Harvested for Processing			Harvested for Fresh Market		
	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm	Total Farms	Total Acres	Acres per Farm
Vegetables harvested for sale	146	612	4.2	-	-	-	146	612	4.2
Asparagus, bearing age	9	17	1.9	-	-	-	9	17	1.9
Beans, snap (bush and pole)	20	9	0.5	-	-	-	20	9	0.5
Beets	18	20	1.1	-	-	-	18	20	1.1
Broccoli	5	5	1.0	-	-	-	5	5	1.0
Brussels sprouts	2	(D)	(D)	-	-	-	2	(D)	(D)
Cabbage, Chinese	3	(D)	(D)	-	-	-	3	(D)	(D)
Cabbage, head	42	68	1.6	-	-	-	42	68	1.6
Cantaloupes and muskmelons	6	4	0.7	-	-	-	6	4	0.7
Carrots	8	7	0.9	-	-	-	8	7	0.9
Cauliflower	3	(D)	(D)	-	-	-	3	(D)	(D)
Celery	1	(D)	(D)	-	-	-	1	(D)	(D)
Collards	8	11	1.4	-	-	-	8	11	1.4
Cucumbers and pickles	30	37	1.2	-	-	-	30	37	1.2
Daikon	1	(D)	(D)	-	-	-	1	(D)	(D)
Eggplant	13	6	0.5	-	-	-	13	6	0.5
Escarole and endive	1	(D)	(D)	-	-	-	1	(D)	(D)
Garlic	21	11	0.5	-	-	-	21	11	0.5
Ginseng	-	-	-	-	-	-	-	-	-
Herbs, fresh cut	5	(D)	(D)	-	-	-	5	(D)	(D)
Honeydew melons	1	(D)	(D)	-	-	-	1	(D)	(D)
Horseradish	1	(D)	(D)	-	-	-	1	(D)	(D)
Kale	23	30	1.3	-	-	-	23	30	1.3
Lettuce, all	8	4	0.5	-	-	-	8	4	0.5
Lettuce, head	4	2	0.5	-	-	-	4	2	0.5
Lettuce, leaf	5	(D)	(D)	-	-	-	5	(D)	(D)
Lettuce, romaine	1	(D)	(D)	-	-	-	1	(D)	(D)
Mustard greens	1	(D)	(D)	-	-	-	1	(D)	(D)
Okra	-	-	-	-	-	-	-	-	-
Onions, dry	33	38	1.2	-	-	-	33	38	1.2
Onions, green	8	4	0.5	-	-	-	8	4	0.5
Parsley	3	(D)	(D)	-	-	-	3	(D)	(D)
Peas, Chinese (sugar and snow)	5	2	0.4	-	-	-	5	2	0.4
Peas, green (excluding southern)	3	(D)	(D)	-	-	-	3	(D)	(D)
Peppers, bell (excluding pimientos)	31	21	0.7	-	-	-	31	21	0.7
Peppers other than bell	14	5	0.4	-	-	-	14	5	0.4
Potatoes	23	13	0.6	-	-	-	23	13	0.6
Pumpkins	32	34	1.1	-	-	-	32	34	1.1
Radishes	5	(D)	(D)	-	-	-	5	(D)	(D)
Rhubarb	9	3	0.3	-	-	-	9	3	0.3
Spinach	3	1	0.3	-	-	-	3	1	0.3
Squash, all	56	117	2.1	-	-	-	56	117	2.1
Squash, summer	9	5	0.6	-	-	-	9	5	0.6
Squash, winter	53	112	2.1	-	-	-	53	112	2.1
Sweet corn	23	30	1.3	-	-	-	23	30	1.3
Sweet potatoes	3	(D)	(D)	-	-	-	3	(D)	(D)
Tomatoes in the open	54	26	0.5	-	-	-	54	26	0.5
Turnip greens	1	(D)	(D)	-	-	-	1	(D)	(D)
Turnips	4	1	0.3	-	-	-	4	1	0.3
Watermelons	3	1	0.3	-	-	-	3	1	0.3
Other vegetables	14	47	3.4	-	-	-	14	47	3.4

Source: USDA 2012 Census of Agriculture and Author's Calculations

(D) Withheld to avoid disclosing data for individual farms.

