Overview

The Kansas Department of Agriculture's Economist creates annual economic contribution reports to estimate the impact of agriculture on the Kansas economy. The purpose of these reports is to provide information to stakeholders, policymakers, and the general public. In this report, the model analyzes the effects of agriculture on the Sherman County, Kansas economy. For the estimated current year (2023), 22 agriculture and agriculture-related sectors directly contribute $275 million in output and 685 jobs to the Sherman County, Kansas economy. Including indirect and induced effects, agriculture and agriculture-related sectors have a total impact of $365 million in output, 1,157 jobs and 34% of the total Gross Regional Product (GRP).

Estimated Economic Contribution of Agriculture.

Methodology and Glossary on final page

Results

In this model, the 22 agriculture and agriculture-related sectors have a total direct output of $275 million and account for 685 jobs in Sherman County, as shown in the following table:

Table 1: Agriculture and Agriculture-Related Sectors' Contribution to Sherman County Economy

Contribution Type	Employment	% Employment	Total Value Added	% of Gross Regional Product	Output
Direct Effect	686	18%	$54,287,000	19%	$275,097,000
Indirect Effect	309	8%	$26,972,000	10%	$65,915,000
Induced Effect	163	4%	$12,377,000	4%	$24,226,000
Total Effect	1,158	31%	$93,637,000	34%	$365,239,000

Note: Individual effects may not equal the total effect due to rounding.

The agriculture and agriculture-related sectors provide a total estimated impact of $365 million in output. These sectors also support a total of 1,157 jobs, or 31% of the county's entire workforce. Another metric used to calculate the importance of sectors in the economy is their value added as a percentage of the Gross Regional Product. Total value added by the 22 agriculture and agriculture-related sectors is $93 million, or 34% of the Gross Regional Product.

Top Ten Sectors by Output

The table below shows Sherman County's top ten sectors by output, including direct, indirect and induced effects. The *grain farming* sector is the top contributor in output to the Sherman County economy, with $176 million in total output.

Table 2: Top Ten Sectors by Output, Sherman County

Sector	Total Output
Grain farming	$176,738,000
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	$21,977,000
Soybean and other oilseed processing	$20,159,000
Wholesale - Other nondurable goods merchant wholesalers	$12,410,000
Other real estate	$11,452,000
Spice and extract manufacturing	$7,924,000
Oilseed farming	$7,030,000
Support activities for agriculture and forestry	$6,383,000
Truck transportation	$5,127,000
Owner-occupied dwellings	$5,127,000

Top Ten Sectors by Employment

Of the agriculture and agriculture-related sectors, *grain farming* supports the most jobs in the county with 305 jobs. Table 3 illustrates the top ten sectors by total employment, including direct, indirect, and induced effects in Sherman County.

Table 3: Top Ten Sectors by Employment, Sherman County

Sector	Total Employment
Grain farming	305.81
Support activities for agriculture and forestry	183.46
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	135.56
Other real estate	79.49
Wholesale - Other nondurable goods merchant wholesalers	60.51
Truck transportation	32.46
Monetary authorities and depository credit intermediation	19.64
Full-service restaurants	18.23
Limited-service restaurants	17.38
Spice and extract manufacturing	16.86

All Direct Agriculture Sectors

Table 4 is a summary of agriculture sectors represented with output and employment levels. These values estimate the value of output and the jobs these agriculture sectors support in the Sherman County economy. Generally, this analysis includes three categories: production, manufacturing or processing, and services. Note, the model does not include ethanol production nor wholesale and retail sales of final products.

Table 4: All Direct Agriculture Sectors, Sherman County

Sector	Total Output	Total Employment
Grain farming	$176,738,000	305.81
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	$42,313,000	183.46
Soybean and other oilseed processing	$21,977,000	135.56
Spice and extract manufacturing	$11,452,000	16.86
Oilseed farming	$7,924,000	14.96
Support activities for agriculture and forestry	$7,030,000	4.99
Other animal food manufacturing	$1,795,000	4.00
Fertilizer mixing	$1,314,000	3.40
All other crop farming	$1,233,000	2.74
Farm machinery and equipment manufacturing	$883,000	2.74
Animal production, except cattle and poultry and eggs	$730,000	2.69
Bread and bakery product, except frozen, manufacturing	$419,000	2.58
Frozen cakes and other pastries manufacturing	$258,000	2.17
Other snack food manufacturing	$240,000	1.64
Bottled and canned soft drinks & water	$228,000	0.46
Veterinary services	$191,000	0.40
Roasted nuts and peanut butter manufacturing	$169,000	0.40
Poultry and egg production	$92,000	0.39
Commercial logging	$36,000	0.38
Forestry, forest products, and timber tract production	$27,000	0.20
Landscape and horticultural services	$21,000	0.06
Vegetable and melon farming	$18,000	0.06

Methodology

Using the economic software IMPLAN, the equilibrium displacement model calculates the estimated output and employment of all 546 different economic sectors if the current economy experiences no shocks within the agriculture and agriculture-related industries. IMPLAN sectors are based on North American Industry Classification System (NAICS) codes. The results of this model are broken down into direct, indirect and induced effects, and the IMPLAN framework avoids double counting. All agriculture and agriculture-related sectors represented in this model use the most recent IMPLAN data available (2021), adjusted for 2023 dollars. For this model, key statistics are defined as follows: total employment refers to the annual average of the sum of full and part time jobs held attributed to the 72 agricultural sectors, total gross regional product is the sum of the value added of all industries across the state, and total output is the total annual value of production for an industry or area.

Notes and Glossary

These results are based on estimated production and employment numbers, along with estimated potential sector-, industry- and economy-wide effects. Therefore, these results will differ from actual events.

Due to confidentiality policies that exist within several agencies from which IMPLAN collects their data, some sectors in some regions may not have all data available.

The model provides results in relation to the agriculture and agriculture-related sectors. These results are not equal to the total effects of all 546 sectors but rather the total effects relative to agriculture.

The following terms are used throughout this report:

- *Direct effect:* the contribution from agricultural and food products
- *Indirect effect:* the contribution from farms and agricultural businesses purchasing inputs and services from supporting industries within the county
- *Induced effect:* the contribution from employees of farms, agricultural businesses, and supporting industries spending their wages on goods and services within the county
- *Value added* = labor income + indirect business taxes + other property type income
- *Gross Regional Product* = final demand of households + government expenditures + capital + exports – imports – institutional sales
- *Output* = intermediate inputs + value added
- *Employment:* full-time/part-time annual average, i.e., 1 job lasting 12 months = 2 jobs lasting 6 months each = 3 jobs lasting 4 months each (a job is neither full-time nor part-time)

Contact

Tori Laird
Agency Economist
AgEconomist@ks.gov
785-564-6726
Division of Agricultural Marketing, Advocacy, and Outreach
Kansas Department of Agriculture
1320 Research Park Drive, Manhattan, Kansas 66502
agriculture.ks.gov