

Arizona's Agribusiness System: Contributions to the State Economy

An Economic Contribution Analysis for 2014

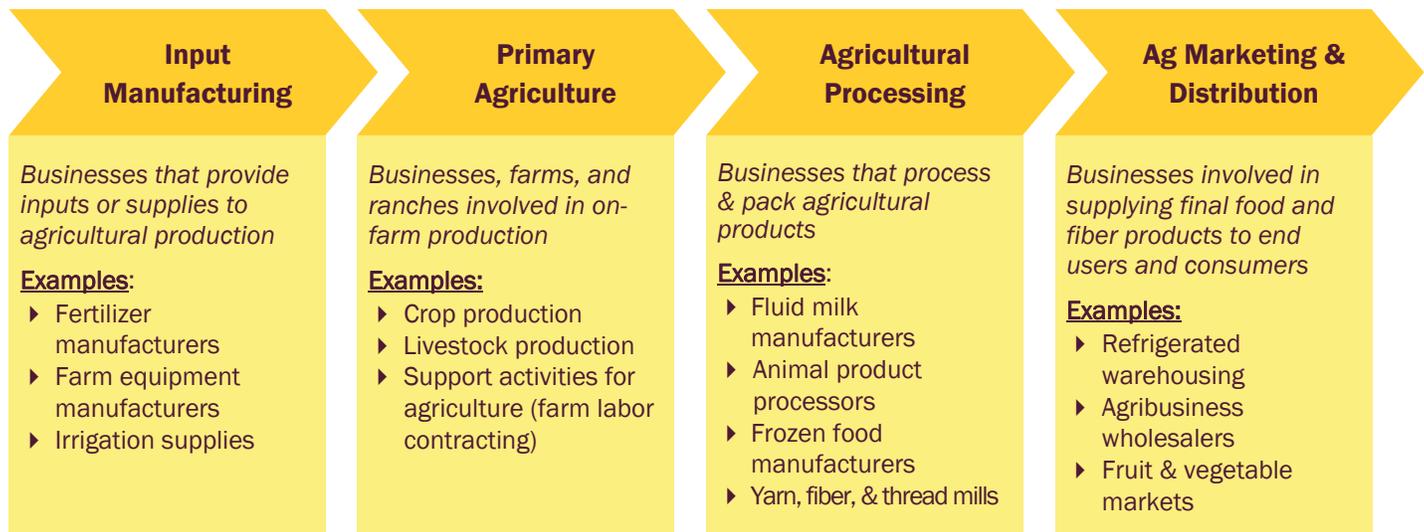
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What Is the Issue?

The contribution of agriculture to Arizona's economy extends beyond on-farm production. It includes an entire system of industries connected with Arizona agriculture. Arizona's agribusiness system includes crop and livestock industries, suppliers of inputs and services for on-farm production, food and fiber processors, and specialized marketing and distribution industries. Estimating the full contribution of agriculture to Arizona's economy warrants an examination of the entire state agribusiness system.



What Did the Study Find?

- ▶ Including direct as well as indirect and induced multiplier effects, the total contribution of Arizona's agribusiness system was **\$23.3 billion** in sales (output) in 2014.
- ▶ The agribusiness system directly and indirectly supported more than **138,000 full- and part-time jobs**, employing more than **162,000 unique workers**.
- ▶ Using the standard metric for measuring the state economy, Gross State Product (GSP), the agribusiness system directly contributed **\$4.3 billion to Arizona's total GSP** of \$281 billion in 2014.
- ▶ Arizona ranks among leading states in the production of lettuce, spinach, broccoli, cauliflower, cantaloupe, honeydew, durum wheat, and other commodities. A number of Arizona counties rank in the top 1% of all U.S. counties in different measures of crop and livestock production.
- ▶ The vast majority of Arizona farm operations are family-run operations and partnerships. These operations also account for the bulk of farm sales.
- ▶ While most Arizona producers are small-scale operators, a small number of large operations account for a large majority of agricultural sales.
- ▶ Post farm-gate industries are increasingly important to the state's agribusiness system. Agricultural processing accounted for \$7.3 billion in sales, while agricultural marketing and distribution accounted for \$1.3 billion.

