

# **Economic Importance of and Economic Impacts Associated with Livestock Production in Gage County**

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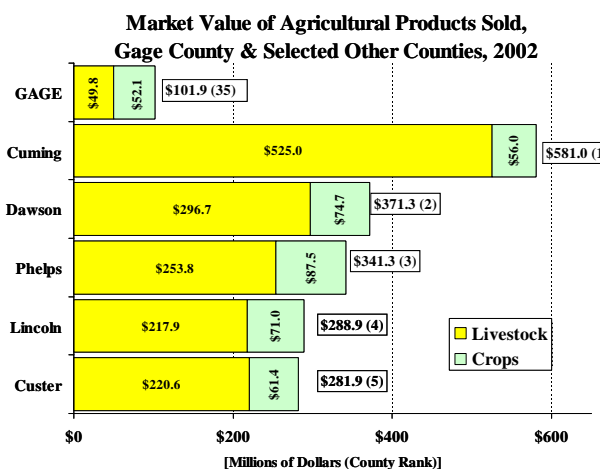
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# Executive Summary

Information provided in this report focuses on the economic importance of the livestock sector in Gage County, Nebraska (Gage County). The first part of the report reviews agriculture data from the 2002 *Census of Agriculture*. These data provide information on the importance of agriculture and the livestock sector in Gage County. The second part of the report analyzes the direct, indirect, and total economic impacts associated with livestock operations in Gage County. This analysis utilizes an IMPLAN input-output (I-O) database and model developed specifically for Gage County.

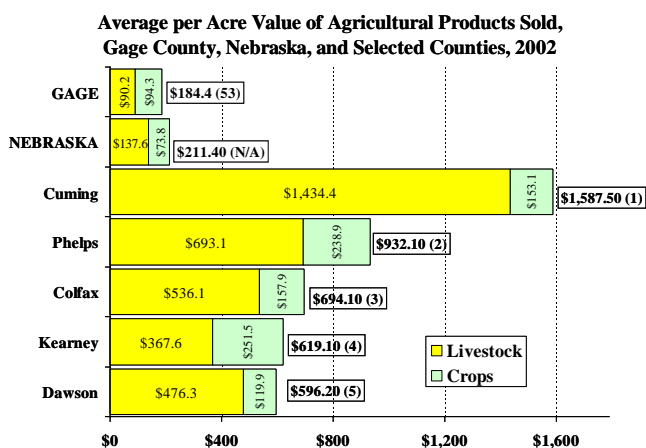
## Livestock and Agricultural Production in Gage County, Nebraska

The 2002 *Census of Agriculture* provides data showing the importance of agriculture and the livestock sector in Gage County. The data presented in the chart indicate the market value of agricultural products sold in Gage County totaled \$101.9 million in 2002. Considering the per farm value of agricultural products sold, Gage County's average of \$80,089 ranked 84<sup>th</sup> among Nebraska's 93 counties and was 40.7 percent of the state per farm average of \$196,609.



Note: Parts may not sum to totals due to rounding.

The average market value of agricultural products sold per acre is shown in the current chart and includes the data for Gage County and for the leading five counties in terms of



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this measure, along with the Nebraska data. Gage County, with a value of \$184.40, ranks 53<sup>rd</sup> among the Nebraska counties in terms of the market value of agriculture products per acre, with \$90.20 of that amount accounted for by livestock and livestock products. Gage County's per acre average for all agricultural products is 87.3 percent of the state per acre average of \$211.40.

