Brown County, Kansas

2023 ECONOMIC CONTRIBUTION REPORT
NOVEMBER 15, 2023

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 Brown County, Kansas, economy. For the estimated current year (2023), 29 agriculture and agriculture-related sectors directly contribute $613 million in output and 1,395 jobs to the Brown County economy. Including indirect and induced effects, agriculture and agriculture-related sectors have a total impact of $768 million in output, 2,162 jobs and 38% of the total Gross Regional Product (GRP).

Estimated Economic Contribution of Agriculture.

Methodology and Glossary on final page

Results

In this model, the 29 agriculture and agriculture-related sectors have a total direct output of $613 million and account for 1,395 jobs in Brown County, as shown in the following table:

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

Contribution Type	Employment	% Employment	Total Value Added	% of Gross Regional Product	Output
Direct Effect	1,395	21%	$173,708,000	27%	$613,439,000
Indirect Effect	506	7%	$47,906,000	8%	$111,580,000
Induced Effect	261	4%	$22,128,000	3%	$43,245,000
Total Effect	2,162	32%	$243,743,000	38%	$768,264,000

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

The agriculture and agriculture-related sectors provide a total estimated impact of $768 million in output. These sectors also support a total of 2,162 jobs, or 32% 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 29 agriculture and agriculture-related sectors is $243 million, or 38% of the Gross Regional Product.

Top Ten Sectors by Output

The table below shows Brown County's top ten sectors by output, including direct, indirect and induced effects. The *dog and cat food manufacturing* sector is the top contributor in output to the Brown County economy, with $125 million in total output.

Table 2: Top Ten Sectors by Output, Brown County

Sector	Total Output
Dog and cat food manufacturing	$125,109,000
Meat processed from carcasses	$102,044,000
Grain farming	$81,289,000
Food product machinery manufacturing	$79,444,000
Oilseed farming	$30,709,000
Farm machinery and equipment manufacturing	$29,100,000
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	$25,458,000
Other animal food manufacturing	$24,415,000
Wholesale - Other nondurable goods merchant wholesalers	$21,168,000
Other local government enterprises	$21,168,000

Top Ten Sectors by Employment

Of the agriculture and agriculture-related sectors, *food product machinery manufacturing* supports the most jobs in the county with 250 jobs. Table 3 illustrates the top ten sectors by total employment, including direct, indirect, and induced effects in Brown County.

Table 3: Top Ten Sectors by Employment, Brown County

Sector	Total Employment
Food product machinery manufacturing	250.03
Grain farming	226.21
Meat processed from carcasses	211.53
Support activities for agriculture and forestry	145.58
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	123.24
Dog and cat food manufacturing	114.86
Animal production, except cattle and poultry and eggs	87.75
Wholesale - Other nondurable goods merchant wholesalers	81.13
Other local government enterprises	62.98
Farm machinery and equipment manufacturing	61.16

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 Brown 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, Brown County

Sector	Total Output	Total Employment
Dog and cat food manufacturing	$125,109,000	250.03
Meat processed from carcasses	$106,162,000	226.21
Grain farming	$102,044,000	211.53
Food product machinery manufacturing	$81,289,000	145.58
Oilseed farming	$79,444,000	123.24
Farm machinery and equipment manufacturing	$30,709,000	114.86
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	$29,100,000	87.75
Other animal food manufacturing	$25,458,000	61.16
Animal production, except cattle and poultry and eggs	$18,505,000	47.32
Landscape and horticultural services	$4,474,000	45.00
Support activities for agriculture and forestry	$4,287,000	24.50
All other crop farming	$1,557,000	22.87
Veterinary services	$1,056,000	14.25
Poultry and egg production	$623,000	3.10
Greenhouse, nursery, and floriculture production	$483,000	2.83
Dairy cattle and milk production	$471,000	2.83
Bread and bakery product, except frozen, manufacturing	$450,000	2.70
Vegetable and melon farming	$410,000	2.43
Other snack food manufacturing	$403,000	2.00
Frozen cakes and other pastries manufacturing	$286,000	1.64
Roasted nuts and peanut butter manufacturing	$277,000	0.65
Bottled and canned soft drinks & water	$222,000	0.63
Animal, except poultry, slaughtering	$161,000	0.61
Commercial logging	$160,000	0.54
Commercial hunting and trapping	$107,000	0.46
Rendering and meat byproduct processing	$105,000	0.26
Forestry, forest products, and timber tract production	$47,000	0.26
Fruit farming	$23,000	0.11
Tree nut farming	$3,000	0.02

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