

Trends & Challenges for Wisconsin AgriBusiness

2017 Wisconsin Agriculture Outlook Forum

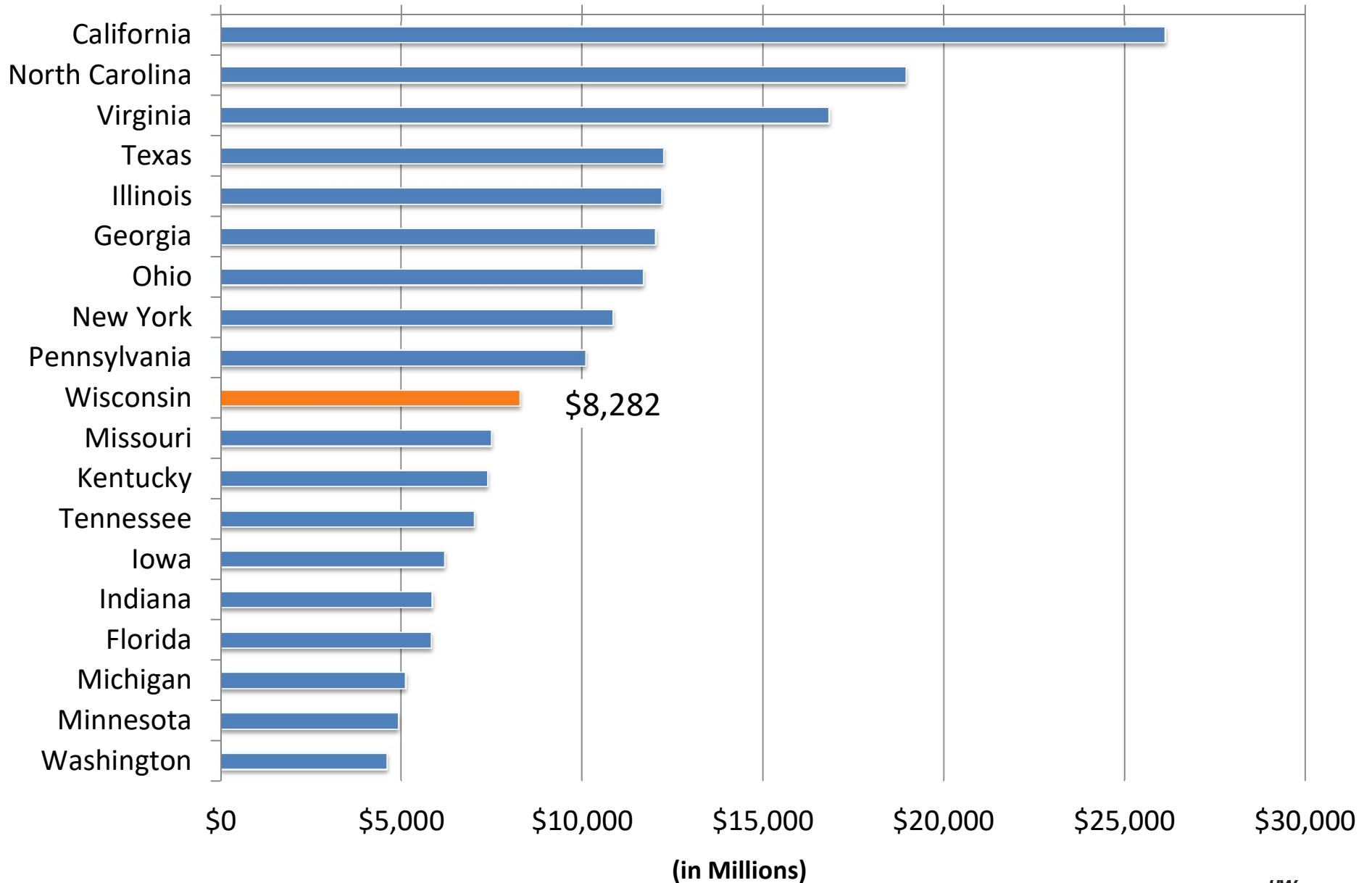
Matt Kures

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Center for Community and Economic Development

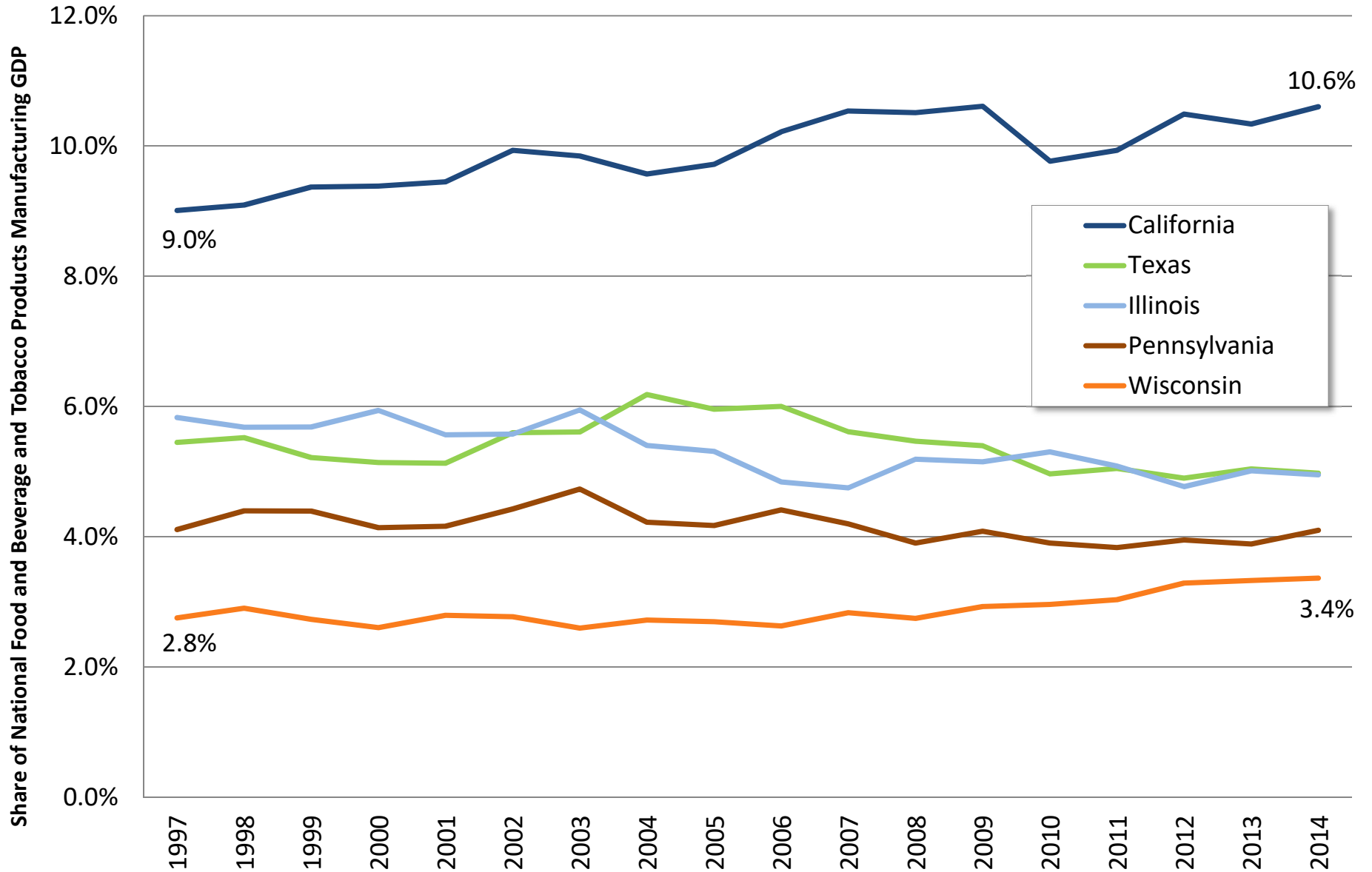


Food and Beverage and Tobacco Products Manufacturing Gross Domestic Product by State (in Millions \$ 2014)



Source: Bureau of Economic Analysis

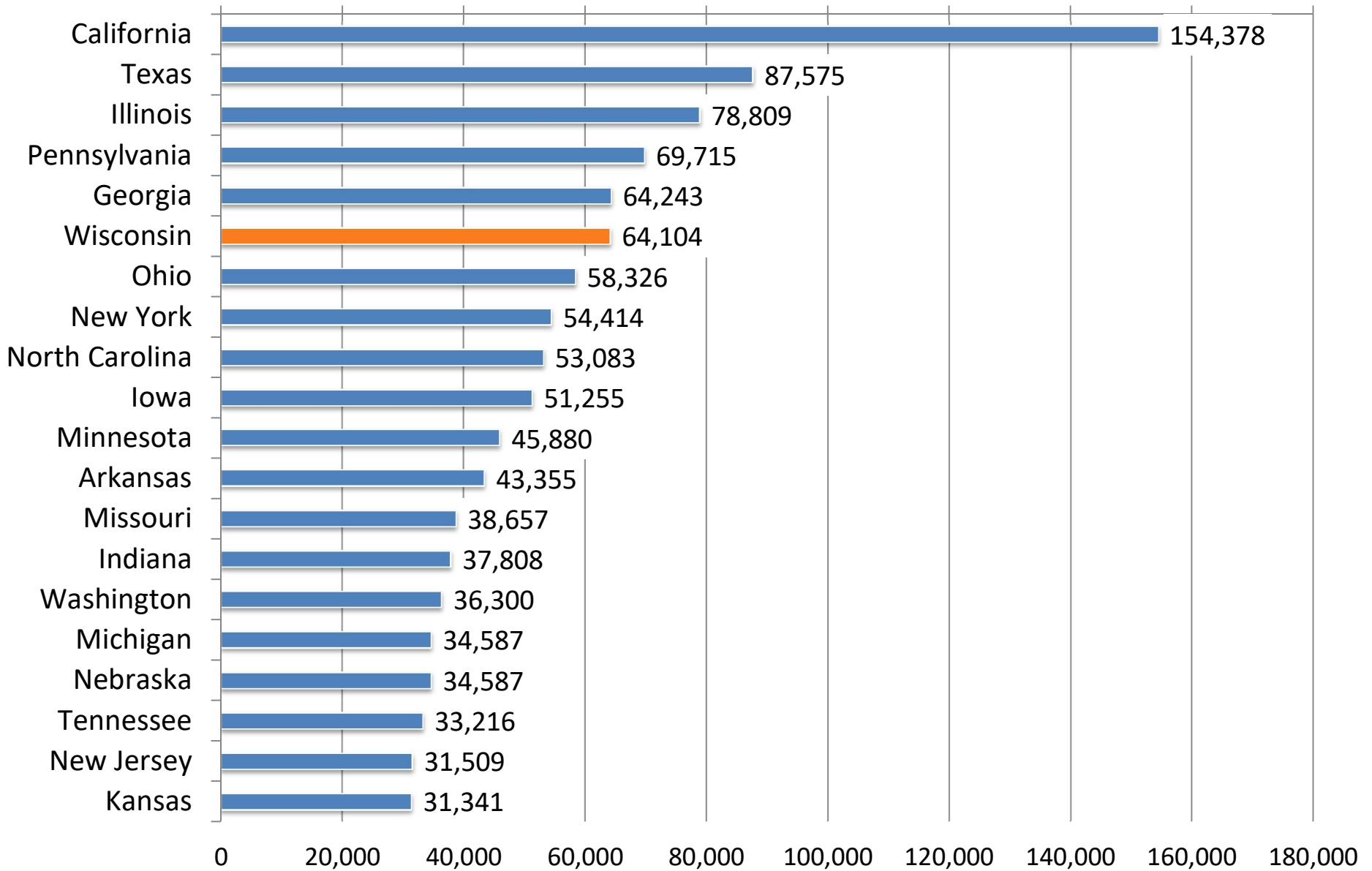
Share of National Food and Beverage and Tobacco Products Manufacturing GDP by State – 1997 to 2014



Source: Bureau of Economic Analysis

Food Manufacturing Total Employment Rankings by State

2015 Annual Average Employment



Source: Quarterly Census of Employment and Wages

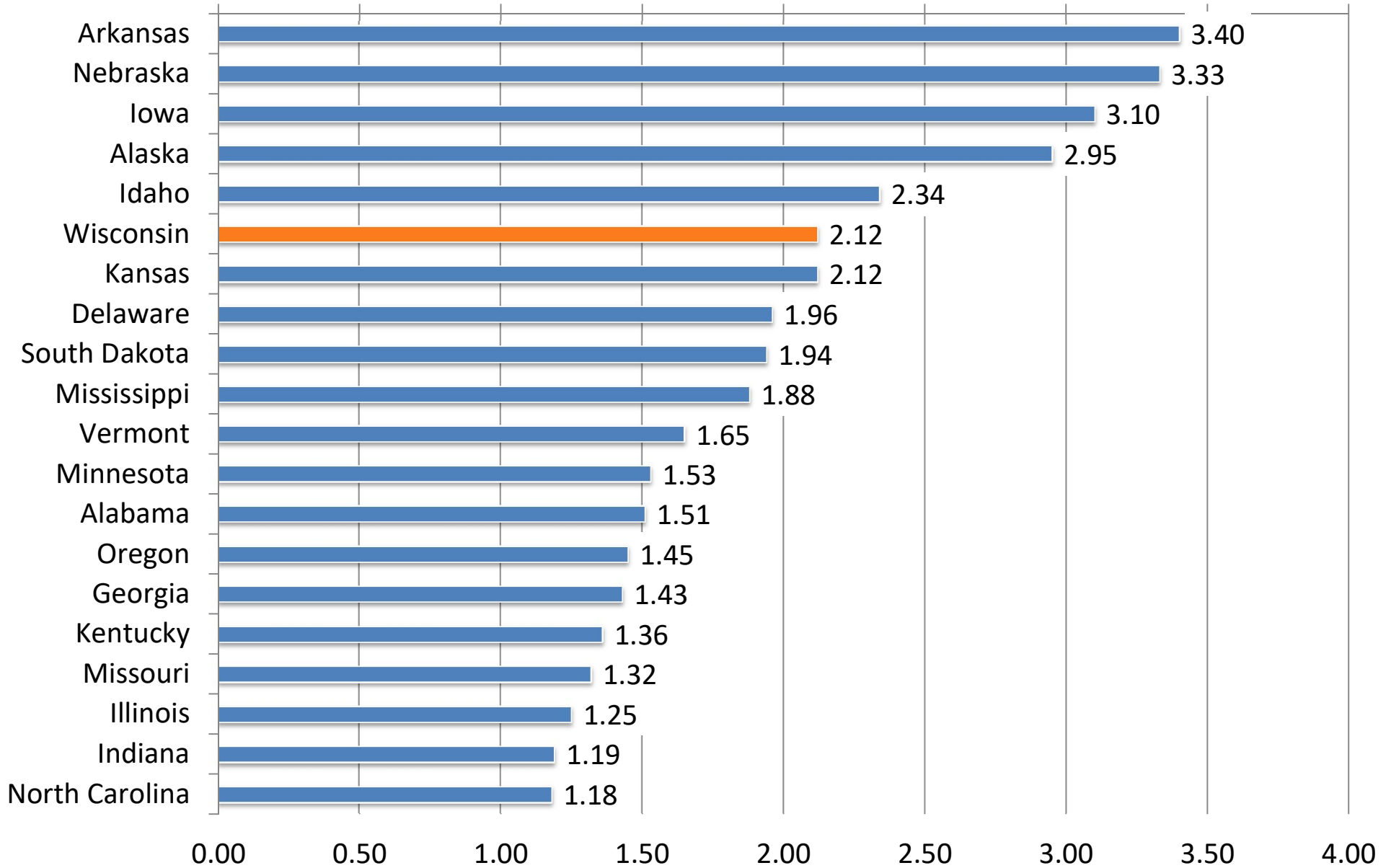
Location Quotients

A location quotient compares an industry's local employment concentration to that of the nation.

$$\text{Industry Location Quotient} = \frac{\frac{\text{Industry's local employment}}{\text{Total local employment}}}{\frac{\text{Industry's national employment}}{\text{Total national employment}}}$$

- Location Quotient greater than 1.0 (~1.25) – suggests an industry is an export activity and is a link to the outside economy (i.e. brings outside \$\$ into the region)
- Indicates specialization to some degree

Food Manufacturing Location Quotient Rankings by State 2015 Annual Average Location Quotient



