Grain & Oilseed Industries

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The grain and oilseed industry is one of the state's largest contributors to the agricultural economy, and aside from forestry, is also a leading user of land in the state. The grain and oilseed industry, however, contributes more than just the production of these commodities to the state's economy. Input suppliers and agronomic services are also vital to the industry as a whole, and Wisconsin is also home to a large processing and refining sector that transforms raw grain into its final uses: animal feed, oil, and biofuels.

This article will estimate the extent to which the grain and oilseed industry as a whole contribute to the state's economy and will decompose the aggregate contribution to the individual stages of the grain supply chain: **agronomic services, on-farm production, and processing.**

Contribution of Grain and Oilseed Industries to the Wisconsin Economy

	Employment	Labor Income (Millions)	Value Added (Millions)	Output (Millions)
Direct	18,590	$1,179.0	$2,251.8	$9,154.2
Indirect	17,280	$1,116.1	$1,840.7	$3,449.2
Induced	9,690	$579.5	$1,093.0	$1,781.7
Total	45,570	$2,874.6	$5,185.4	$14,385.1
Multipliers	2.45	2.44	2.30	1.57

Total Industry Impact

The table above displays the aggregate impact of all three stages of the grain and oilseed supply chain. In aggregate, the industry contributes **$14.4 billion** to the states economy and contributes **45,570 jobs.** Of the total, $9.1 billion and 18,590 of those jobs are directly involved in the production of grain and oilseed products. Because of the interconnectedness of industries in Wisconsin's economy, direct economic activity in one sector generates activity in other sectors. Summing all of these effects up in the outside industries, we can compute *economic multipliers*. For grains and oilseeds – with an output multiplier of 1.57 – this means that every $1 in sales generates $0.57 elsewhere in the economy. These additional contributions come from *indirect (*support through other industries reliant on grains and oilseeds) or *induced (*where grain and oilseed employees spend their income) sources.

The chart on the next page displays the top 10 sectors that are impacted by the industry as a whole.

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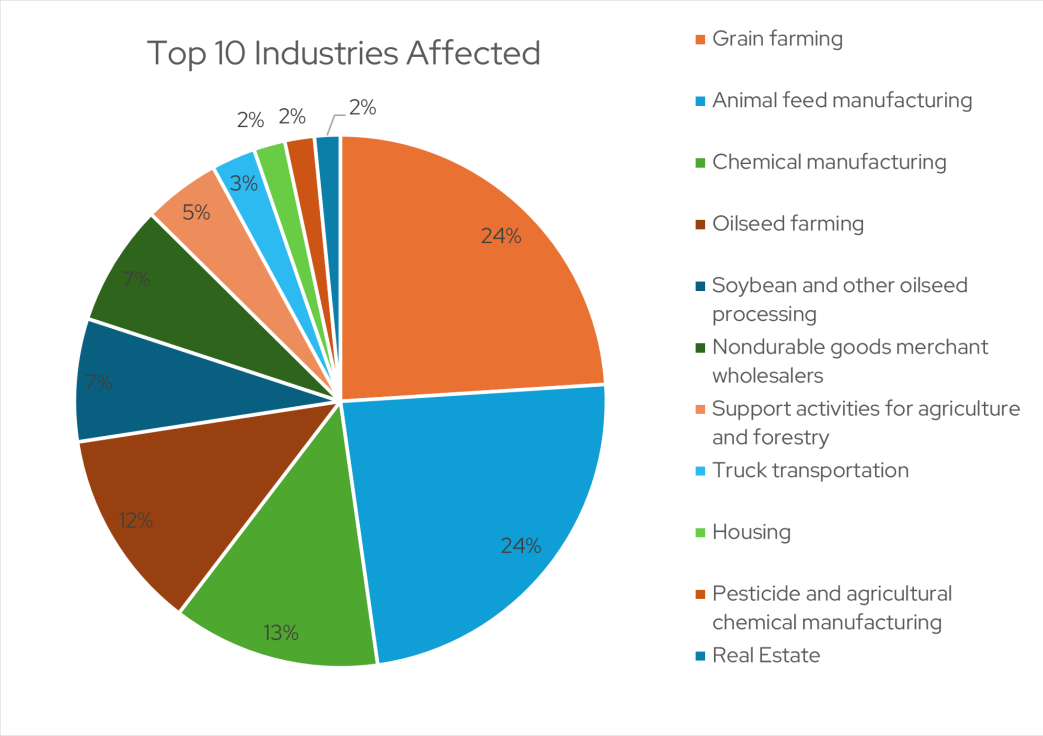
Individual Industries Affected



The chart on the right displays the 10 leading sectors that are affected by economic activity in the grains and oilseed industries. The top 2 sectors include the direct effects of grain farming (24%) and animal feed manufacturing (24%). However, this chart also displays the industries that are heavily supported by grain and oilseed production through the indirect and induced effects. For instance, the chemical manufacturing (pesticides and fertilizers) and truck transportation sectors are heavily supported *indirectly* through the purchasing of inputs for grain and oilseed production. Additionally, this chart shows that the housing sector in the state is significantly supported by the grains and oilseed industry , since the 18,590 employees use income from agriculture to pay for housing.