Profile of Arizona Agriculture (2012 Census of Agriculture)

20,005

... Number of farms and ranches in Arizona

26 million

... Acres of land managed by Arizona farms and ranches

75%

... Share of Arizona's agricultural sales from Maricopa, Pinal, and Yuma counties

75%

... Share of state agricultural sales coming from the top 1% of operations (168 operations)

25%

... Share of state agricultural sales coming from the top 10 operations

85%

... Share of Arizona farms and ranches with sales of less than \$25,000

97%

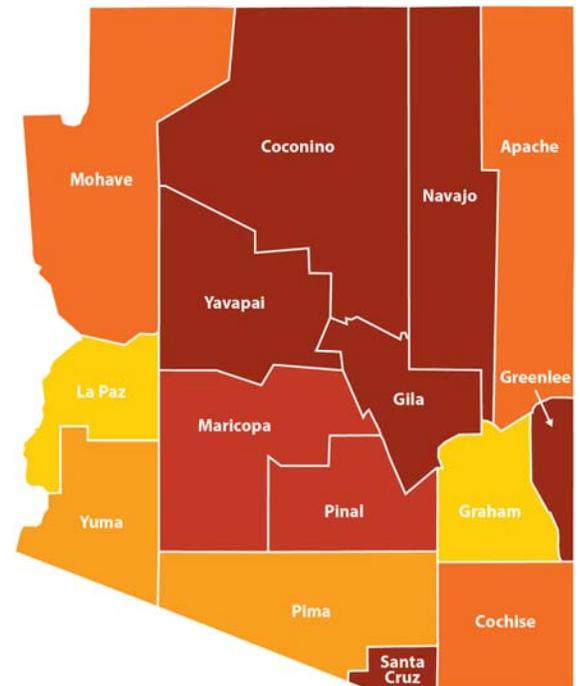
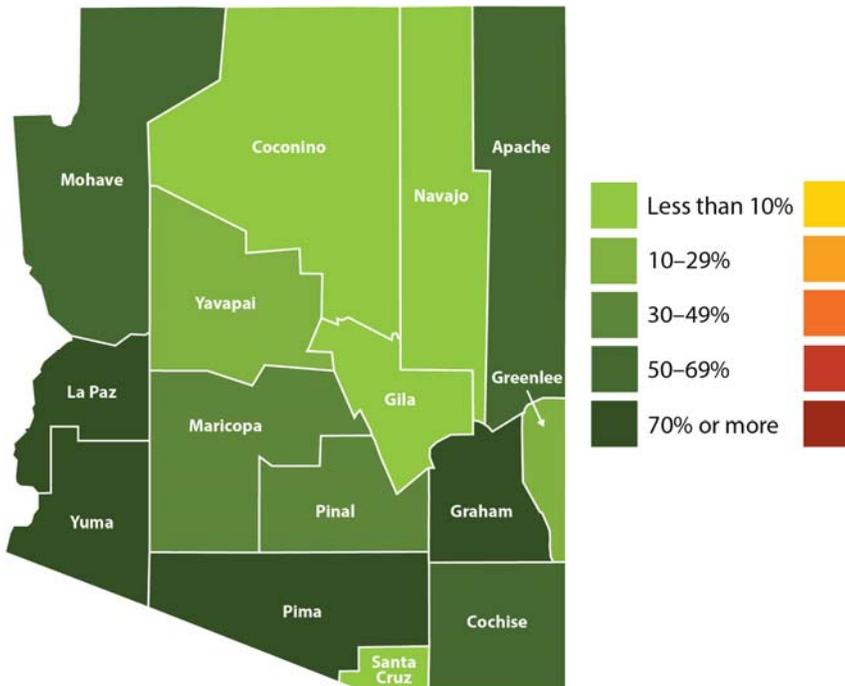
... Arizona farm and ranch operations that are family-run or partnerships

Geographic Profile of Production

Northern Arizona counties specialize in livestock production, with a relatively high proportion of principal operators that are Native American, women, or both. Central Arizona has a high concentration of livestock and dairy production. Maricopa and Pinal Counties ranked in the top 1% of all U.S. counties for milk sales and cattle inventory in 2012. Southern and Western Arizona are generally crop-dominant with Yuma County among the leading U.S. counties in production of leafy greens and other specialty crops.

Value of Crops as Percentage of Total Market Value of Primary Agricultural Products Sold by Arizona County, 2012

Value of Livestock as Percentage of Total Market Value of Primary Agricultural Products Sold by Arizona County, 2012



Economic Contribution Analysis Results

The contribution of Arizona agriculture extends beyond on-farm production to include an entire system of industries involved in agriculture-related activities. This represents direct sales, value added, employment, and labor income for Arizona's economy. In addition to the agribusiness system's **direct effects** on the Arizona economy, a "ripple" of economic activity is stimulated in other industries outside of the agribusiness system to meet the demands of agricultural producers, suppliers, processors, and households that derive their income from agribusinesses, known as **indirect** and **induced multiplier effects**. Indirect effects capture economic activity in other, non-agricultural industries that provide goods and services as inputs to Arizona agribusinesses. Induced effects capture economic activity in industries that provide consumer goods and services to households. Direct, indirect, and induced effects combined measure the total economic contributions to the state economy.