Source: Quarterly Census of Employment and Wages

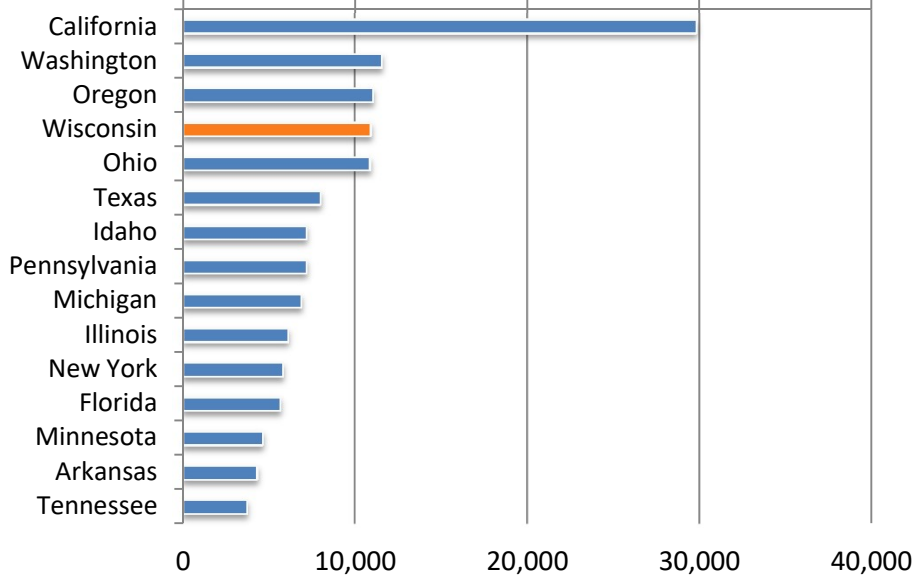
Employment and Location Quotients *2015 Annual Averages*

NAICS and Industry Name	Total Employment	Location Quotient
311 Food Manufacturing	62,478	2.10
3111 Animal Food Manufacturing	2,129	1.90
3112 Grain & Oilseed Milling	653	0.54
3113 Sugar & Confectionery Products	2,345	1.63
3114 Fruit & Vegetable Preserving/Specialty Food	10,892	3.18
3115 Dairy Product Manufacturing	17,786	6.52
3116 Animal Slaughtering & Processing	16,646	1.71
3117 Seafood Product Prep. & Packaging	91	0.12
3118 Bakeries & Tortilla Manufacturing	6,482	1.09
3119 Other Food Manufacturing	7,081	1.81

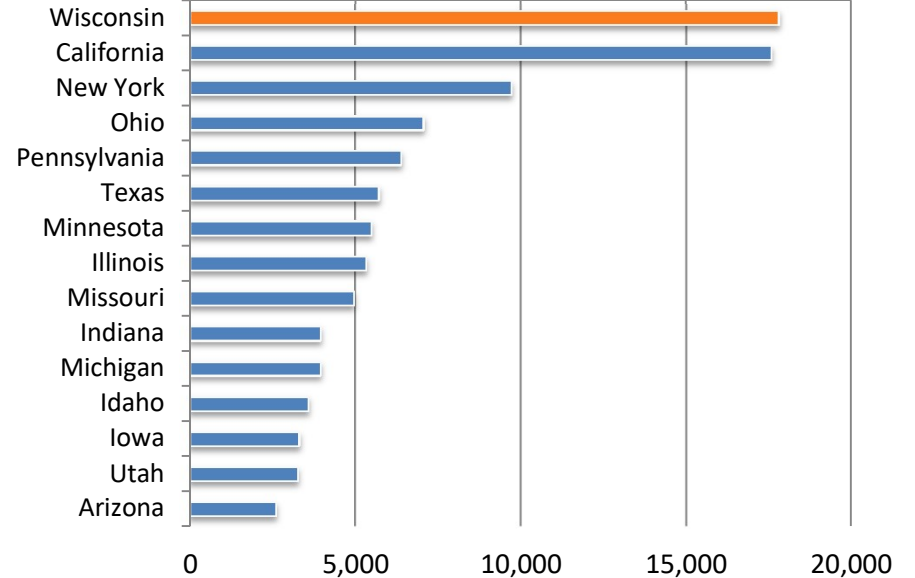
Source: Quarterly Census of Employment and Wages

State Employment for Selected Food Manufacturing Categories

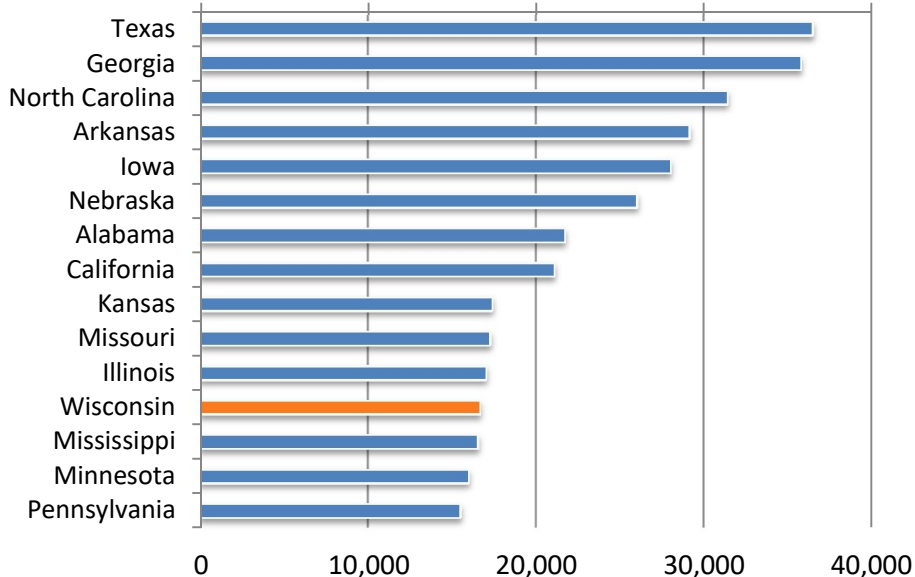
Fruit & Vegetable Preserving/Specialty Food



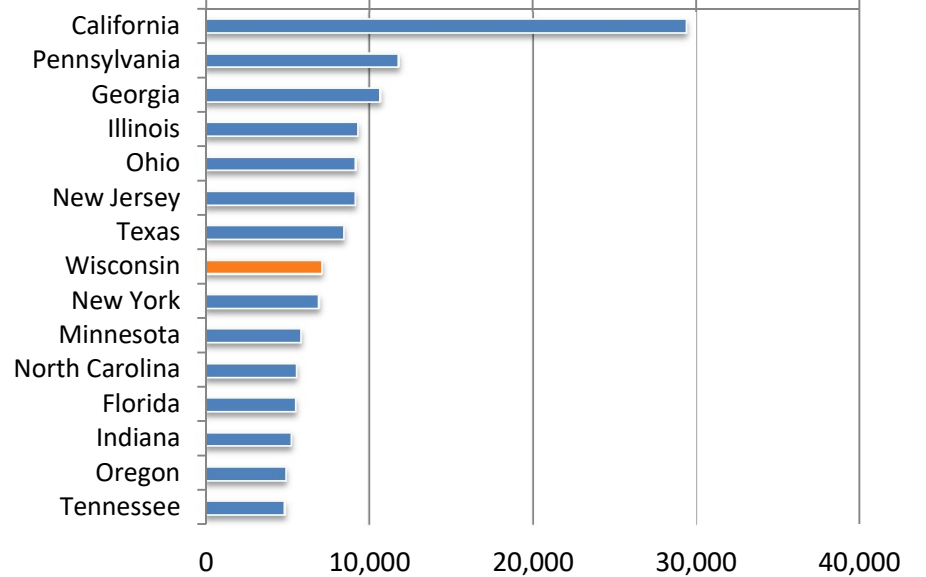
Dairy Product Manufacturing



Animal Slaughtering & Processing

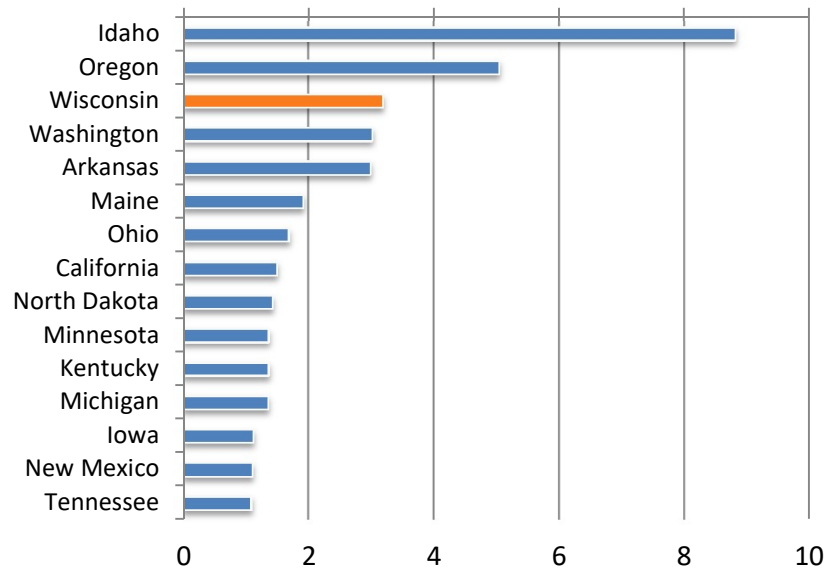


Other Food Manufacturing

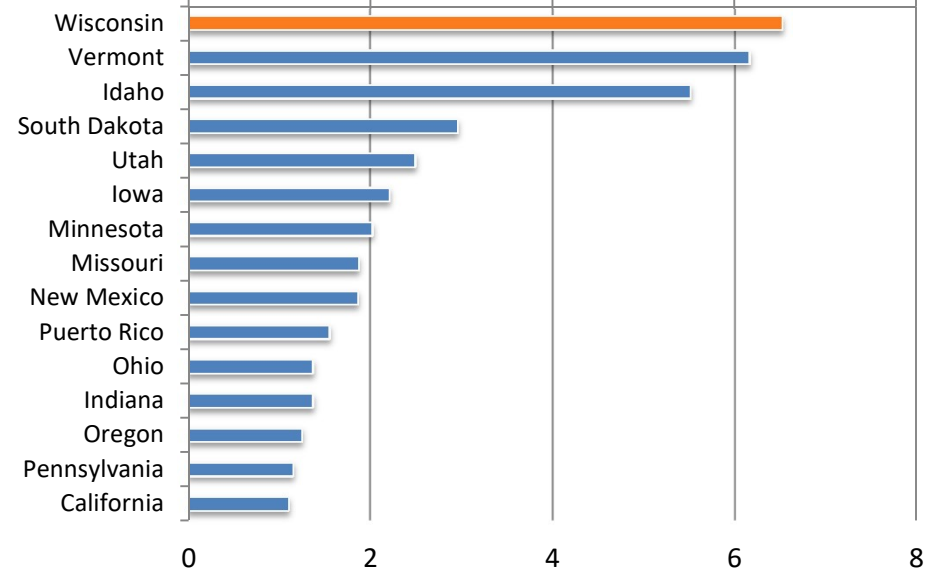


State Location Quotients for Selected Food Manufacturing Categories

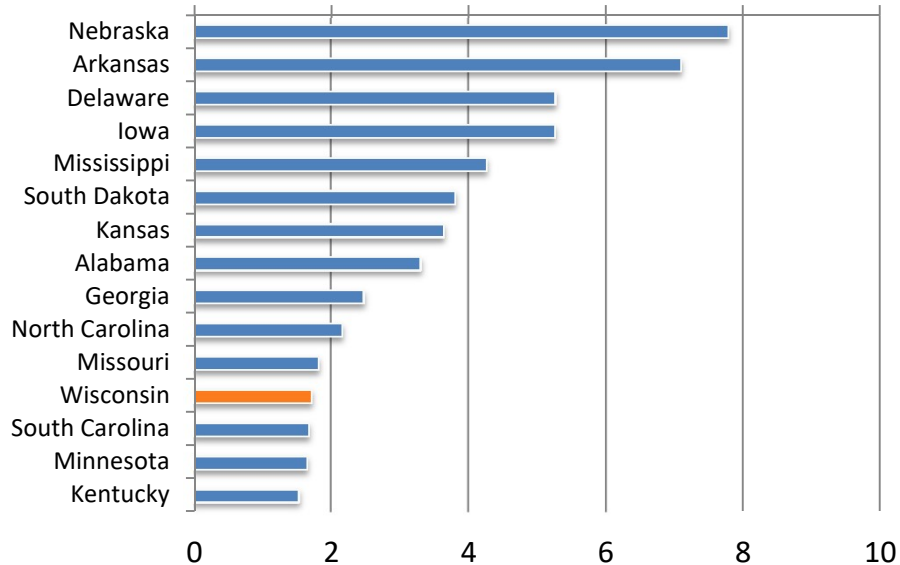
Fruit & Vegetable Preserving/Specialty Food



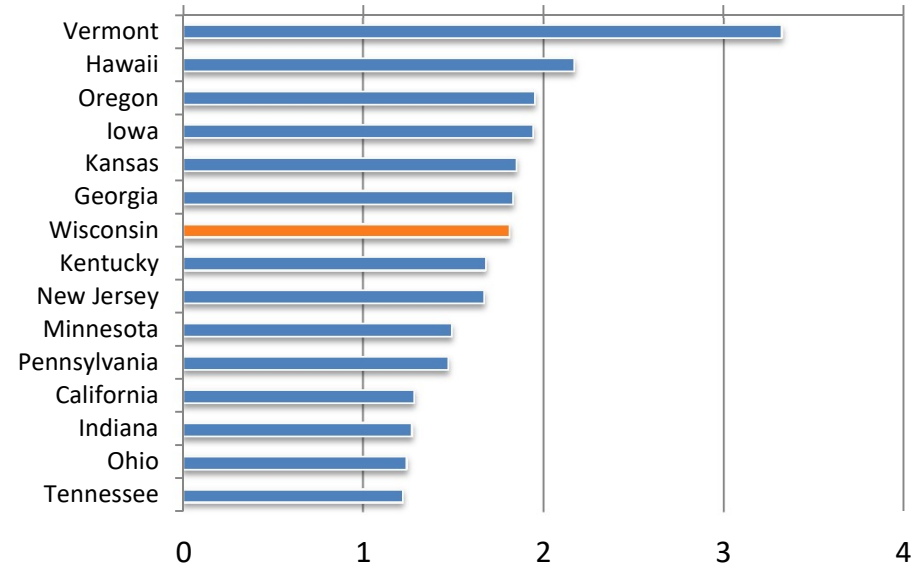
Dairy Product Manufacturing



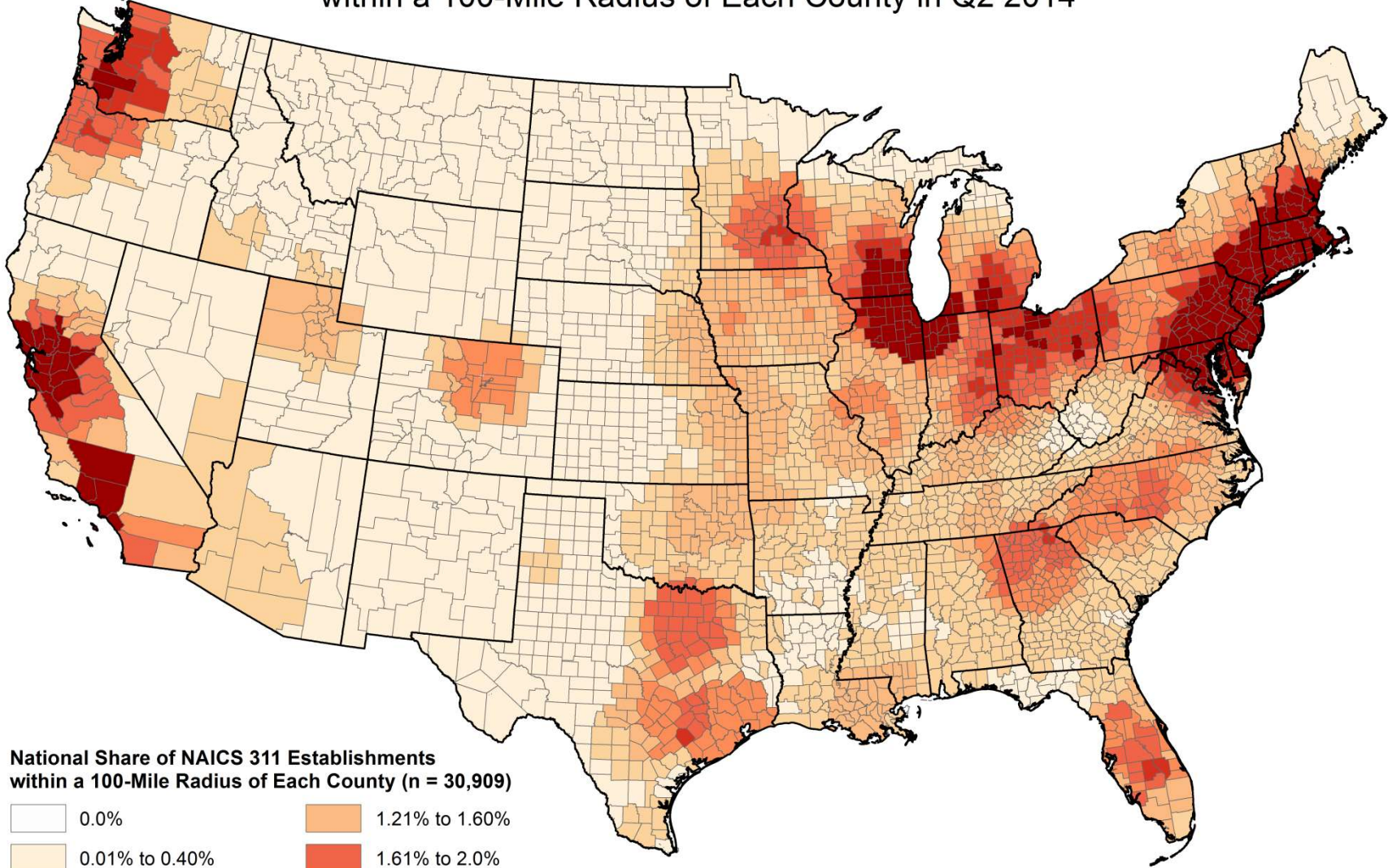
Animal Slaughtering & Processing



Other Food Manufacturing



Food Manufacturing (NAICS 311) - National Share of Establishments within a 100-Mile Radius of Each County in Q2 2014