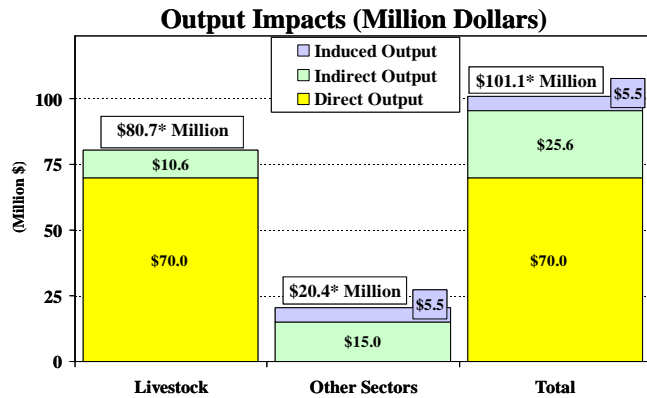
Data provided in this report indicate that livestock and livestock products are a significant source of income for Gage County farmers. The per farm market value of livestock and livestock products sold averaged \$39,158 (48.9 percent of the total market value of all agricultural products sold) for Gage County, ranking the county 79<sup>th</sup> among the Nebraska counties in terms of this measure. The average Gage County per farm value for livestock and livestock products sold was 30.6 percent of the average per farm value of \$127,959 for Nebraska as a whole.

**Economic Impacts Associated with Livestock Production in Gage County, Nebraska**

The second part of the report provides an assessment of the positive employment and other economic effects associated with the production of livestock and livestock products in Gage County. The analysis utilizes an IMPLAN input-output (I-O) model developed for Gage County. The major positive employment and other economic effects associated with the production of livestock and livestock products are summarized in the continuing portion of the Executive Summary.

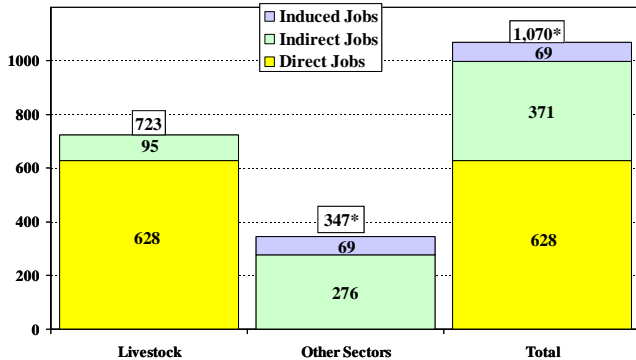
**- Total Output Effects:** The total value of output directly associated with sales to final demand by the livestock sector in Gage County is estimated to be \$70 million. When the secondary output effects (indirect and induced output) are added, the total output effects associated with the production of livestock and livestock products in Gage County are estimated to be \$101.1 million. Of this total, 79.8 percent (\$80.7 million) is accounted for by output (direct, indirect, and induced) produced by the livestock sector and the indirect and induced effects in other sectors represent an additional \$20.4 million of output.

**Livestock Sector Economic Impacts in Gage County**



\*Note: Impact components may not sum to total due to rounding.  
Source: Computed from IMPLAN Input-Output Model for Gage County, 2006 data.

**Livestock Sector Economic Impacts in Gage County**



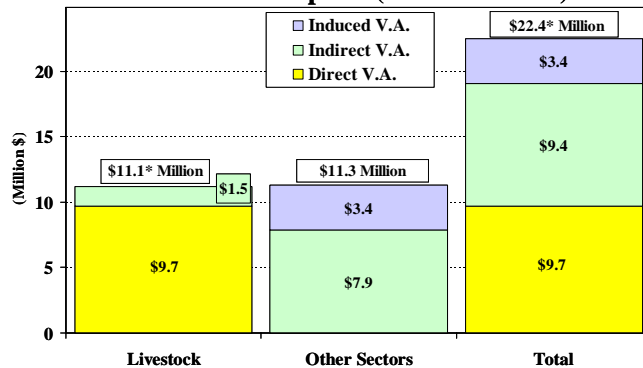
\*Note: Impact components may not sum to total due to rounding.  
Source: Computed from IMPLAN Input-Output Model for Gage County, 2006 data.