Agronomic Support Industries

Agronomic Support Industries	**Employment**	**Labor Income (Millions)**	**Value Added (Millions)**	**Output (Millions)**
Direct Contributions	4,780	$216.4	$221.2	$231.7

We now decompose the aggregate effect into the three stages of the grain and oilseed supply chain. First, we start with agronomic input suppliers and services. This industry includes crop consultants, input suppliers, custom operators, and farm management and accounting services. This sector employs **4,780 people** in Wisconsin and contributes over **$232 million** in direct economic output.[1]

1. Note that we only focus on direct output of the individual sectors to avoid double-counting the indirect contributes.

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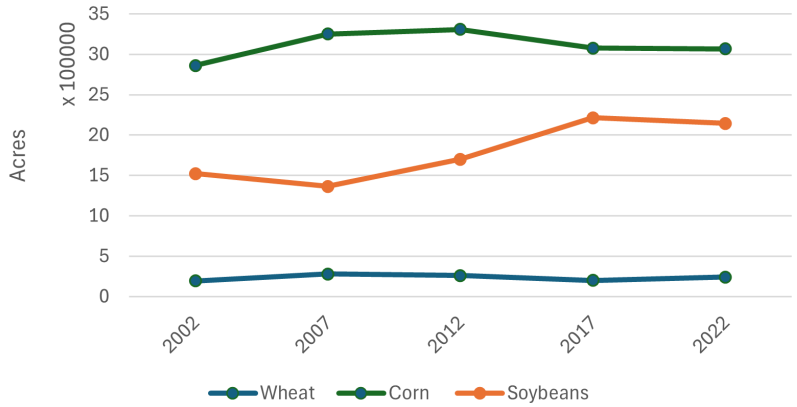
On Farm Production

Grain and Oilseed Farming	Employment	Labor Income (Millions)	Value Added (Millions)	Output (Millions)
Direct Contributions	11,330	$710.6	$1,442.2	$3,983.7

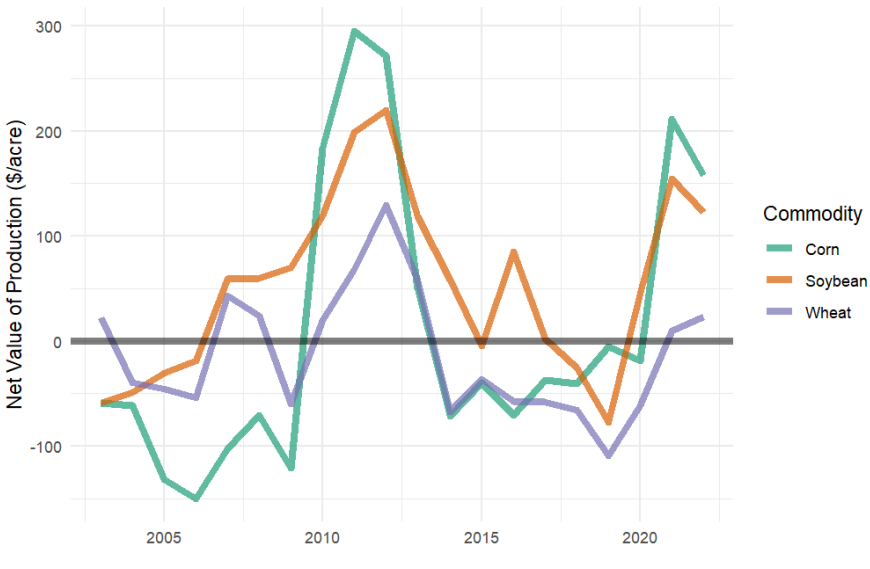
Grain and oilseed farming, which includes corn, soybeans, wheat and other small grains, are the leading contributor to jobs in this industry with 11,330 (60% of total) supported by directly by grain farming. Aside from forestry, grain farming is also the leading user of land in the state, utilizing about 5 million acres of cropland. Figure 1 on the right displays how acreage for the three leading commodities have changed since 2002.

Figure 1. Grain production in Wisconsin



Importantly, however, the above table only provides a snapshot in time of the economic contributions of grain farming. Agriculture is one of the most economically volatile industries since it is exposed to weather and international commodity market fluctuations. The figure on the left shows the net returns for these same commodities, displaying the swings from year to year. As these fluctuations are realized on farm, the consequences are felt throughout the supply chain by other interconnected sectors.

Figure 2. Net Returns for Grains in Wisconsin



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Grain and Oilseed Processing

Processing and Manufacturing	Employment	Labor Income (Millions)	Value Added (Millions)	Output (Millions)
Direct Contributions	2,480	$252.0	$588.4	$4,938.8

Once the grain is harvested, it is stored and/or transported to be processed for its many uses. Included in this stage are animal feed manufacturers, soybean crushing plants, and biofuel and ethanol refining. While some raw grain is transported out of the state and even internationally, much of it remains in Wisconsin and is processed locally and is used for livestock feed and fuel. The processing stage employs **2,480 people** directly and generates almost **$5 billion** in annual sales for the economy. Note that while this sector only employs about 13% of the aggregate total, it contributes about 53% of the total economic output. These numbers demonstrate that this sector requires relatively little labor, and these jobs tend to be higher-paying (Labor Income/Employment) at around $100,000 per job.

Conclusion

The grain and oilseed industries are a central contributor to Wisconsin's agricultural economy at every stage of the supply chain. While these sectors support the production of other agricultural products, like feed for the dairy sector, grain and oilseed production are also support non-agricultural sectors and jobs, like the housing and transportation sectors. This article shows that the grain and oilseed industry in Wisconsin encompasses much more than just the farming of the crops, but supporting industries, like agronomic services and the processing, and each support each other to generate economic impacts that reverberate throughout the entire state economy.

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This article was prepared as a part of the series, "The Contribution of Agriculture to the Wisconsin Economy: An Update for 2024" (Deller and Hadachek, 2024). For methodological details, see the summary report of the entire agricultural economy: https://aae.wisc.edu/wp-content/uploads/2024/11/The-Contribution-of-Agriculture-to-the-Wisconsin-Economy.pdf

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