**National Share of NAICS 311 Establishments
within a 100-Mile Radius of Each County (n = 30,909)**

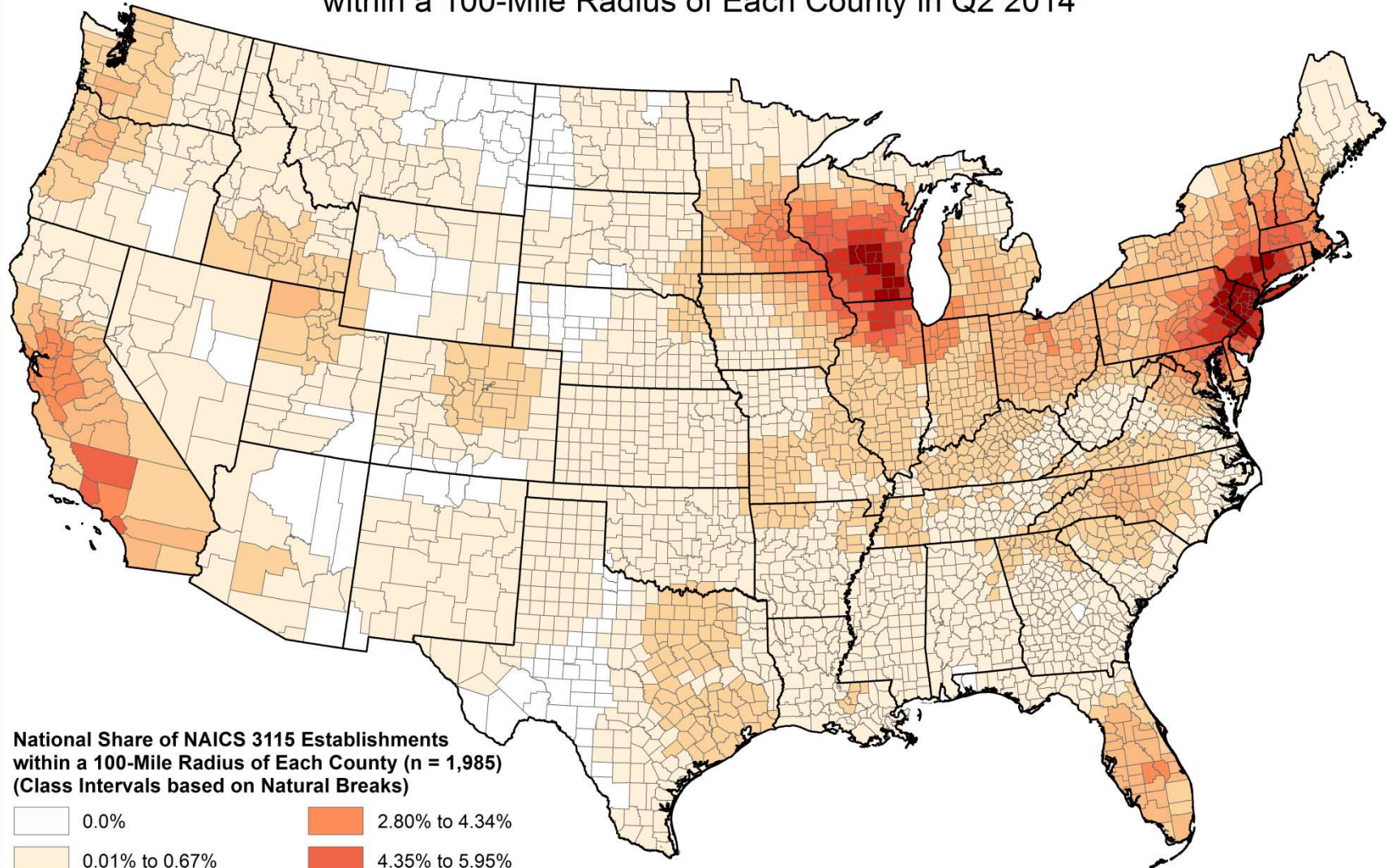
<ul style="list-style-type: none"> 0.0% 0.01% to 0.40% 0.41% to 0.80% 0.81% to 1.20% 	<ul style="list-style-type: none"> 1.21% to 1.60% 1.61% to 2.0% 2.01% to 2.40% 2.41% or More*
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*11.35% is Max. Value

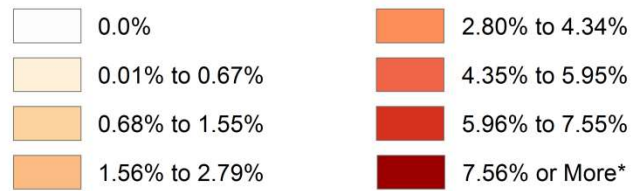


Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages - Q2 2014 Average Establishments. Calculations and production by University of Wisconsin-Extension Center for Community and Economic Development
Color scheme from Color Brewer

Dairy Product Manufacturing (NAICS 3115) - National Share of Establishments within a 100-Mile Radius of Each County in Q2 2014



**National Share of NAICS 3115 Establishments
within a 100-Mile Radius of Each County (n = 1,985)
(Class Intervals based on Natural Breaks)**

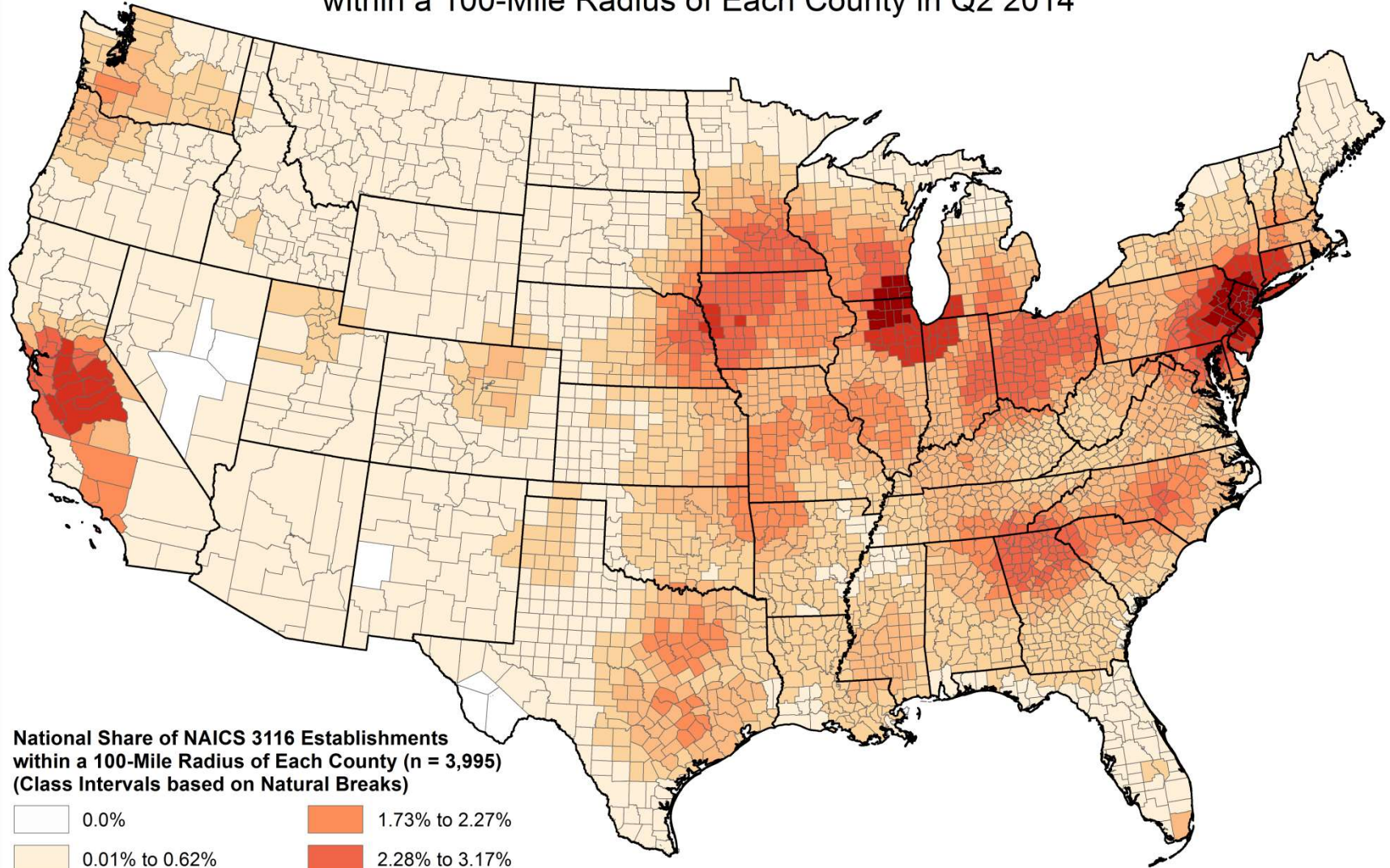


*9.72% is Max. Value

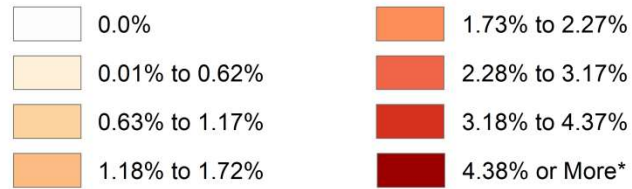
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Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages - 2014 Q2 Average Establishments. Calculations and production by University of Wisconsin-Extension Center for Community and Economic Development
Color scheme from Color Brewer

Animal Slaughtering and Processing (NAICS 3116) - National Share of Establishments within a 100-Mile Radius of Each County in Q2 2014



**National Share of NAICS 3116 Establishments
within a 100-Mile Radius of Each County (n = 3,995)
(Class Intervals based on Natural Breaks)**



*5.92% is Max. Value

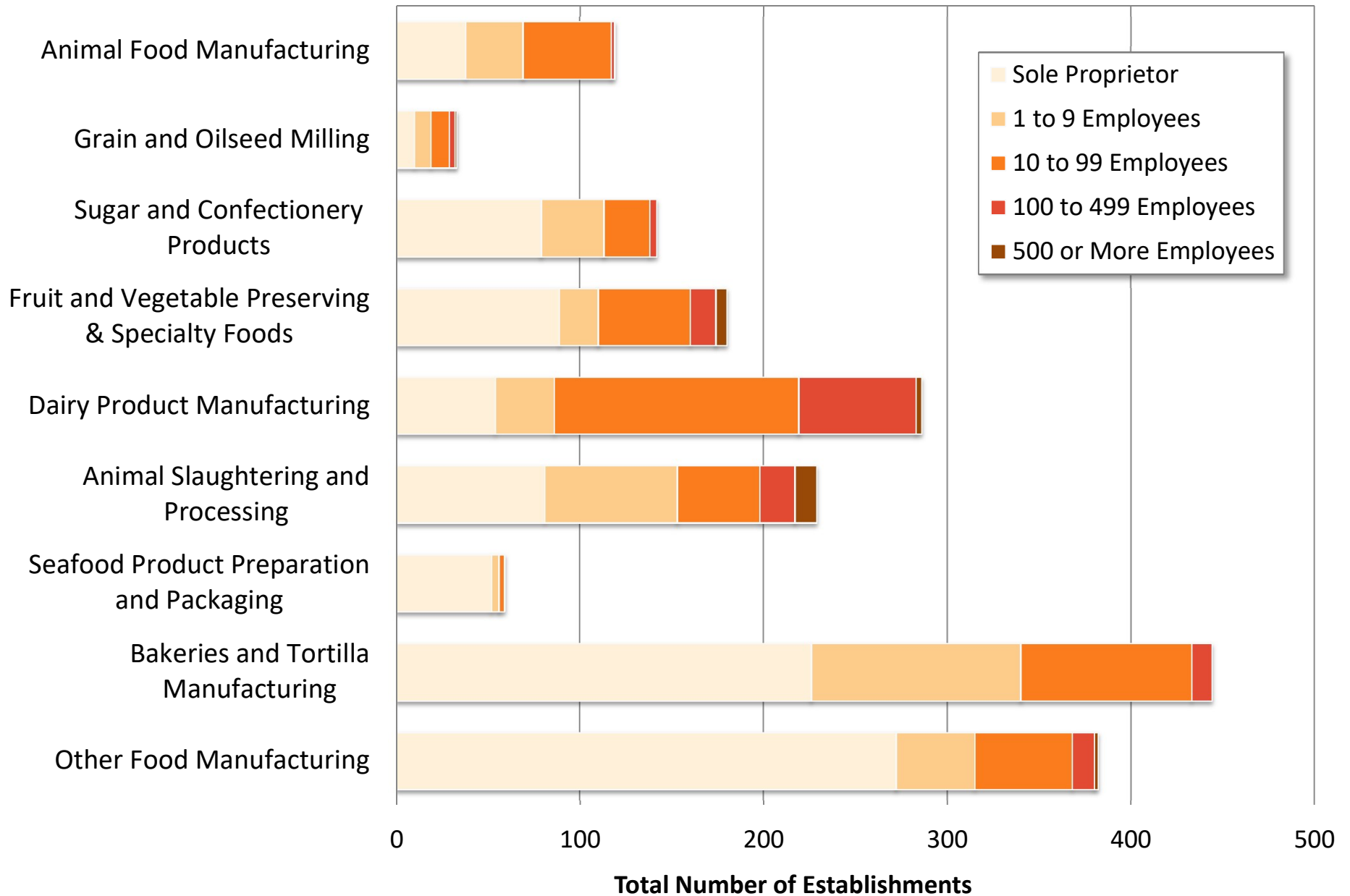
UW
Extension
Cooperative Extension

Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages - Q2 2014 Average Establishments. Calculations and production by University of Wisconsin-Extension Center for Community and Economic Development
Color scheme from Color Brewer

Establishments by Business Stage

- **Self-Employed (No employees)** - Small-scale business activity that can be conducted in homes as well as sole proprietorships;
- **Stage 1 (1-9 employees)** – Includes partnerships, lifestyle businesses and startups. Often focused on defining a market, developing a product or service, obtaining capital and finding customers;
- **Stage 2 (10-99 employees)** – A company typically has a proven product, and survival is less of a daily concern. Companies begin to develop infrastructure and standardize operational systems. Leaders delegate more and wear fewer hats;
- **Stage 3 (100-499 employees)** - Expansion is a hallmark as companies broaden their geographic reach, add new products and pursue new markets. Stage 3 companies introduce formal processes and procedures, and the founder is less involved in daily operations and more concerned with managing culture and change;
- **Stage 4 (500 or more employees)** – By Stage 4, an organization is typically dominant in its industry and is focused on maintaining and defending its market position. Key objectives focus on tasks such as controlling expenses, raising productivity, increasing market penetration and managing market niches.