**- Employment Effects:** There are an estimated 628 individuals employed in the Gage County livestock products sector producing the output dedicated to sales to final demand (\$70 million). When the indirect and induced employment effects are included, employment in the livestock sector is estimated to be 723 workers (and proprietors). The other secondary employment effects (indirect and induced effects in sectors other

than livestock and livestock products) account for an additional 347 employees that support livestock production. When the indirect and induced effects for all sectors are included, the estimated Gage County employment supporting the production of livestock is estimated to be 1,070 workers.

– **Value-Added Effects:** The value-added effects associated with livestock production in Gage County provide a good measure of the economic value associated with this sector. Value-added consists of payments to the factors of production within the local economy and includes payments to labor, proprietors’ income, other property income, and indirect business taxes. As the information and analysis provided in this report indicate, the total value-added effects associated with the

**Livestock Sector Economic Impacts in Gage County**  
**Value-Added Impacts (Million Dollars)**



\*Note: Impact components may not sum to total due to rounding.  
 Source: Computed from IMPLAN Input-Output Model for Gage County, 2006 data.

production of livestock and livestock products in Gage County are estimated to be \$22.4 million. Of this amount, \$11.1 million represents value-added in the livestock products sector itself and \$11.3 million is value-added in other economic sectors supporting the production of livestock and livestock products in Gage County.

**Livestock-Related Impacts Not Analyzed**

The analysis discussed in this report considers the backward-linkages associated with livestock production in Gage County. That is, the analysis has considered impacts associated with economic sectors providing inputs to support livestock production. The analysis has not considered the “stemming from” effects, or the economic impacts associated with those industry sectors with forward linkages from the livestock production sector. The obvious sector in this regard would be food processing activities utilizing meat products as an input. Obviously, the food and meat processing industry creates a very substantial amount of additional employment and economic activity in Nebraska and in many Nebraska counties, suggesting the contributions of the livestock industry may be significantly greater than reported in this analysis if these forward-linkages were considered.

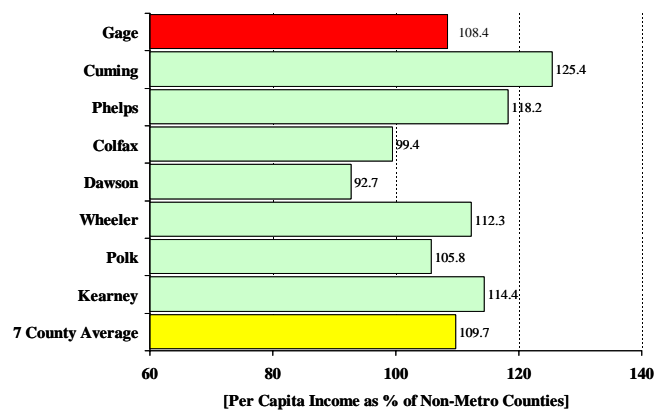
**Livestock Production and Economic Well Being**

A key question about the importance of the livestock industry concerns its contributions to the economic well being of residents of Gage County and other Nebraska counties where the production of livestock and livestock products may be even more significant as a contributor to the overall level of economic activity. Data presented in this report provide some insights into the relationship between livestock production and economic well being, measured in terms of per capita personal income.

Per capita personal income in Cuming County, which is the leading county in Nebraska in terms of the production of livestock and livestock products, was 10.7 percent more than the average per capita personal income for all non-metropolitan, Nebraska counties for the year 2005. For the ten-year period from 1996 to 2005, the average per capita personal income in Cuming County was 25.4 percent more than the average for the non-metropolitan areas of Nebraska. In the case of Gage County, which ranked 57<sup>th</sup> among the Nebraska counties in terms of livestock and livestock products sold per acre, per capita income for the ten-year period from 1996 to 2005 was \$26,109. This per capita income level was 8.4 percent less than the average per capita income level for all non-metropolitan Nebraska counties for the ten-year review period. Moreover, per capita personal income for Gage County in 2005 was \$30,083 or 8.1 percent below the average per capita income level for all non-metropolitan Nebraska counties.

