Brown County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors
02/27/2017

Using the most recent IMPLAN data available (2014) adjusted for 2016, 21 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Brown County economy.[1]

These 21 sectors have a total direct output of approximately **$556.6 million** and support **1,075.9 jobs** in Brown County. Running the model for all 21 sectors simultaneously produces the following results:

Agriculture, Food, and Food Processing Sector Contribution to Overall Brown County Economy						
Impact Type[2]	Employment	% Employment	Total Value Added[3]	Total Value Added % of Gross Regional Product[4]	Output[5]	Output % of Gross Regional Product
Direct Effect	1,075.9	14.39%	$128,464,227.13	25.99%	$556,554,099.62	112.62%
Indirect Effect	387.5	5.18%	$30,426,736.48	6.16%	$63,276,061.51	12.80%
Induced Effect	233.1	3.12%	$15,945,837.83	3.23%	$30,457,895.84	6.16%
Total Effect	1,696.5	22.69%	$174,836,801.45	35.38%	$650,288,056.97	131.59%

As shown in the above table, agriculture, food, and food processing sectors support **1,696.5 jobs**, or **22.69%** of the entire workforce in the county. These sectors provide a total economic contribution of approximately **$650.3 million, roughly 131.59% of the economy.**

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 21 agriculture, food, and food processing sectors is approximately **$174.8 million**, or **35.38% of the GRP**. This indicates that personal income, business income, and taxes generated by these sectors account for **35.38% of the total economy**.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

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1 Article on building a contribution analysis in IMPLAN that avoids double counting:
http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70

2 Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

3 Value added = labor income + indirect business taxes + other property type income.

4 GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

5 Output = intermediate inputs + value added.

In the top ten agriculture, food, and food processing sectors by employment, the beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming sector is the top employer with **278.9 employees**. This table also shows the amount of jobs that are created by the agriculture industry in Brown County.

Top Ten Sectors by Employment		
Sector	Total Employment	Total Output
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	278.9	$29,367,149.29
Dog and cat food manufacturing	214.1	$264,281,340.71
Grain farming	165.6	$56,106,264.16
Wholesale trade	93.9	$21,333,824.81
Landscape and horticultural services	88.6	$3,506,215.73
Food product machinery manufacturing	87.6	$27,115,372.10
Farm machinery and equipment manufacturing	69.3	$40,036,093.10
Oilseed farming	54.2	$58,381,563.31
Other local government enterprises	52.0	$13,233,545.67
Other animal food manufacturing	48.2	$67,309,951.57

The dog and cat food manufacturing sector directly contributes approximately **$264.3 million** to the Brown County economy. The table below also shows the amount of revenue that is generated in other industries by having a strong agriculture industry.

Top Ten Sectors by Output		
Sector	Total Employment	Total Output
Dog and cat food manufacturing	214.1	$264,281,340.71
Other animal food manufacturing	48.2	$67,309,951.57
Oilseed farming	54.2	$58,381,563.31
Grain farming	165.6	$56,106,264.16
Farm machinery and equipment manufacturing	69.3	$40,036,093.10
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	278.9	$29,367,149.29
Food product machinery manufacturing	87.6	$27,115,372.10
Wholesale trade	93.9	$21,333,824.81
Other local government enterprises	52.0	$13,233,545.67
Owner-occupied dwellings	0.0	$5,769,604.41

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture, food, and food processing sector and the output they contributed to the Brown County economy.

All Agriculture, Food, and Food Processing Sectors		
Sector	**Total Employment**	**Total Output**
Oilseed farming	54.2	$58,381,563.31
Grain farming	165.6	$56,106,264.16
Vegetable and melon farming	0.2	$36,298.23
Fruit farming	0.8	$99,482.00
Tree nut farming	0.0	$484.47
Greenhouse, nursery, and floriculture production	4.4	$799,065.56
All other crop farming	26.7	$2,228,216.96
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	278.9	$29,367,149.29
Dairy cattle and milk production	4.7	$1,397,617.93
Poultry and egg production	0.8	$499,187.65
Animal production, except cattle and poultry and eggs	14.0	$1,379,756.21
Commercial logging	3.7	$178,053.52
Dog and cat food manufacturing	214.1	$264,281,340.71
Other animal food manufacturing	48.2	$67,309,951.57
Bread and bakery product, except frozen, manufacturing	6.9	$820,363.97
Frozen cakes and other pastries manufacturing	0.4	$63,785.98
Breweries	3.3	$2,674,862.25
Farm machinery and equipment manufacturing	69.3	$40,036,093.10
Food product machinery manufacturing	87.6	$27,115,372.10
Veterinary services	3.5	$272,974.92
Landscape and horticultural services	88.6	$3,506,215.73

All 105 counties in Kansas have an IMPLAN model and an agriculture, food, and food processing contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Brown County, the retail sector was omitted.