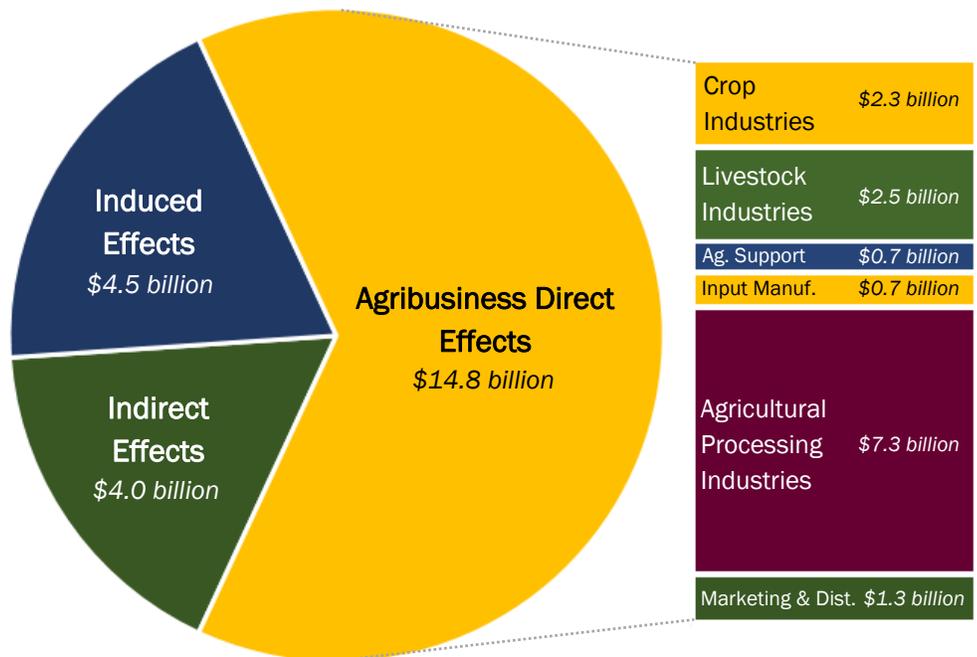
Sales Contribution

- ▶ Including economic activity generated through direct, indirect, and induced multiplier effects, the **total contribution** of Arizona's agribusiness system to the state economy in 2014 was an estimated **\$23.3 billion in sales**.

Of the \$23.3 billion in sales:

- ▶ **\$5.5 billion** was directly contributed by primary agriculture—crop, livestock, and agricultural support services industries such as farm labor contracting.
- ▶ **\$9.3 billion** was directly contributed by agricultural input manufacturing, agricultural processing, and agricultural marketing and distribution.
- ▶ **\$8.5 billion** was generated in the Arizona economy through indirect and induced effects.