For the top seven Nebraska livestock counties, in terms of the average value of livestock and livestock products sold per acre, the ten-year (1996-2005) average per capita personal income was 9.7 percent more than for all non-metropolitan counties. The per-capita personal income for the leading livestock counties in 2005 was 3.7 percent more than for all non-metropolitan counties.

**Per Capita Personal Income, 10 Year Average\*, as a Percent of Non-Metro Average, Gage County & Leading Livestock Counties\*\***

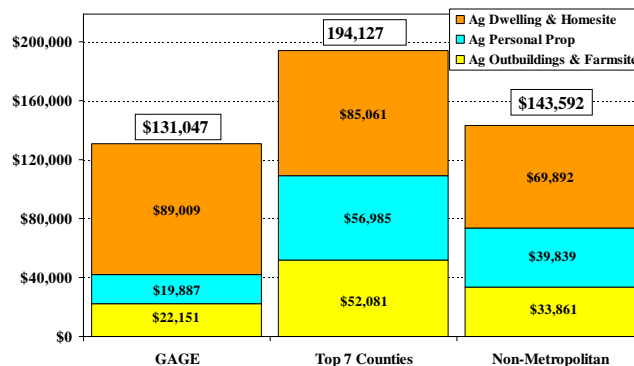


\* 10 Year Average (1996-2005).  
 \*\*Note: Leading seven Nebraska counties in terms of value of livestock and livestock products produced per acre.  
 Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

### **Livestock Production and Property Taxes**

Livestock production activity contributes in a significant and positive manner to the tax base and to tax revenues needed to support local schools and other local public services. The per farm assessed valuation of agricultural property (other than agricultural land) was \$194,127 for the leading seven Nebraska livestock counties, 35.2 percent more than the \$143,592 of per farm assessed valuation for all non-metropolitan counties in the state. In the case of Gage County, the per farm assessed valuation of agricultural property (except agricultural land) was \$131,047. This value was 8.7 percent less than the per farm assessed value of the same class of property for all non-metropolitan counties.

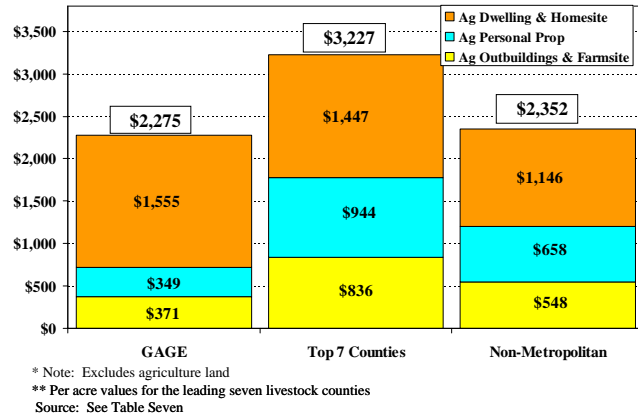
**Per Farm Assessed Valuation for the Agriculture Sector\*, Gage County, Non-Metro Area and Leading Livestock Counties\*\***



\* Note: Excludes agriculture land  
 \*\* Per farm values for the leading seven livestock counties  
 Source: See Table Seven

Local tax revenues are also significantly enhanced by the presence of livestock production activity. As this chart illustrates, per farm taxes levied on agricultural property (other than agricultural land) were \$3,227 for the seven leading Nebraska livestock counties. This level of per farm tax revenues was \$875, or 37.2 percent more than per farm tax revenues for the same class of agricultural property for all non-metropolitan Nebraska counties. In the case of Gage County, the per farm taxes levied on this class of agricultural property were \$2,275 or 3.3 percent less than per farm taxes levied for all non-metropolitan counties.

