

Agriculture's Contribution to The Wisconsin Economy 2017 Animal Processing

Given the historical size of the dairy industry across Wisconsin, coupled with the recent growth in beef farmers, it is not surprising that Wisconsin has a large animal processing industry. In 2017 there were some 139 meat and poultry processing businesses in Wisconsin, with total sales of \$8.6 billion employing some 16,250 workers and paying \$997 million in worker compensation and proprietor income. As seen in Map 1 the highest concentration of these firms tend to be in more urban areas, such as Green Bay (Brown County), Milwaukee, Madison (Dane County) and St Croix.

This, does not reflect the distribution of employment. Indeed, a large percent of animal processing firms in Wisconsin (41.7%) have fewer than ten employees. There are eleven

Map 1: Animal Processing Firms

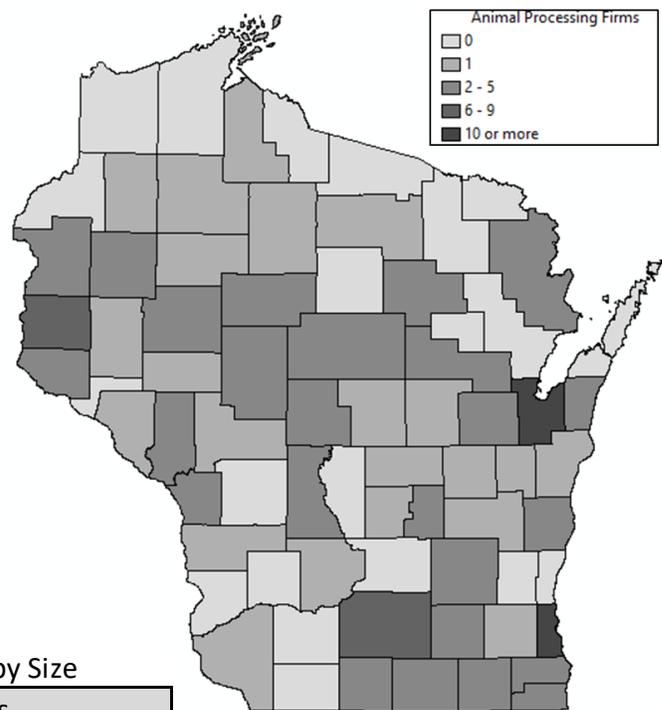


Table 1: Meat & Poultry Processing by Size

(Number of Employees)	Firms	
1 to 4	34	24.5%
5 to 9	24	17.3%
10 to 19	27	19.4%
20 to 49	19	13.7%
50 to 99	4	2.9%
100 to 249	9	6.5%
250 to 499	11	7.9%
500 to 999	6	4.3%
1,000 or more	5	3.6%

firms (7.9%) that have more than 500 employees. Indeed, about one in four have fewer than five employees. Many of these smaller firms are producing for specialty meats and poultry product markets.

For this analysis, the beef and meat processing industry is combined with poultry. The latter accounts for \$940 million in sales (10.9% of the total), and just over 3,000 jobs (18.6%), and \$175.4 917.6%) in labor income (wages, salary and proprietor income). The typical employee in the non-poultry processing industry contributes, on average, \$578,900 to industrial sales and has income of \$62,100 compared to \$311,000 in sales per worker in poultry and \$58,000 of per job income. These differences are largely explained by market prices for beef and other animal meats compared to poultry.

With the multiplier or ripple effect of these businesses and their employees spending money in the Wisconsin economy is taken into account, the meat and poultry processing industry contributes \$14.5 billion to industrial sales, 53,600 jobs, \$3.1 billion to labor income and \$4.8 billion to total income (labor income plus all other sources of income such as dividends, interest and rental income). This level of economic activity also generates tax revenues of the amount of \$376.9 million that flows to state and local governments.

Note that decomposing the multiplier effect into the indirect, or business-to-business expenditures, and the induced, or labor spending income in the economy, the indirect is slightly larger than the induced. This suggests that the meat and poultry processing industry in Wisconsin tends to be more capital than labor intensive. It is not clear to what extent automation has played in making this industry less labor intensive.

Given the recent trends of dairy farmers moving away from milk production to beef production, coupled with the growing markets for specialty meats in the Midwestern U.S., it appears that there is some growth potential for this industry.

Table 2: Economic Contribution of Meat and Poultry Processing Industry (2017)

	Industry Sales (MM\$)	Employment	Labor Income (MM\$)	Total Income (MM\$)
Direct Effect	\$ 8,598.4	16,250	\$ 997.1	\$ 1,535.2
Indirect Effect	\$ 3,784.7	21,851	\$ 1,401.0	\$ 2,005.6
Induced Effect	\$ 2,107.1	15,515	\$ 693.5	\$ 1,226.6
Total Effect	\$ 14,490.2	53,616	\$ 3,091.6	\$ 4,767.4
Multiplier	1.685	3.300	3.101	3.105

For this analysis we use an input-output model of the Wisconsin economy. One can think of this model as a “spreadsheet of the economy” where buyers (demand) are across the columns of the spreadsheet and sellers (supply) are down the rows. Any individual cell of the spreadsheet captures the amount of money flowing from the seller to the buyer. Because supply must equal demand we can trace changes in one part of the economy (an interaction between supply and demand) throughout the whole of the economy. These changes are often referred to as the multiplier effects.

Steven Deller, Department of Agricultural and Applied Economics, and the Center for Community Economic Development, University of Wisconsin—Madison. Support for this work was provided by the Division of Extension and the Economic Development Administration’s University Center, University of Wisconsin-Madison, and the Dairy Farmers of Wisconsin.