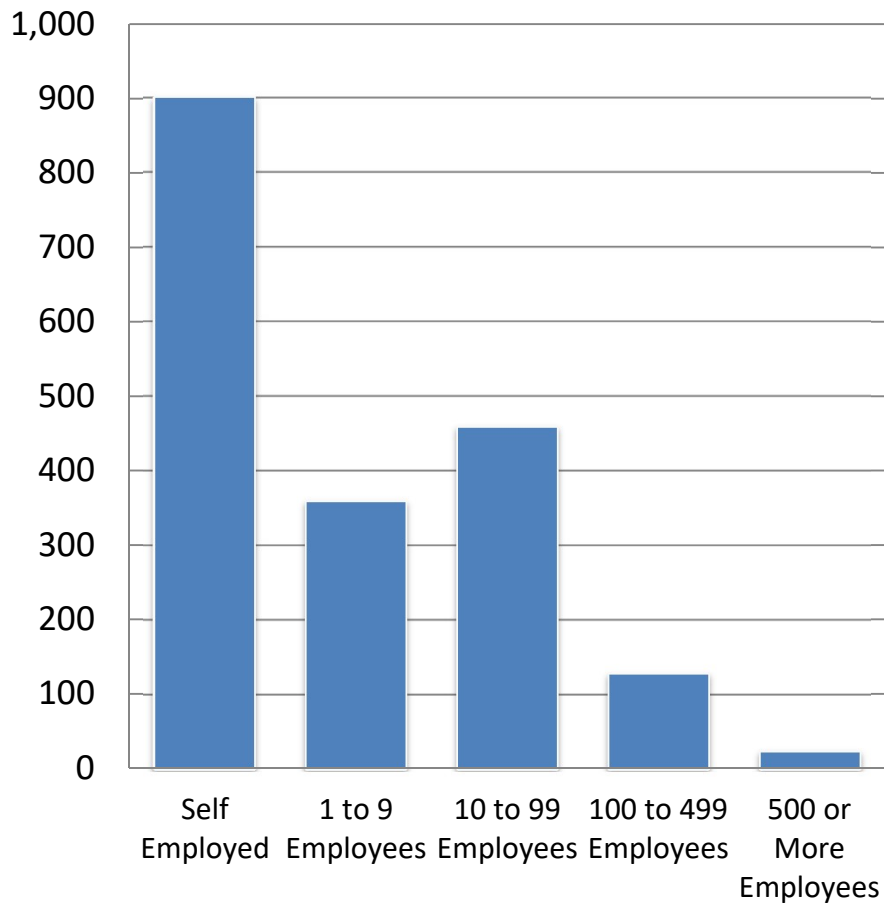
Food Manufacturing Establishment Distribution by Business Stage (2014)



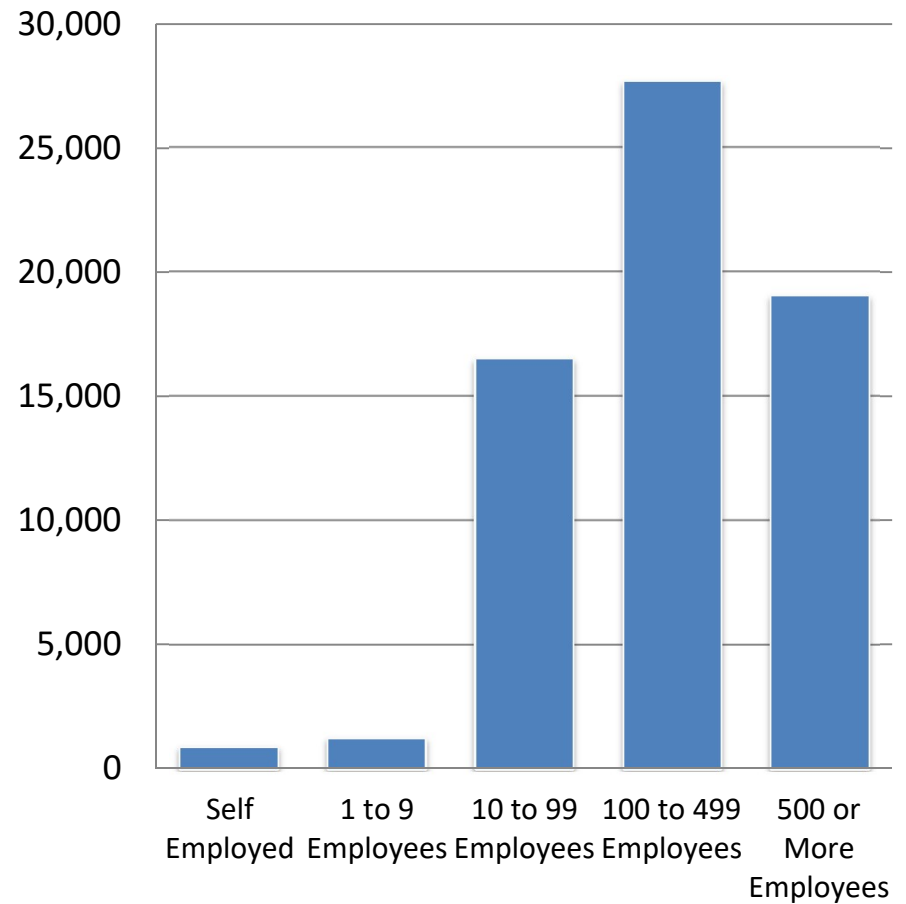
Source: U.S. Census Bureau County Business Patterns and Non-Employer Statistics

Distribution of Establishments vs. Distribution of Employment by Business Stage (2014)

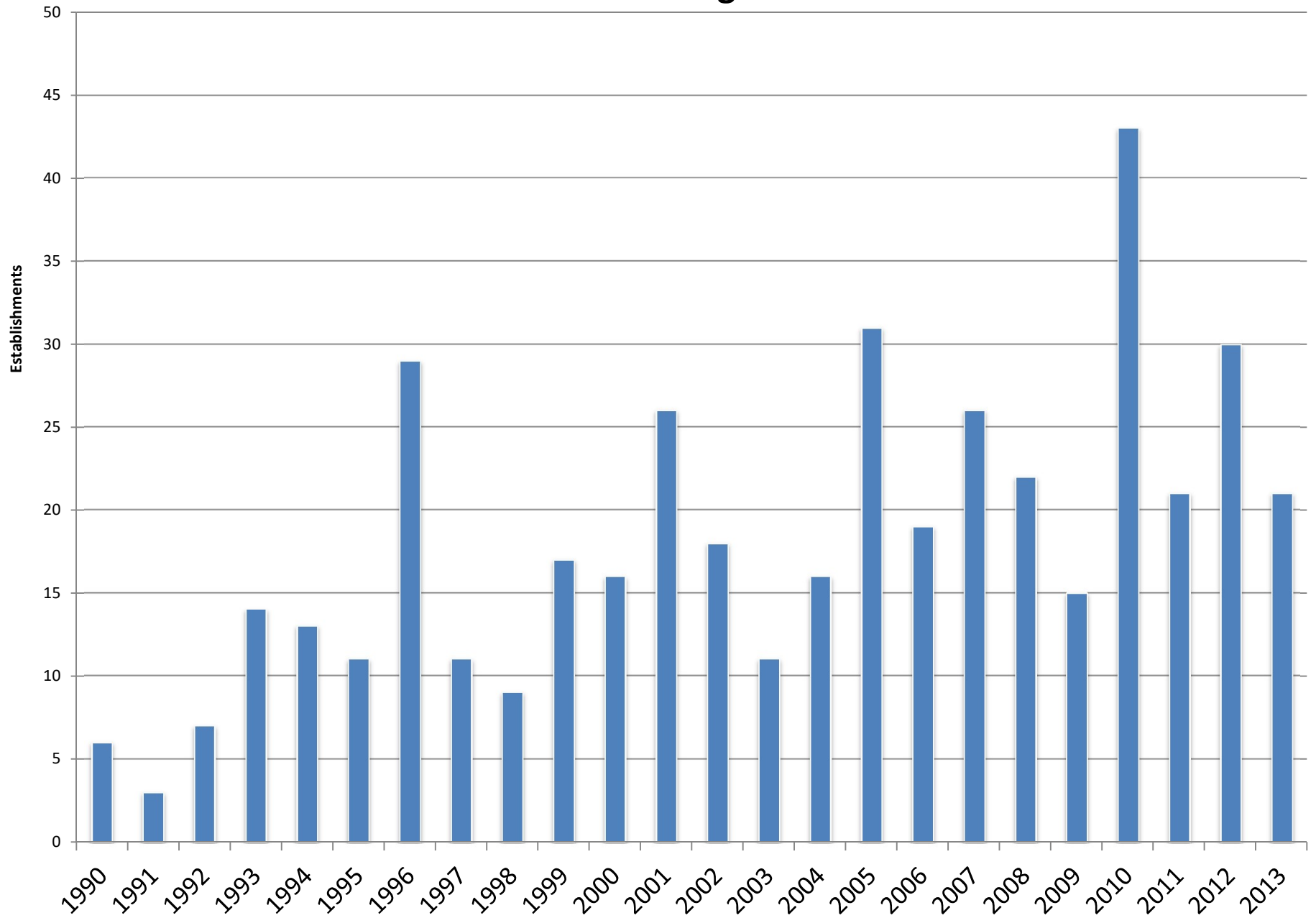
Total Establishments by Stage



Total Employment by Stage

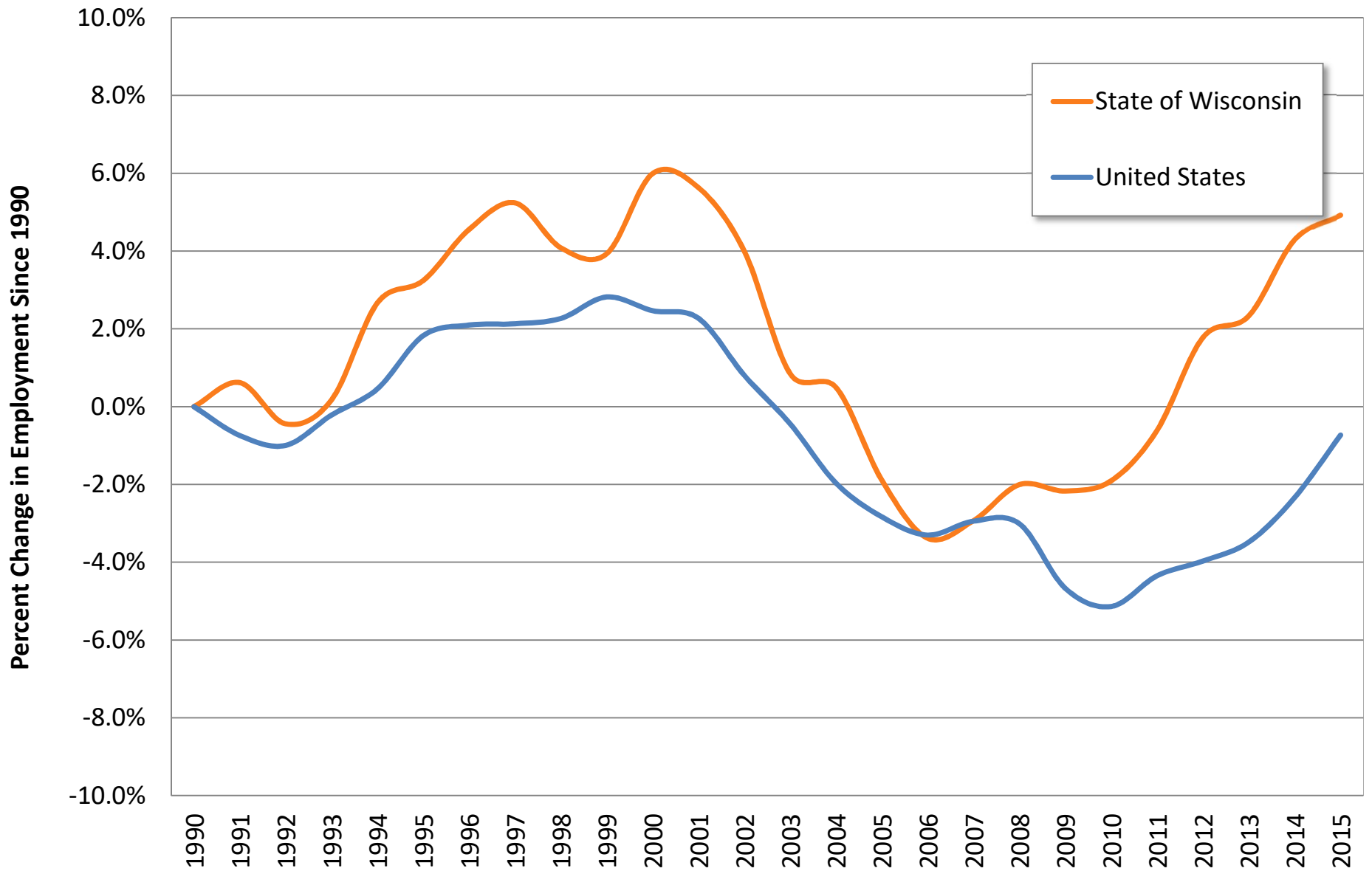


Food and Beverage Manufacturing Start-up Establishments in the Madison Region



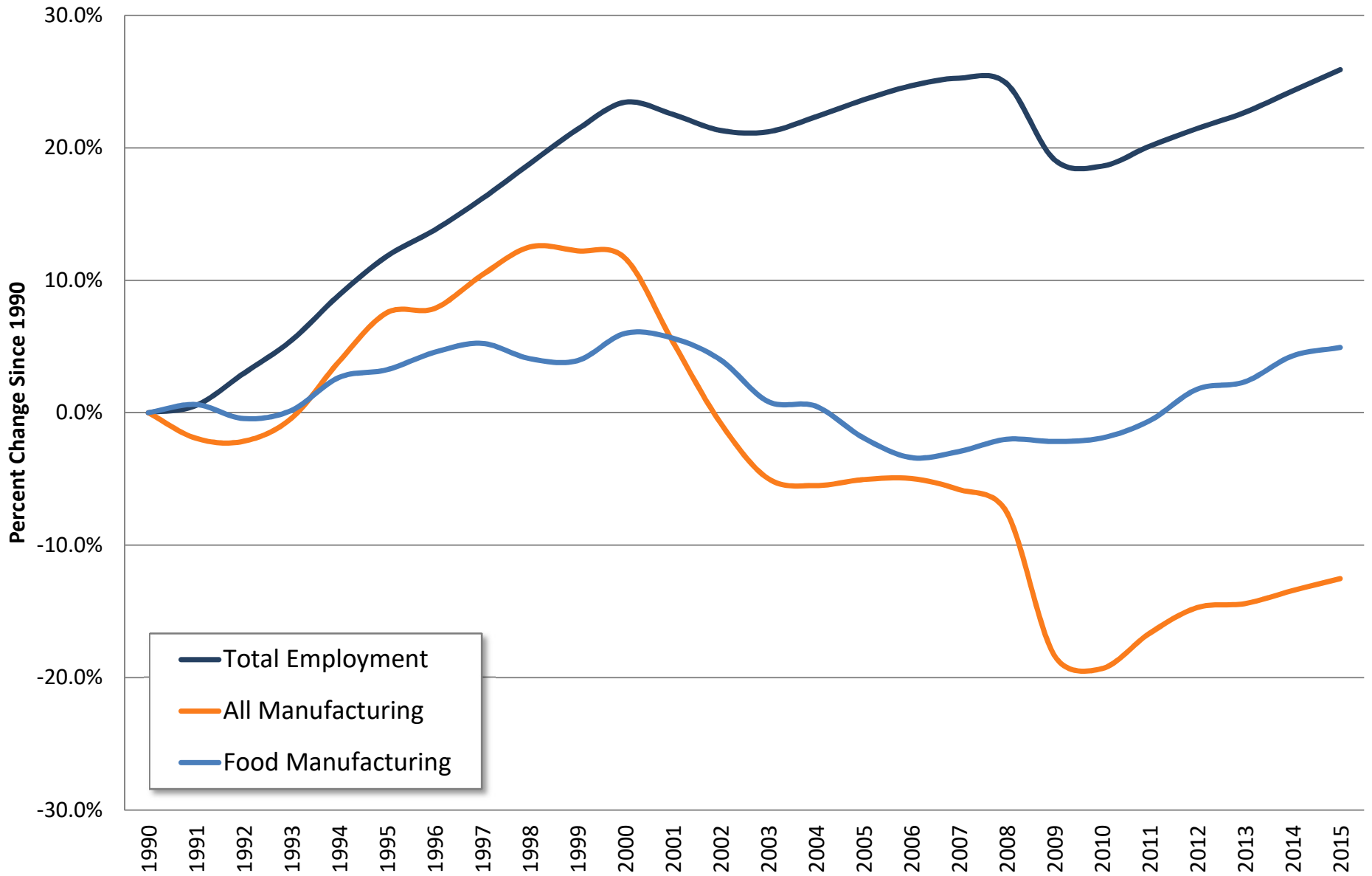
Change in Food Manufacturing Employment – 1990 to 2015