**Per Farm Taxes Levied for the Agriculture Sector\*,  
Gage County, Non-Metro Area and Leading Livestock Counties\*\***

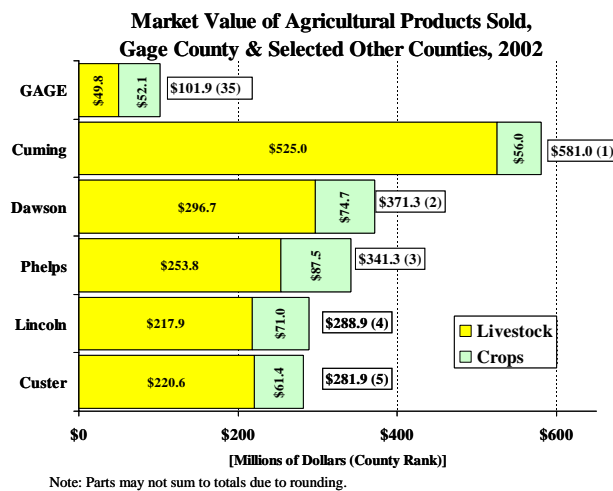


## Economic Importance of and Economic Impacts Associated with Livestock Production in Gage County, Nebraska

Information provided in this report focuses on the importance of the livestock sector to the economy of Gage County, Nebraska (Gage County). The first part of the report reviews agriculture data from the *2002 Census of Agriculture*. These data provide insights into the importance of agriculture and the livestock sector in Gage County. The second part of the report analyzes the secondary economic impacts associated with livestock production in Gage County. This analysis utilizes an IMPLAN input-output (I-O) database and model developed specifically for Gage County.

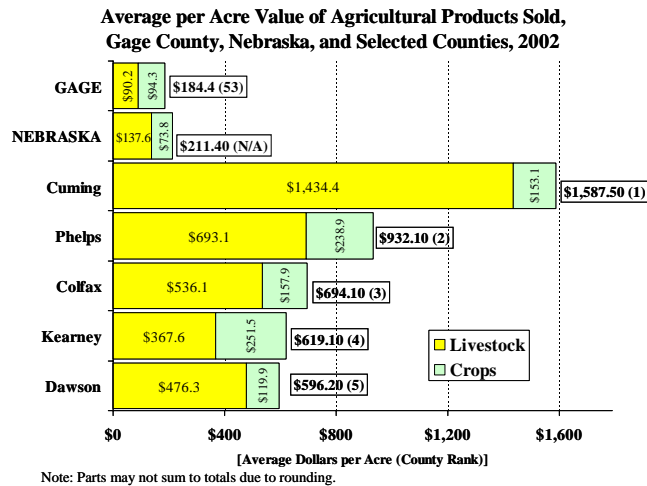
### Livestock and Agricultural Production in Gage County, Nebraska

The *2002 Census of Agriculture* provides data showing the importance of agriculture and the livestock sector for Gage County. The data presented in Table One include the data for Gage County, along with data for Nebraska and selected Nebraska counties. The market value of agricultural products sold in Gage County was \$101.9 million in 2002. This level of sales of agricultural products ranked Gage County 35<sup>th</sup> among the Nebraska counties in terms of this measure. In terms of the per farm value of agricultural products sold, Gage County's average of \$80,089 ranked 84<sup>th</sup> among the counties and was 40.7 percent of the Nebraska per farm average of \$196,609.



The data reporting the market value of agricultural products sold may be somewhat misleading as these data are affected by the geographic size of the county (number of farms and acres). For example, while Lincoln and Custer counties rank 4<sup>th</sup> and 5<sup>th</sup> in terms of the total market value of agricultural products, their high ranking results, in part, from the relatively large size of these counties. When the data are normalized for the size of the county, these counties do not maintain their high rankings. For example, using the average market value of agricultural products sold per acre, Lincoln County ranks 50<sup>th</sup> and Custer County ranks 51<sup>st</sup> among Nebraska's 93 counties.

The average market value of agricultural products sold per acre is shown in the current chart and includes the data for Gage County and for the top five Nebraska counties in terms of this measure, along with the Nebraska data. These data are also shown in Table One. In terms of the market value of agriculture products sold per acre, Gage County, with a value of \$184.4, ranks 53<sup>rd</sup> among Nebraska's 93 counties. Gage County's per acre average for all agricultural products is 87.3 percent of the Nebraska per acre average of \$211.40.