Economic Contribution of the Agribusiness System to Arizona State Sales, 2014



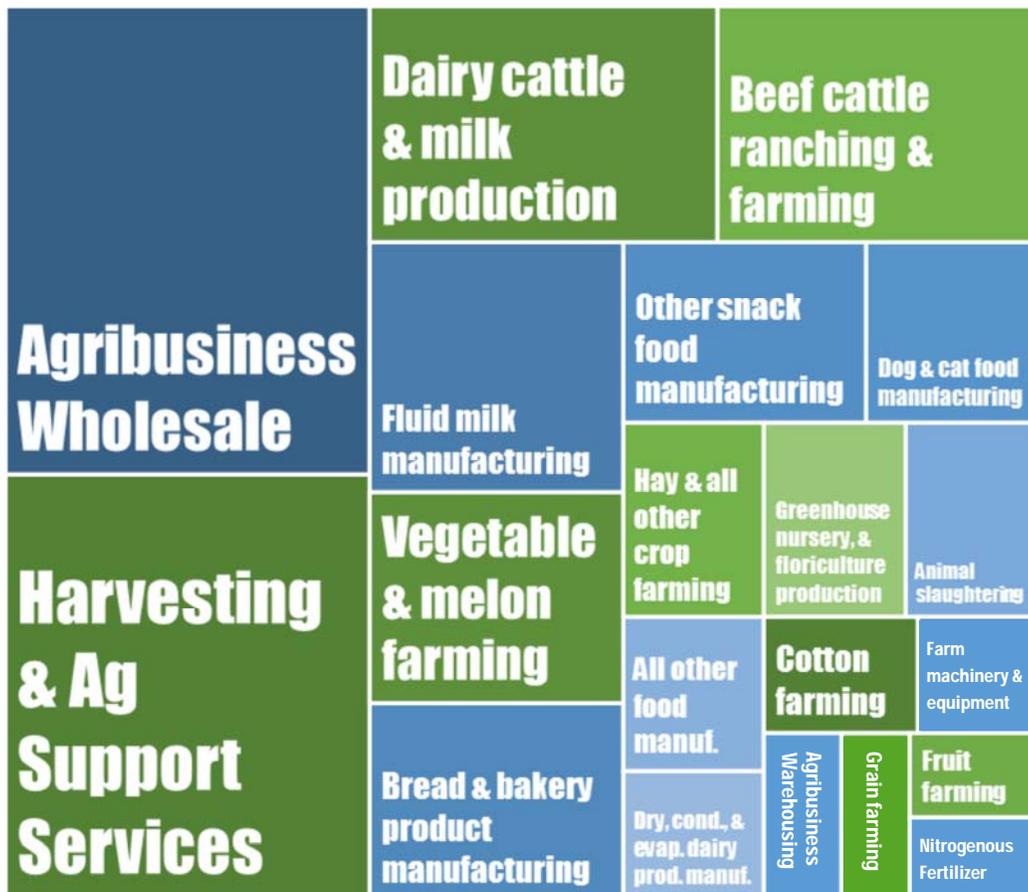
Employment & Labor Income Contributions

- ▶ Arizona's agribusiness system supported an estimated total of **138,000 full- and part-time jobs** in 2014.
 - ▶ Of these 138,000 jobs, on-farm labor in primary agriculture accounted for more than 58,000 jobs.
 - ▶ An additional 19,000 jobs were supported in agricultural input manufacturing, agricultural processing, and agricultural marketing and distribution.
 - ▶ More than 60,000 jobs were supported by spending on inputs purchased from other industries by agribusiness enterprises (indirect effects) and spending of agribusiness profits and wages (induced effects).
- ▶ Agribusiness in Arizona supported a total of **\$5.6 billion in labor income** in 2014, including indirect and induced effects.
 - ▶ Approximately \$1.5 billion in income was earned by individuals that work on farm, whether they work in the crop, livestock, or agricultural support service industries.
 - ▶ Another \$1.2 billion in income was paid to individuals that work in agricultural input manufacturing, agricultural processing, or agricultural marketing and distribution.
 - ▶ \$2.9 billion in income was supported in other Arizona industries through indirect and induced effects.

Value Added (GSP) Contribution

In 2014, the agribusiness system directly contributed approximately **\$4.3 billion** to **value added**. Value added measures the net incremental change in the value of a good from the last stage in production and, at the state level, is synonymous with the gross state product (GSP). The state's top five agribusiness industries, in terms of their direct contribution to GSP, were agribusiness wholesale, agricultural support services (largely farm labor contracting from harvesting activities), dairy cattle and milk production, beef cattle ranching, and fluid milk manufacturing. Rounding out the top ten in value added contribution were vegetable and melon farming, bread and bakery manufacturing, other snack food manufacturing, dog and cat food manufacturing, and hay and all other crop farming (which in Arizona is largely alfalfa and other forage).

Top 20 Arizona Agribusiness Industries by Value Added, 2014*



*Size of box corresponds to share of value added contribution

How was the study conducted?

To fully account for the wide range of agribusinesses in the state, the agribusiness system includes crop and livestock production, agricultural input and support service suppliers, food and fiber processors, and specialized, agricultural marketing and distribution industries. The contributions of this agribusiness system to Arizona's economy were modeled in IMPLAN 3.1. The model was customized using the best available, most recent data to more accurately reflect production practices in Arizona and economic conditions in 2014. In this study, the definition of the agribusiness system has been slightly expanded from previous studies to include agriculture-related economic activity taking place within the larger warehousing, wholesale, and retail industries. *The results of this analysis are not directly comparable to past years' results due to these adjustments.*

To access the full report, please visit:

<https://cals.arizona.edu/arec/publication/arizonas-agribusiness-system-2014-contributions-state-economy>