Percent Change Since 1990



Source: Quarterly Census of Employment and Wages

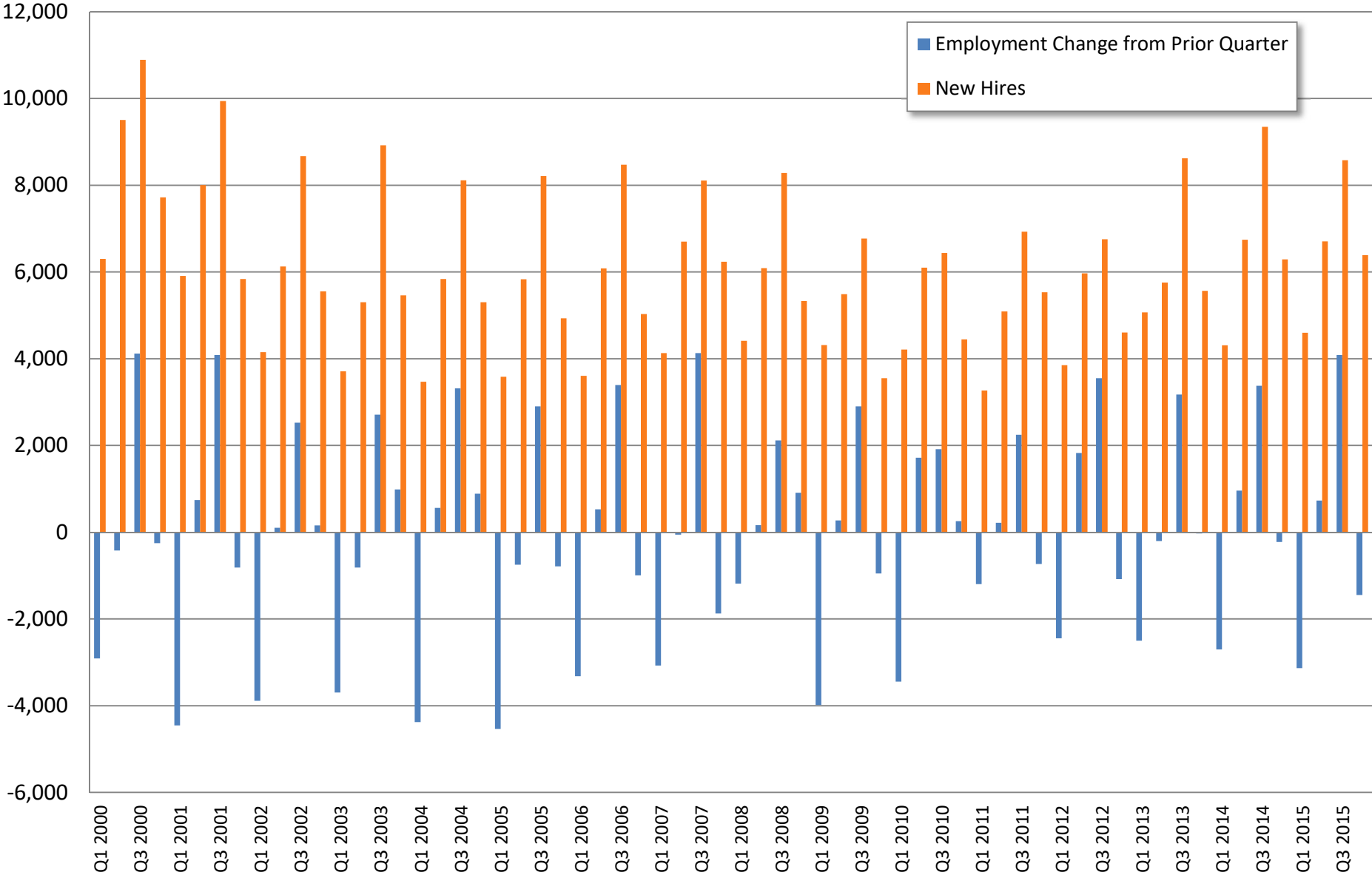
State of Wisconsin Change in Employment Since 1990 Total Employment, All Manufacturing and Food Manufacturing



Source: Quarterly Census of Employment and Wages

Quarterly Employment Change in Food Manufacturing

Net Employment Versus New Hires (2000 to 2015)