Data presented in Table One indicate that livestock and livestock products are an important source of income for Gage County farmers. The per farm market value of livestock and livestock products sold averaged \$39,158 for Gage County, ranking the county 79<sup>th</sup> among Nebraska's 93 counties in terms of this measure. The market value of livestock products sold in Gage County accounted for 48.9 percent of the total market value of all agricultural products sold, compared to 65.1 percent for Nebraska. The average Gage County per farm value (for livestock and livestock products sold) was 30.6 percent of the average per farm value of \$127,959 for Nebraska.

Table One also provides data reporting the number of farms; land in farms; farm employment; estimated market value of land and buildings; estimated market value of machinery and equipment; and net cash farm income of farm operations for Gage County, selected other Nebraska counties, and Nebraska.

**Table One**  
**Agricultural Characteristics, Gage County, Nebraska, and Selected Nebraska Counties, 2002**

	<b>GAGE COUNTY</b>	<b>Nebraska</b>	<b>Buffalo</b>	<b>Colfax</b>	<b>Cuming</b>	<b>Custer</b>	<b>Dawson</b>	<b>Kearney</b>	<b>Lincoln</b>	<b>Phelps</b>	<b>Polk</b>	<b>Wheeler</b>
<b>Number of farms</b>	1,272	49,355	989	589	904	1,149	718	412	959	470	527	194
% FT Farms <sup>(a)</sup>	66.9	73.0	70.6	75.0	76.0	76.1	74.2	87.9	67.4	80.6	79.1	75.8
<b>Land in farms (Acres)</b>	552,316	45,903,116	601,256	244,361	365,994	1,501,959	622,805	331,283	1,529,011	366,154	264,455	338,136
Average size (Acres)	434	930	608	415	405	1,307	867	804	1,594	779	502	1,743
<b>Farm employment<sup>(b)</sup></b>	1,310	60,084	1,196	780	1,251	1,566	1,107	657	1,305	686	654	341
Average per farm	1.0	1.2	1.2	1.3	1.4	1.4	1.5	1.6	1.4	1.5	1.2	1.8
<b>Estimated market value of land and buildings</b>												
Average per farm (\$)	459,046	723,863	787,773	627,679	658,526	696,003	830,919	1,223,182	846,826	1,159,506	972,107	899,296
Average per acre (\$)	1,093	776	1,312	1,629	1,571	535	1,014	1,447	509	1,479	1,851	525
<b>Estimated market value of all machinery and equipment</b>												
Average per farm (\$)	102,305	111,776	128,090	121,938	111,129	104,469	137,066	229,426	112,748	205,673	142,746	134,128
<b>Market value of agricultural products sold</b>												
(\$1,000)	101,873	9,703,657	179,004	169,600	580,999	281,928	371,332	205,090	288,881	341,280	148,561	146,154
Average per farm (\$)	80,089	196,609	180,995	287,946	642,698	245,368	517,176	497,791	301,231	726,127	281,900	753,372
Average per acre (\$)	184	211	298	694	1,587	188	596	619	189	932	562	432
<b>Market value of livestock, poultry, and their products</b>												
Per farm (\$)	39,158	127,959	101,782	222,431	580,723	191,950	413,188	295,583	227,222	539,989	188,038	695,067
% Livestock	48.9	65.1	56.2	77.2	90.4	78.2	79.9	59.4	75.4	74.4	66.7	92.3
<b>Net cash farm income of operation</b>												
Average per farm (\$)	17,304	24,820	36,509	19,991	36,148	21,659	40,959	81,169	27,166	81,610	40,832	27,473

<sup>(a)</sup>Full-time farms are defined as those where the principal operator has indicated their primary occupation is farming.

<sup>(b)</sup>Farm employment estimates for 2003 from the U.S. Department of Commerce, