

# Contribution of Agriculture to Wisconsin

## Agriculture's Contribution to The Wisconsin Economy 2017

Agriculture has historically been considered a backbone of the Wisconsin economy. Over time, however, other components, such as the service producing sectors including tourism-recreation and business services to name a few, have grown more important. This raises the question, how much does agriculture contribute to the modern Wisconsin economy. Using data from 2017, the most current year available, we seek to provide insights into that fundamental question.

For this study we explore the contribution of all on-farm activity, all food processing activity, both on-farm and food processing combined, as well as dairy operations, both on-farm and dairy processing together and individually. Further, we use four measures of economic activity: total industrial sales or revenues, employment or jobs, labor income (wages, salaries and proprietor income), and total income (labor income plus all other sources of income such as interest income, social security payments, etc.). We also provide a simple estimate of the amount of state and local government tax revenues generated by this economic activity.

The summary of the total contribution of agriculture to the Wisconsin economy is provided in Table 1. In 2017 all of agriculture contributed \$104.8 billion to industrial sales an increase of \$16.5 billion (18.6%) over the contributions in 2012. In 2012, all of agriculture contributed some 413,500 jobs, but in 2017 the contribution to employment increased to 435,700, and increase of about 5.4 percent. Contribution to labor income increased by 20.7% to \$22.5 billions and the contribution to total income increased by 25.0% to \$37.6 billion. All of this activity generates about \$2.9 billion in state and local tax revenues.

Table 1: Total Contribution of Agriculture to the Wisconsin Economy (2017)

	Industry Sales (MM\$)	Employment	Labor Income (MM\$)	Total Income (MM\$)	State & Local Govt Revenue (MM\$)
On-Farm	22,092.7	153,280	5,795.1	9,817.3	552.5
Food Processing	82,670.1	282,436	16,664.3	27,822.3	2,384.7
All Agriculture	104,762.8	435,717	22,459.3	37,639.6	2,937.2
Dairy Farm	10,121.4	48,581	2,433.4	4,140.2	228.3
Dairy Processing	35,441.4	108,539	6,577.2	10,938.2	986.4
All Dairy	45,562.8	157,120	9,010.6	15,078.5	1,214.7

Table 2: Total Contribution of Agriculture to Wisconsin: Share of State Economy (2017)

	Industry Sales (MM\$)	Employment	Labor Income (MM\$)	Total Income (MM\$)	State & Local Govt Revenue (MM\$)
On-Farm	3.5%	4.1%	2.9%	3.0%	1.4%
Food Processing	13.0%	7.6%	8.4%	8.6%	6.0%
All Agriculture	16.4%	11.8%	11.3%	11.6%	7.4%
Dairy Farm	1.6%	1.3%	1.2%	1.3%	0.6%
Dairy Processing	5.6%	2.9%	3.3%	3.4%	2.5%
All Dairy	7.1%	4.2%	4.5%	4.7%	3.0%

If we think in terms of the relative levels of contribution agriculture has on the Wisconsin economy, its importance becomes clearer (Table 2). In 2017, all of agriculture, both on-farm and food processing, accounted for 16.4% of industrial sales or revenue, 11.8% of employment, 11.3% of labor income, and 11.6% of total income. Thus, depending on the economic metric used, agriculture accounts for more than One-tenth of the Wisconsin economy.

If we refine the level of analysis and look specifically at on-farm activity as well as food processing activity a clearer understanding of how agriculture impacts the Wisconsin economy is available. Across all four measures of economic activity, plus state and local government revenues that are generated, food processing accounts for a much larger share of the contribution than on-farm activity. For example, food processing generated 78.9% of the \$104.8 billion in industrial sales (\$82.7 billion for food processing compared to \$22.1 billion for on-farm activity). A similar pattern holds for employment and both measures of income. For example, food processing supports 282,400 jobs compared to 153,300 jobs for on-farm activity. The full study finds two reasons for this pattern. First, farmers are experiencing a difficult economy that has not been experienced since the farm crisis of the early 1980s. These financial difficulties are preventing farmers from making many of the investments that they historically make in any given year. Second, the food processing industry in Wisconsin has been experiencing renewed growth in terms of employment and sales, particularly since the end of the Great Recession.

Despite the difficult economic times facing the dairy industry, the total contributions of dairy to the Wisconsin economy increased over 2012 levels. Total dairy contributed \$43.5 billion to industrial sales in 2012, but increased by 4.9% to \$45.6 billion in 2017. While this might be attributed to inflation, the growth in employment

and income far outpaces any effects of inflation. For example, all of dairy accounted for 78,900 jobs in 2012, in 2017 that number increased to 157,100 with almost all of the increase coming from growth in dairy processing. Similar patterns hold for labor and total income. While industrial sales or revenues have not increased significantly, the number of jobs and income attributed to dairy has increased significantly. Finally, if we explore the share of dairy to all of agriculture's contribution, all of dairy (on-farm and processing) accounts for 43.5% of industrial sales, 36.1% of employment, 40.1% of both labor and total income.

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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.

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