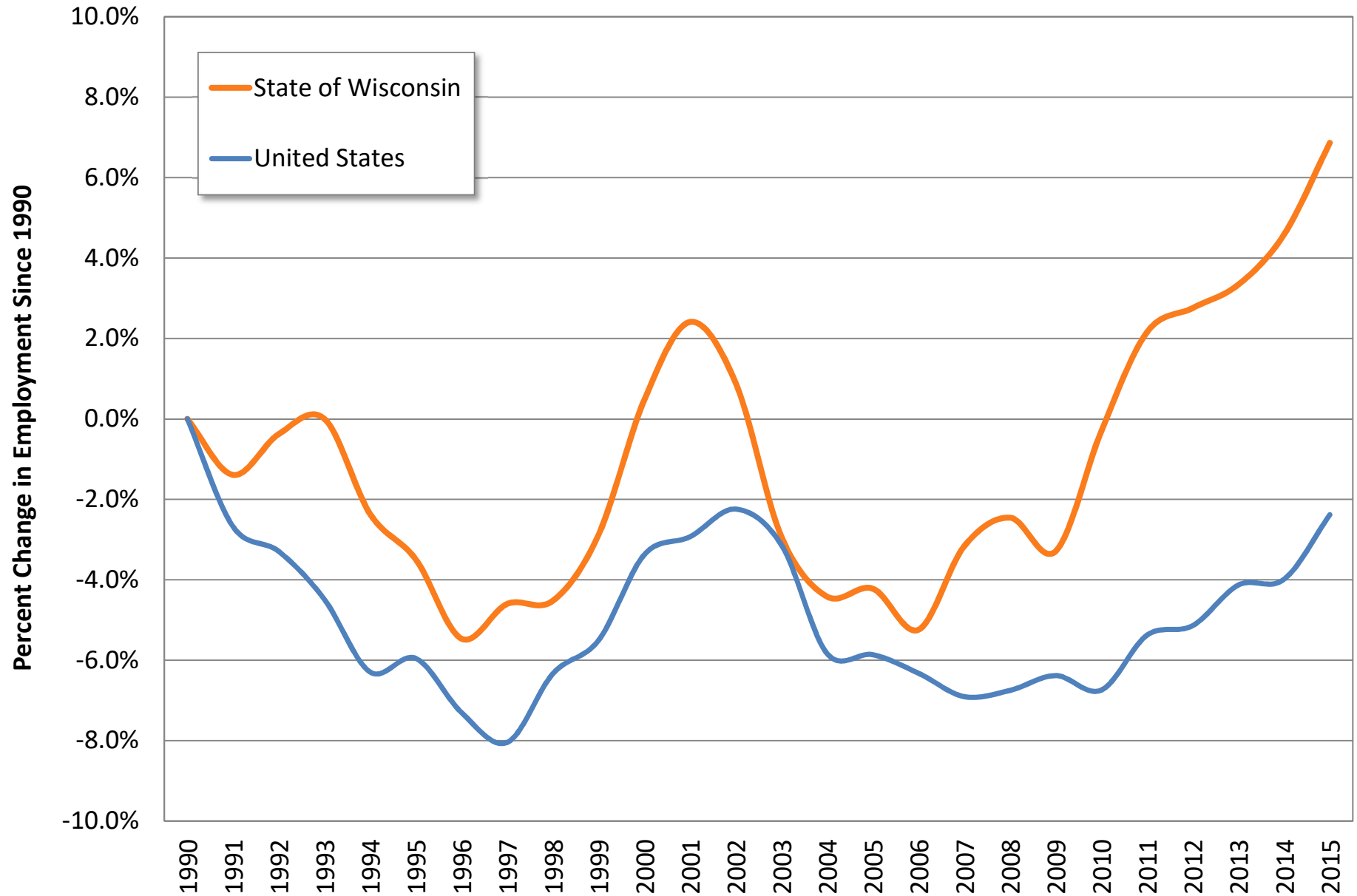


Source: U.S. Census Bureau LEHD



Change in Dairy Product Manufacturing Employment - 1990 to 2015

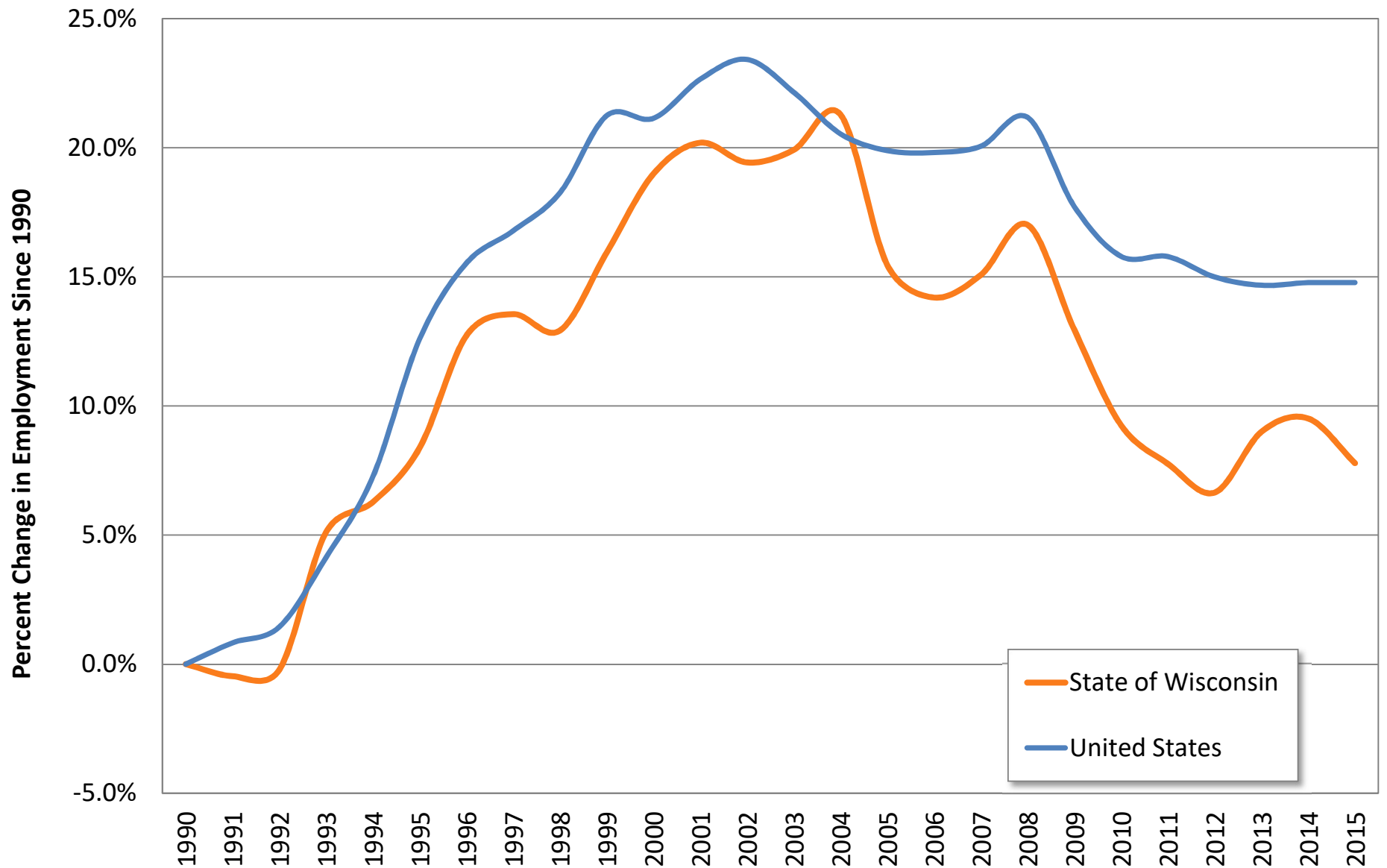
Percent Change since 1990



Source: Quarterly Census of Employment and Wages

Change in Animal Slaughtering & Processing Employment - 1990 to 2015

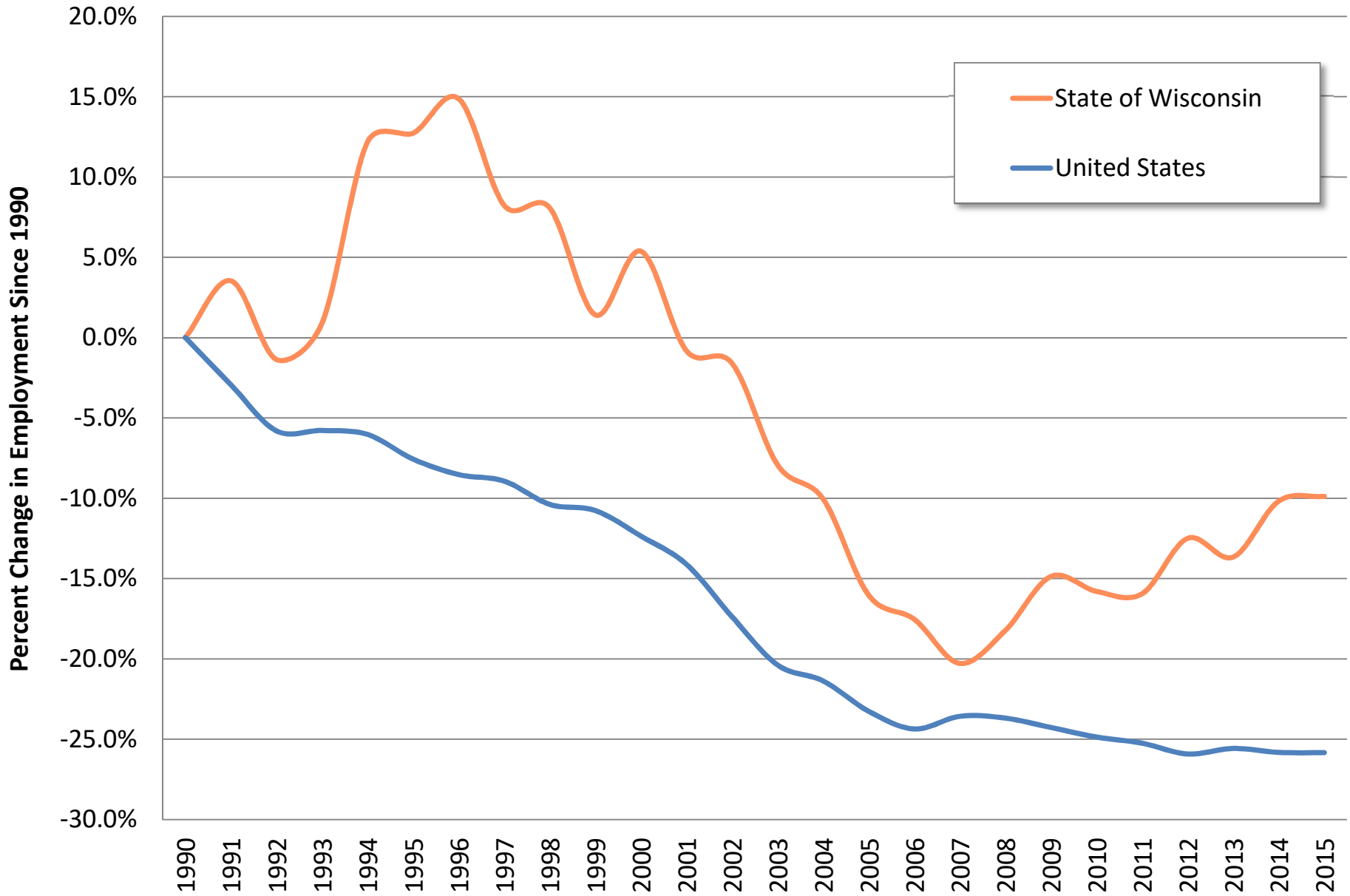
Percent Change since 1990



Source: Quarterly Census of Employment and Wages

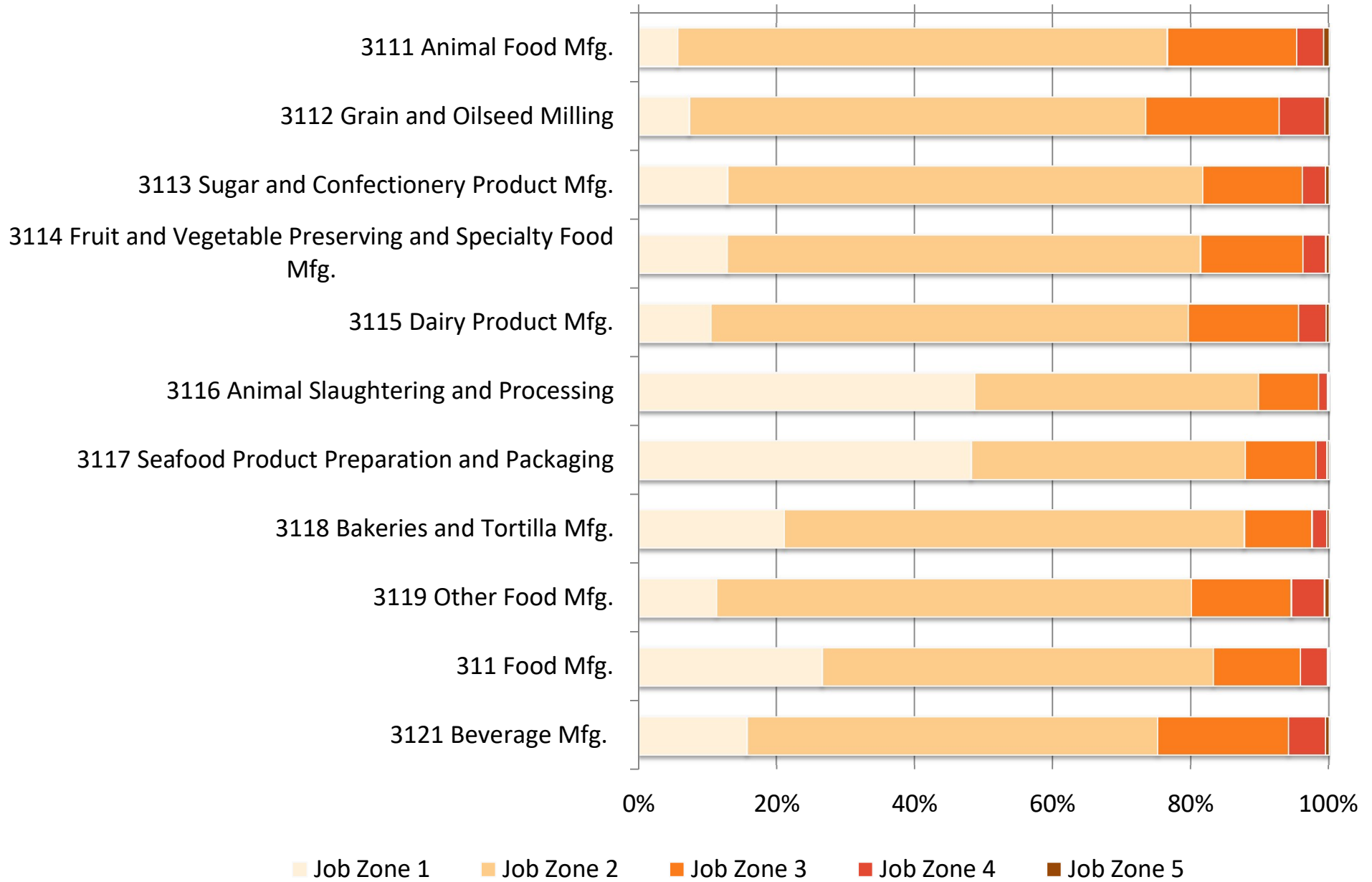
Fruit and Vegetable Preserving and Specialty Foods - 1990 to 2015

Percent Change since 1990



Source: Quarterly Census of Employment and Wages

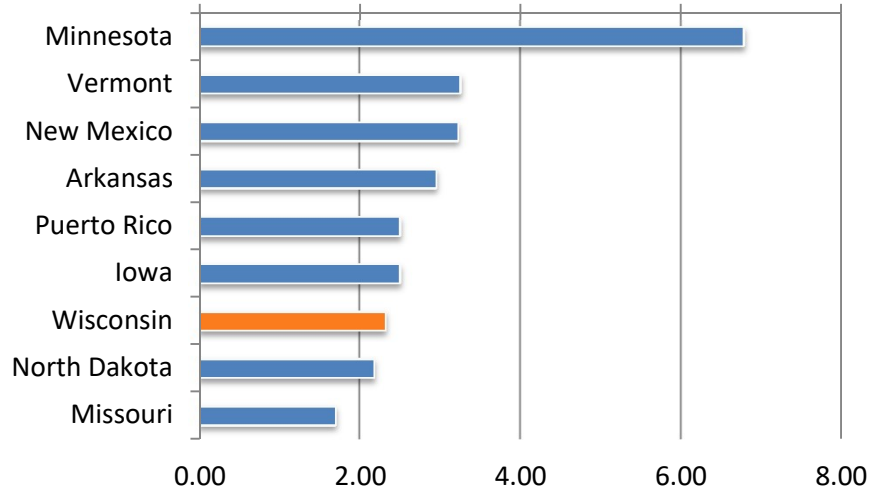
Food Manufacturing National Employment Distribution by Job Zone



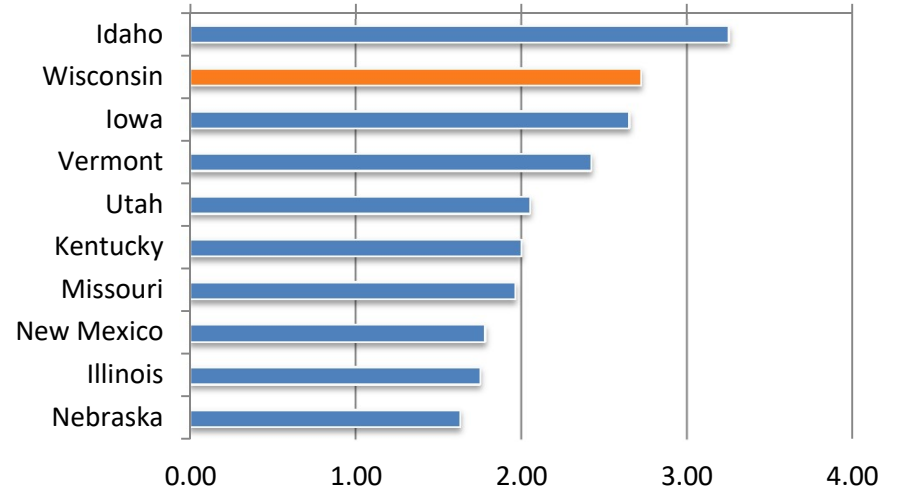
Source: Bureau of Labor Statistics Occupational Employment Statistics and O*NET

State Location Quotients for Selected Occupations Concentrated in Food Manufacturing

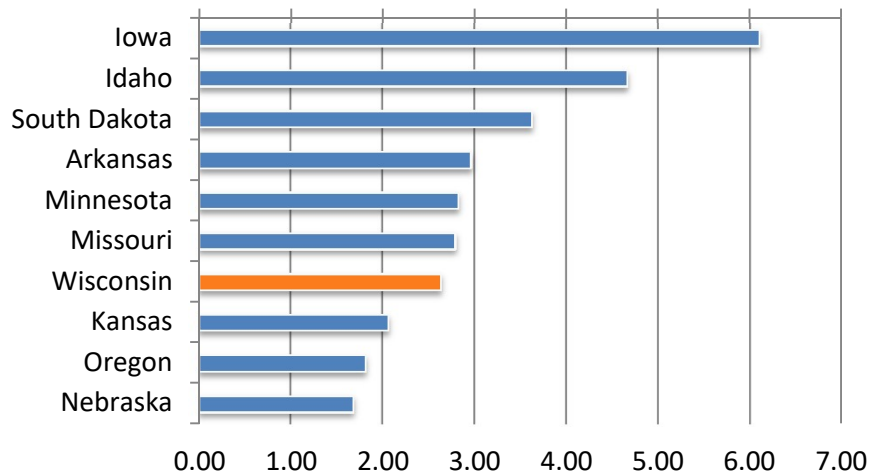
Food Scientists and Technologists



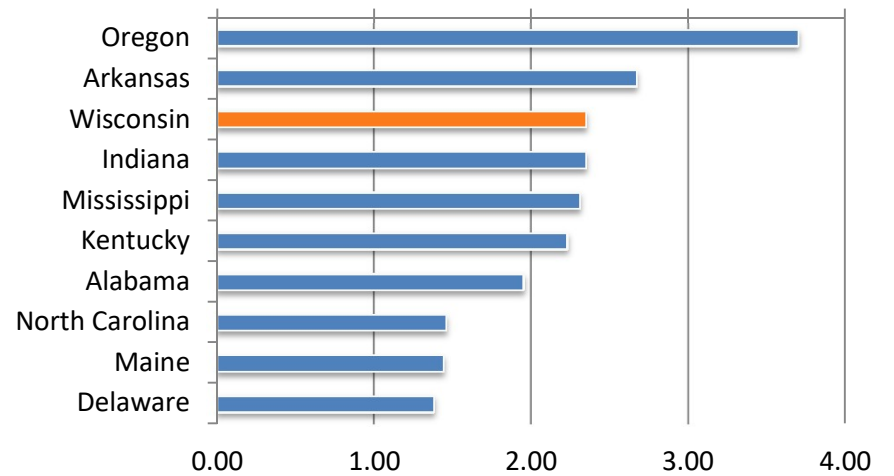
Food Batchmakers



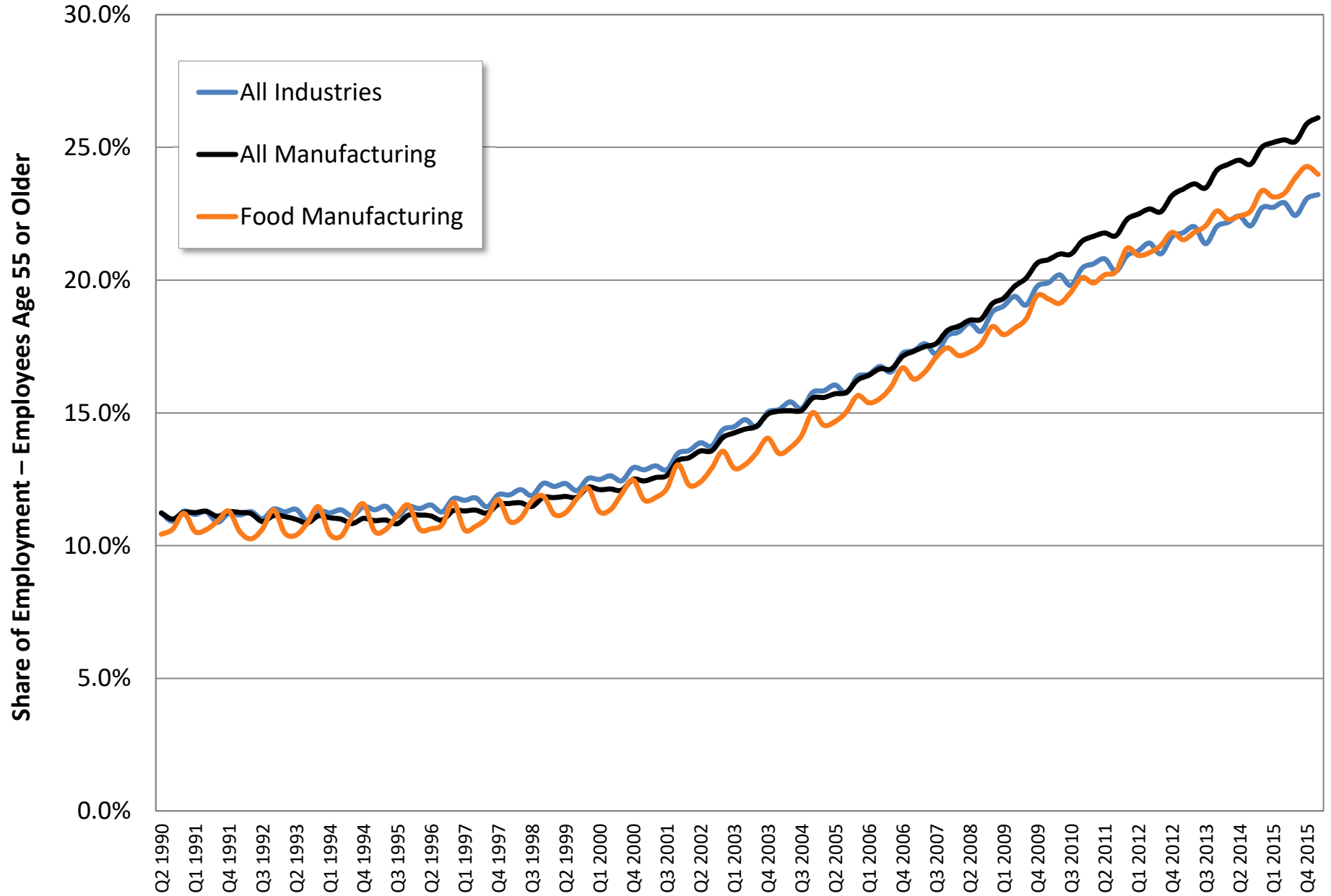
Agricultural and Food Science Technicians



