July 2015

Harper County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 15 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Harper County economy.[1] These 15 sectors have a total direct output of approximately $240 million and support 661.4 jobs in Harper County. Running the model for all 15 sectors simultaneously produces the following results:

Agriculture Contribution in Harper County

Impact Type[2]	Employment	% of Total Employment	Total Value Added[3]	% of Gross Regional Product[4]	Output[5]	% of Gross Regional Product
Direct Effect	661.4	15%	$58,237,116	19%	$240,011,935	78%
Indirect Effect	219.3	5%	$17,563,433	6%	$32,261,291	10%
Induced Effect	92.4	2%	$6,181,459	2%	$10,960,198	4%
Total Effect	973.1	22%	$81,982,008	27%	$283,233,424	92%

As shown in the above table, agriculture, food, and food processing supports 973.1 jobs, or 22% of the entire workforce in the county. These industries provide a total economic contribution of approximately $283 million, roughly 92% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

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 15 agriculture, food, and food processing sectors is approximately $82 million, or 27% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 27% 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:
https://implan.com/index.php?option=com_content&view=category&id=19

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 by employment, Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming is the top employer in the agriculture industry with 198.2 employees. This table also shows the amount of jobs that are created by the agriculture industry in Harper County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	198.2	$53,190,467
Grain farming	153.3	$55,586,841
Farm machinery and equipment manufacturing	96.8	$62,845,557
Animal, except poultry, slaughtering	75.2	$45,311,709
All other crop farming	51.0	$6,706,378
Wholesale trade	42.3	$8,678,348
Truck transportation	40.6	$6,391,289
Animal production, except cattle and poultry and eggs	36.3	$3,812,357
Dairy cattle and milk production	31.4	$6,060,507
Real estate	23.0	$3,913,350

The Farm machinery and equipment manufacturing industry directly contributes approximately $63 million to Harper County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Farm machinery and equipment manufacturing	96.8	$62,845,557
Grain farming	153.3	$55,586,841
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	198.2	$53,190,467
Animal, except poultry, slaughtering	75.2	$45,311,709
Wholesale trade	42.3	$8,678,348
All other crop farming	51.0	$6,706,378
Truck transportation	40.6	$6,391,289
Dairy cattle and milk production	31.4	$6,060,507
Real estate	23.0	$3,913,350
Animal production, except cattle and poultry and eggs	36.3	$3,812,357

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 sector and the output they contributed to Harper County's economy.

Sector Description:	Employment	Output
Oilseed farming	1.7	$3,724,879
Grain farming	153.3	$55,586,841
Greenhouse, nursery, and floriculture production	4.0	$727,384
Cotton farming	1.8	$474,517
All other crop farming	51.0	$6,706,378
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	198.2	$53,190,467
Dairy cattle and milk production	31.4	$6,060,507
Poultry and egg production	0.4	$219,864
Animal production, except cattle and poultry and eggs	36.3	$3,812,357
Animal, except poultry, slaughtering	75.2	$45,311,709
Bread and bakery product, except frozen, manufacturing	3.4	$398,086
Frozen cakes and other pastries manufacturing	0.2	$34,219
Sawmills	0.6	$570,080
Farm machinery and equipment manufacturing	96.8	$62,845,557
Veterinary services	7.2	$349,090
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All 105 counties in Kansas have IMPLAN models with an agriculture 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 Kansas, the retail sector was omitted.