Machine Feeders and Offbearers

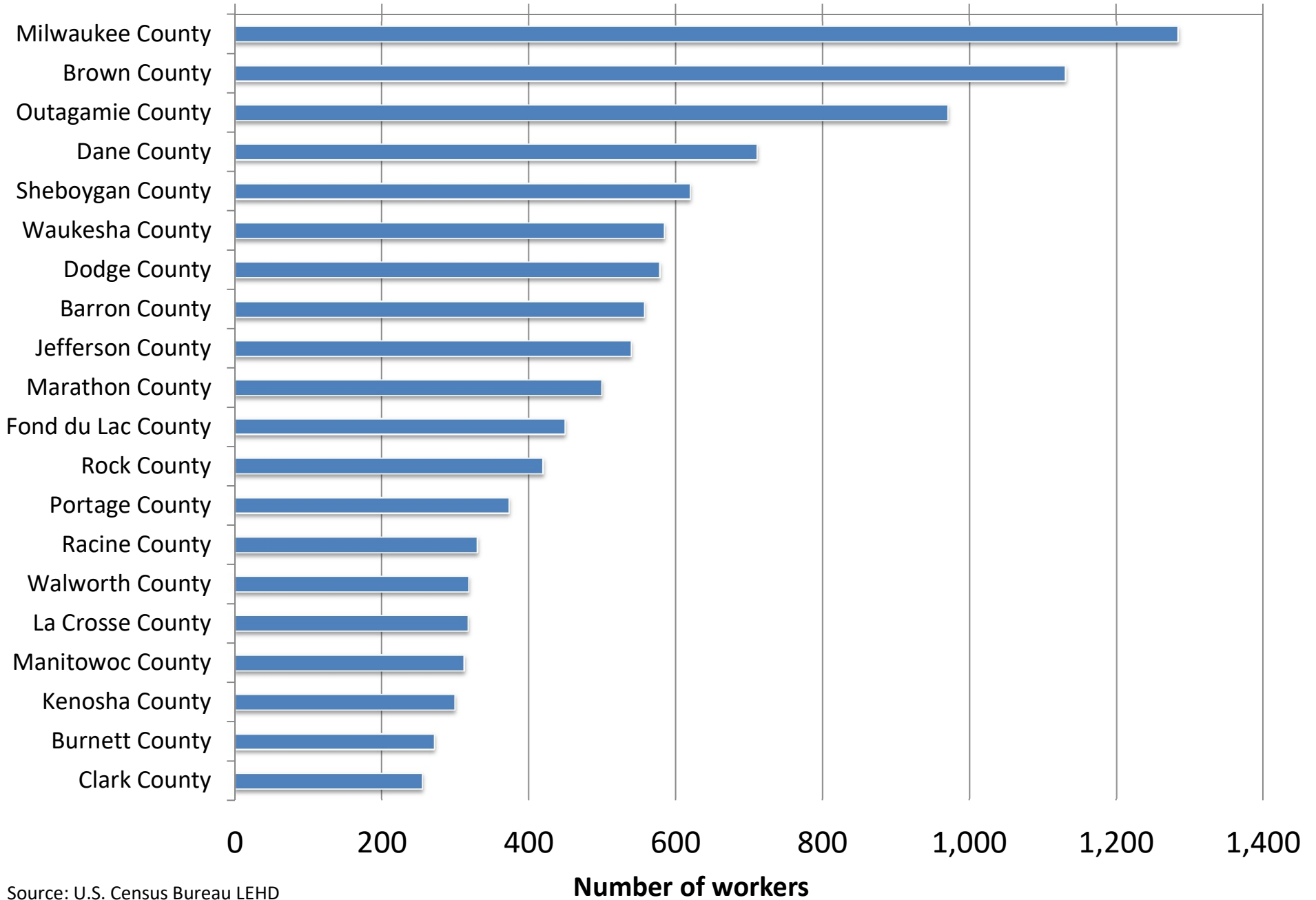


Employees Age 55 and Over as a Share of Total Employment - 1990 to 2015



Source: U.S. Census Bureau LEHD

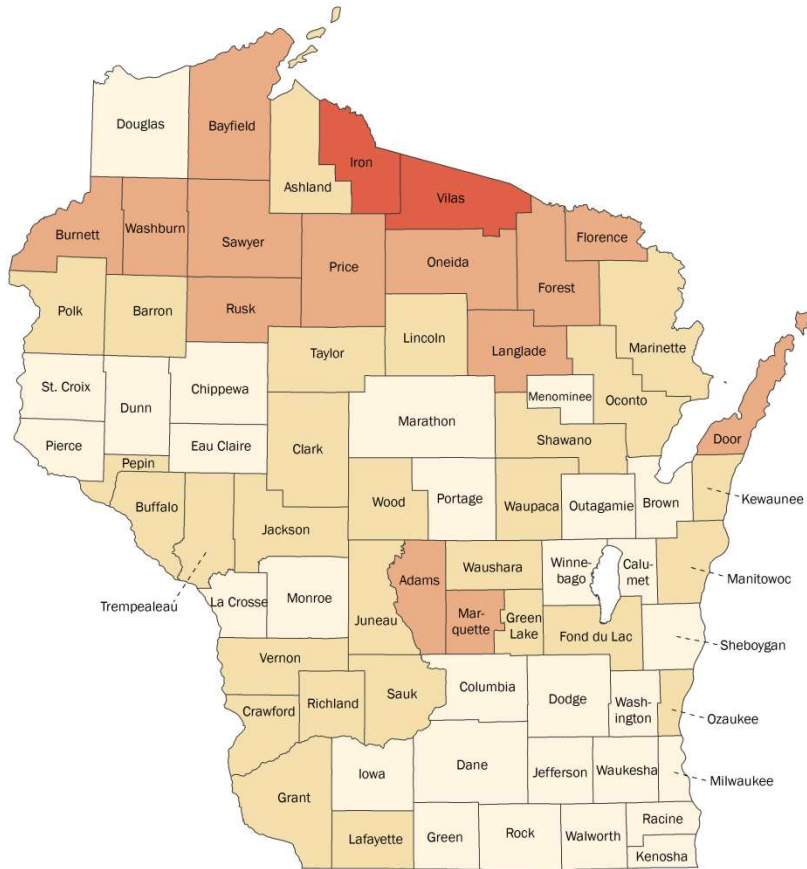
Food Manufacturing Workers Age 55 and Over by County (Q2 2015)



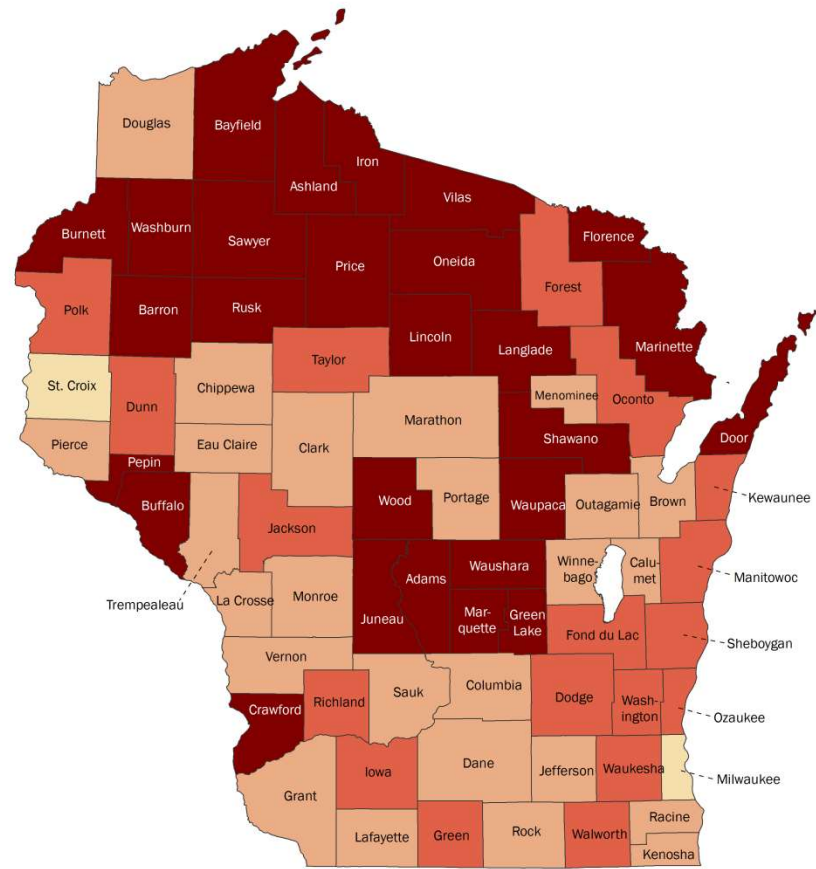
Source: U.S. Census Bureau LEHD

Projected Change in Population Age 65 and Over - 2010 to 2040

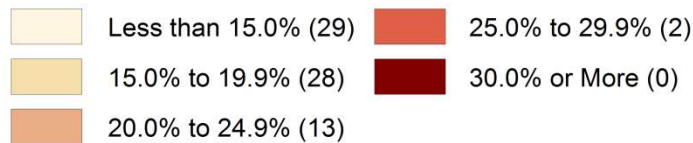
Share of County Population Age 65 or Older - 2010 Census



Share of County Population Age 65 and Over - 2040 Projection



Share of Population Age 65 and Over - 2010 Census
(Number of Counties)

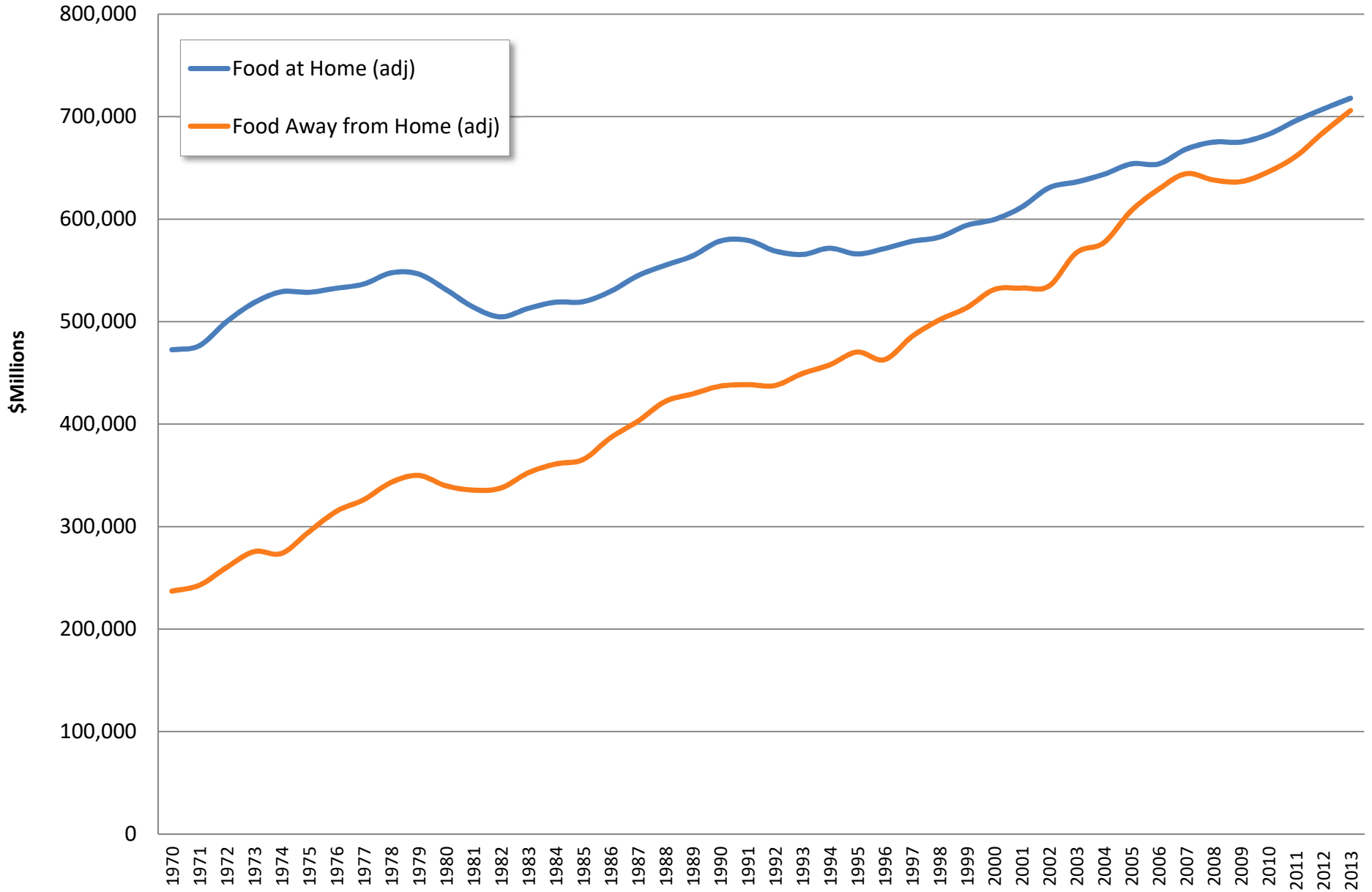


Share of Population Age 65 and Over - 2040 Projection
(Number of Counties)



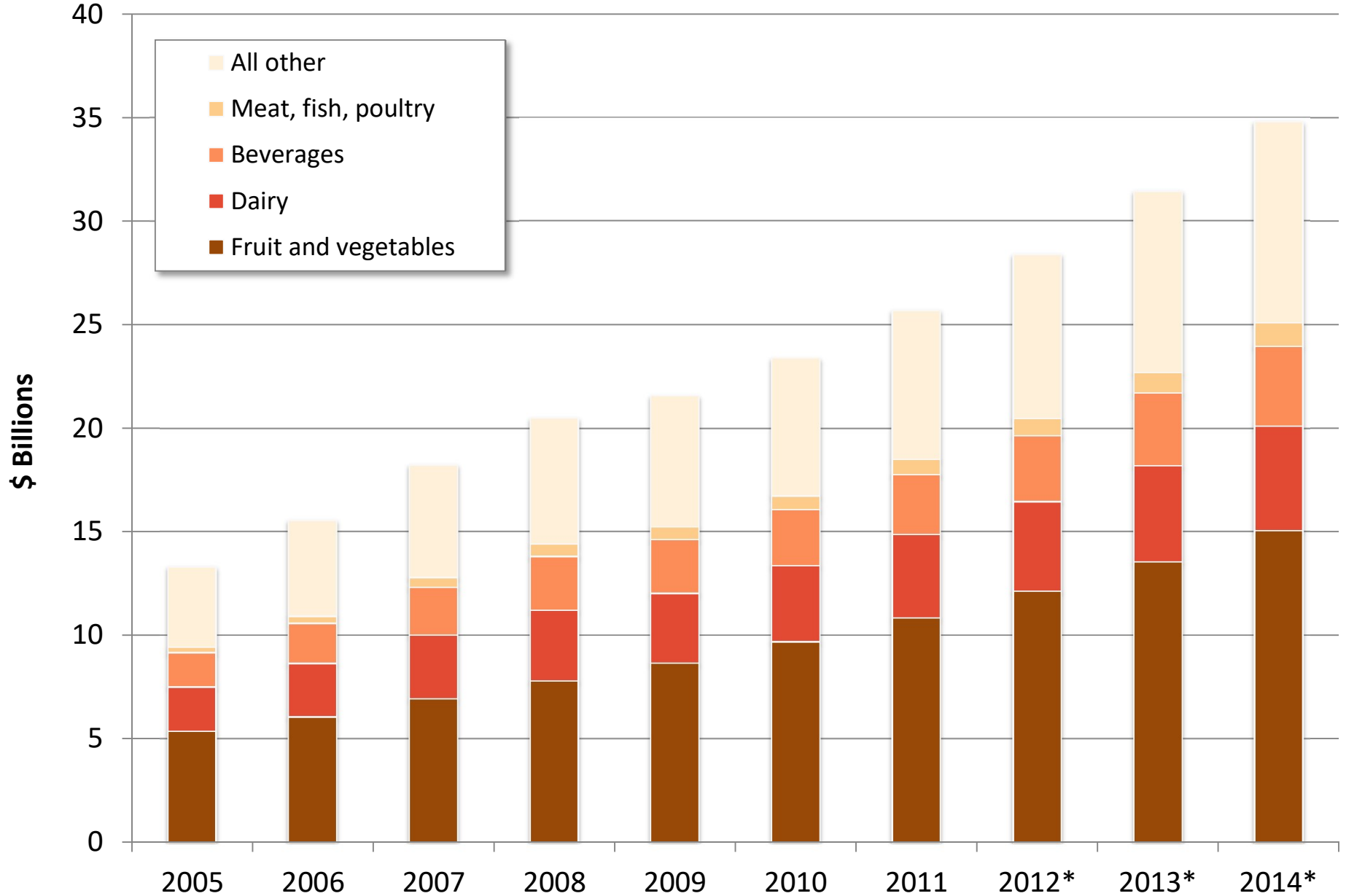
Data Source: Population Projections 2000 to 2035 - WI Department of Administration Demographic Services Center

Convergence of Total U.S. Food Spending *Food at Home and Food Away from Home*



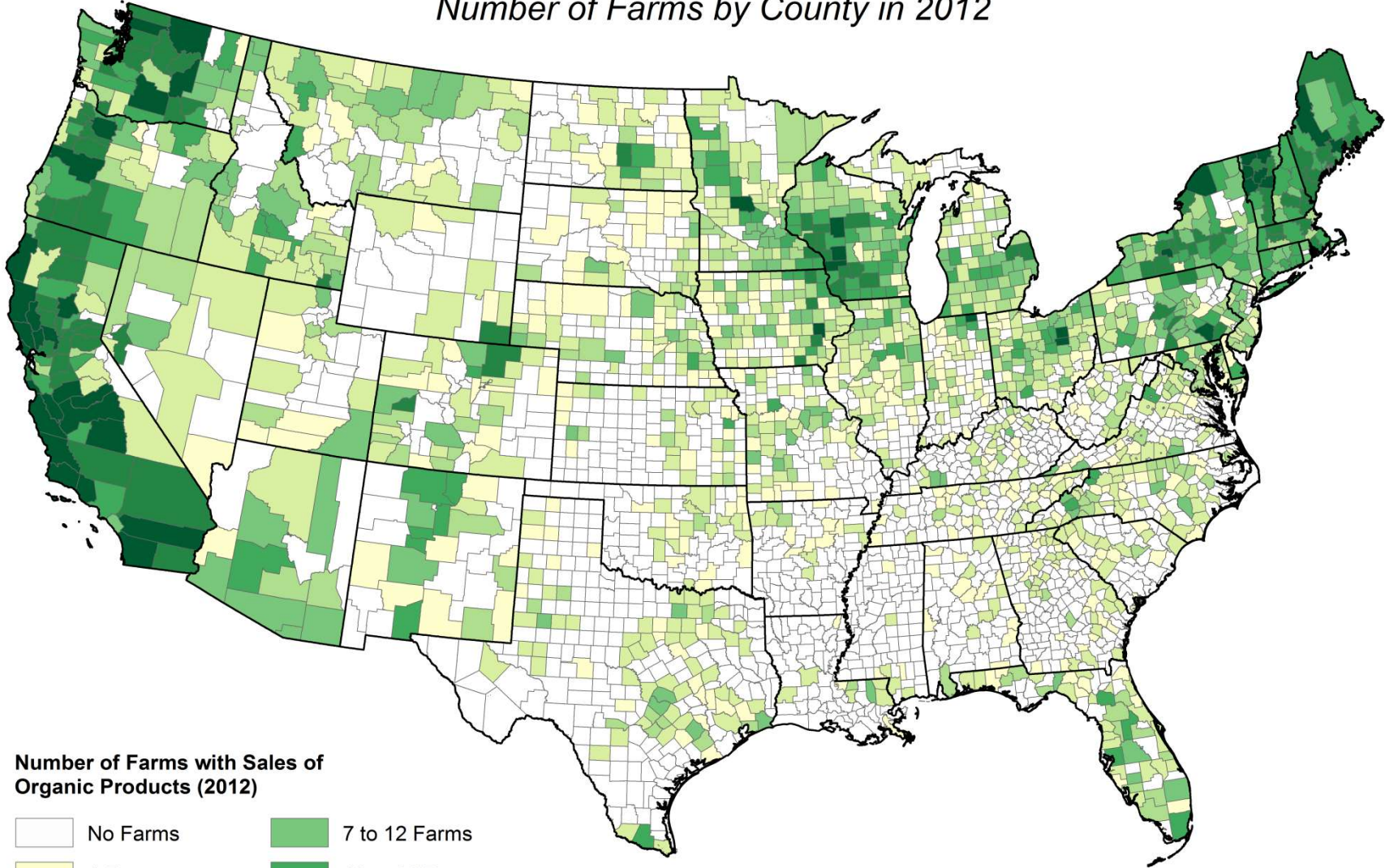
Source: USDA ERS

Organic Food Sales – 2005 to 2014











Source: Based on a chart from the USDA Economic Research Service using data from the National Business Journal. All other category includes packages/prepared foods, beverages, bread/grains, snack foods and condiments. *Estimated value

Farms with Sales of Organic Products Number of Farms by County in 2012



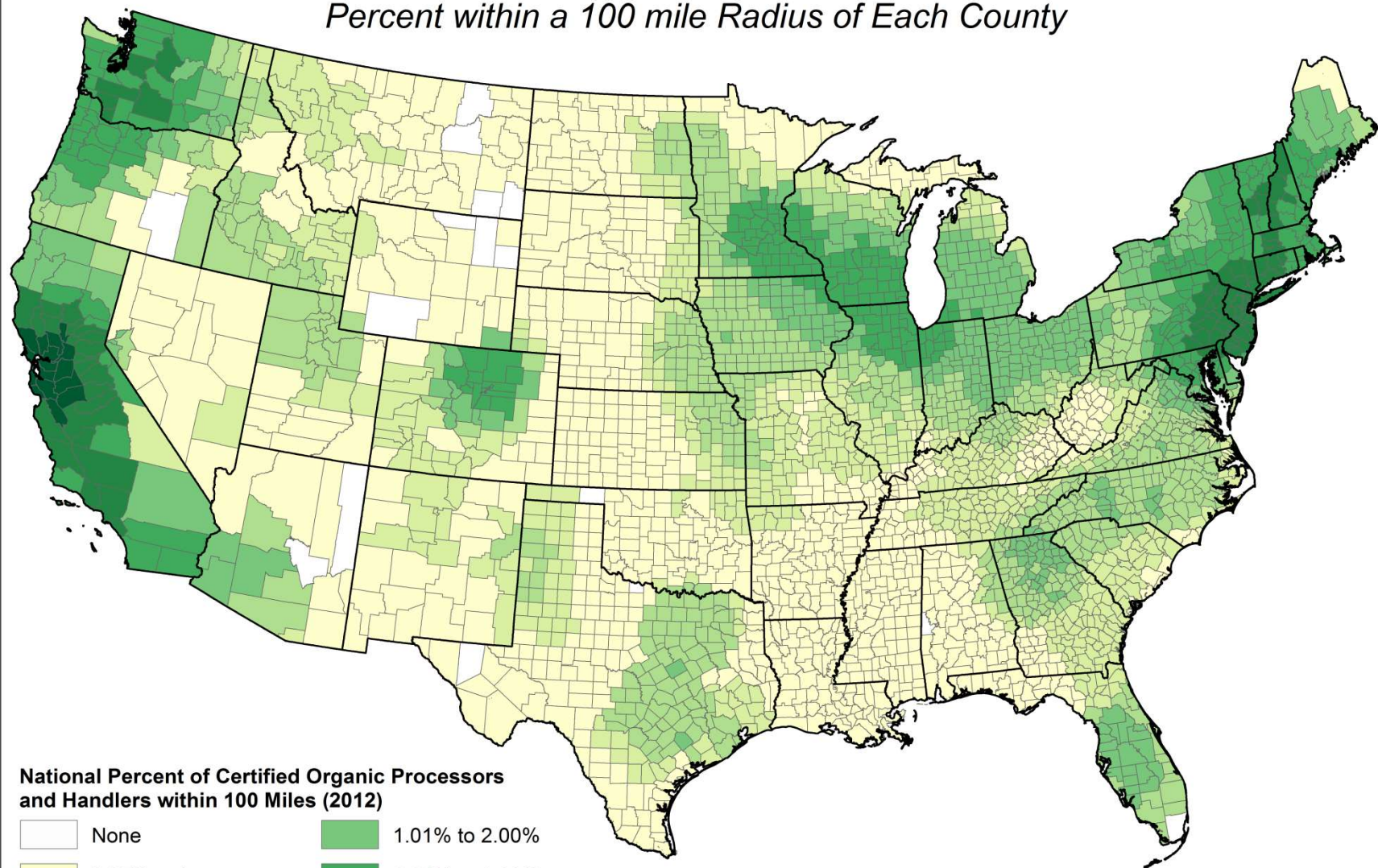
Number of Farms with Sales of Organic Products (2012)

- | | |
|--|--|
|  No Farms |  7 to 12 Farms |
|  1 Farm |  13 to 24 Farms |
|  2 to 3 Farms |  25 to 48 Farms |
|  4 to 6 Farms |  49 or More Farms |



Source: USDA 2012 Census of Agriculture.
Production by University of Wisconsin-Extension
Center for Community and Economic Development

Certified Organic Processors and Handlers *Percent within a 100 mile Radius of Each County*



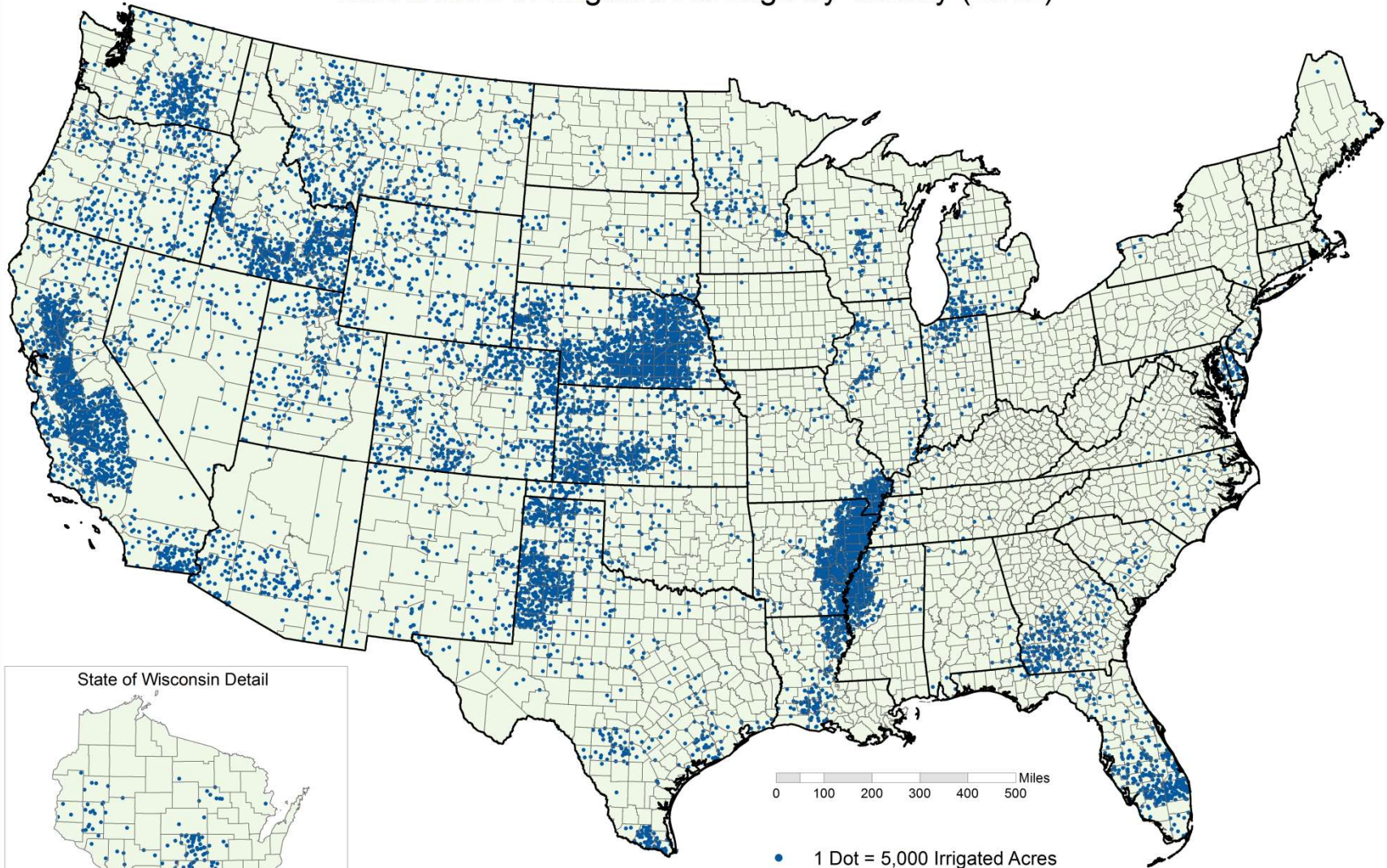
National Percent of Certified Organic Processors and Handlers within 100 Miles (2012)

<ul style="list-style-type: none"> None 0.25% or Less 0.26% to 0.50% 0.51% to 1.00% 	<ul style="list-style-type: none"> 1.01% to 2.00% 2.01% to 4.00% 4.01% to 8.00% 8.01% to 13.11%
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Source: USDA 2012 Census of Agriculture.
Production by University of Wisconsin-Extension
Center for Community and Economic Development

Distribution of Irrigated Acreage by County (2012)



UW
Extension
Cooperative Extension

Source: USDA 2012 Census of Agriculture.
Approximately 0.2% of all irrigated acres are
not shown on the map due to data suppression
issues. Based on a map produced by the USDA.

Agricultural Inputs

Oilseeds and Grains (canola, soybeans, safflower, cottonseed, corn, oats, etc.)

Vegetable and Melons (squash, melons, greens, cabbage, carrots, potatoes, beans, peppers, cucumbers, etc.)

Fruits and Tree Nuts (apples, stone fruit, pears, bananas, berries, citrus, almonds, walnuts, pecans, etc.)

Other Crops (sugar cane/beets, maple syrup, herbs, spices, hops, etc.)

Beef, Poultry, Eggs and Pork (beef cattle, veal calves, hogs chickens, waterfowl, eggs, etc.)

Dairy Producers (dairy cattle and milk production)

Seafood and Other Animal Products (fish, shellfish, goats and goat milk, sheep and sheep milk, wild game, apiculture, etc.)

Food and Beverage Manufacturing

Grain and Oilseed Milling (flour, malt, rice, corn syrup, starches, oils, cereals, etc.)

Sugar & Confectionery Products (Cane sugars and syrups, molasses, candies, chocolate, gum, granola bars, cocoa products, etc.)

Fruit and Vegetable Preserving & Specialty Foods (fruit juices, pizzas, frozen/canned vegetables, frozen dinners, tomato sauces, jellies, soups, etc.)

Dairy Products (fluid milk, cheese, butter, whey, casein, yogurt, ice cream, infant formula, etc.)

Animal Processing (fresh beef, pork, lamb or poultry, sausages, cured meats, animal fat & oil rendering)

Seafood and Other Animal Products (fresh fish, frozen seafood, pre-prepared seafood dinners, canned seafood, seafood soups, etc.)

Bakery and Tortilla Products (breads, tortillas, pastries, pastas, cookies, pies, cakes crackers, etc.)

Other Food (chips, coffee roasting, spices and extracts, sauces and dips mayonnaise, fresh prepared vegetables, etc.)

Soft Drinks and Ice (soft drinks, flavored drinks, iced tea, bottled water, ice)

Breweries, Wineries and Distilleries (beer, wine, cider (alcoholic), distilled liquor, packaged mixed drinks (alcoholic), etc.)

Support Industries

Packaging Materials (plastic, metal and glass containers, paperboard boxes, plastic films and bags, printing services, etc.)

Machinery and Equipment (food product machinery, packaging machinery, conveyors and handling equipment, farm equipment, equipment repair, etc.)

Professional and Technical Services (soil sciences, accounting, marketing, food testing, engineering and design, veterinary services, etc.)

Utilities (electrical power generation, natural gas distribution, water and wastewater)

Distribution (farm, grocery and related wholesale; truck and rail transportation, logistics services, warehousing, etc.)

Top States for Metal Tank (Heavy Gauge) Manufacturing (NAICS 33242)

State	Total Establishments	Total Employment	Location Quotient	Annual wage per Employee
Kansas	18	1,439	3.91	\$42,796
South Dakota	9	308	2.75	\$59,155
Wisconsin	34	2,055	2.74	\$48,587
New Mexico	8	577	2.66	\$51,790
Indiana	30	2,060	2.6	\$59,762
Missouri	26	1,647	2.26	\$52,333
Ohio	36	3,102	2.19	\$64,572
Idaho	11	362	2.03	\$42,564
Minnesota	17	1,410	1.89	\$61,344
Texas	138	5,603	1.79	\$59,952

Source: Quarterly Census of Employment and Wages

Top States for Food Product Machinery Manufacturing* (NAICS 333241)

State	Total Establishments	Total Employment	Location Quotient	Annual wage per Employee
Wisconsin	42	1,949	5.37	\$64,079
Idaho	18	438	5.07	\$51,594
Kansas	16	594	3.34	\$65,493
Ohio	32	2,078	3.04	\$66,169
Minnesota	22	1,032	2.86	\$74,420
Iowa	19	519	2.61	\$63,559
Washington	17	958	2.36	\$67,437
Illinois	52	1,779	2.34	\$65,252
New Hampshire	4	164	1.98	\$61,617
Louisiana	6	331	1.32	\$63,289

Source: Quarterly Census of Employment and Wages

*Oregon is likely within the top 10, but its data are suppressed for 2015

Top States for Converted Paper Manufacturing (NAICS 3222)

State	Total Establishments	Total Employment	Location Quotient	Annual wage per Employee
Wisconsin	203	18,932	3.51	\$60,736
Arkansas	58	5,508	2.42	\$50,630
South Carolina	103	8,305	2.21	\$70,938
Kentucky	88	7,102	2	\$58,082
Pennsylvania	244	19,883	1.81	\$58,938
Ohio	321	17,107	1.68	\$55,084
Tennessee	144	8,947	1.64	\$57,086
Illinois	355	18,159	1.61	\$65,320
Indiana	143	8,997	1.58	\$50,262
North Carolina	174	12,066	1.5	\$55,222

Source: Quarterly Census of Employment and Wages

Top States for Plastics Packaging Materials and Unlaminated Film and Sheet Manufacturing (NAICS 32611)

State	Total Establishments	Total Employment	Location Quotient	Annual wage per Employee
Wisconsin	55	6,533	3.66	\$64,921
Delaware	10	737	2.66	\$62,221
Arkansas	11	1,926	2.56	\$49,873
South Carolina	36	2,963	2.38	\$71,112
Indiana	41	3,998	2.13	\$53,094
Kentucky	25	2,412	2.06	\$53,199
South Dakota	9	534	2.01	\$50,481
Virginia	26	4,230	1.77	\$57,690
Ohio	86	5,807	1.73	\$75,501
Oklahoma	24	1,492	1.46	\$49,002

Source: Quarterly Census of Employment and Wages

Contact Information

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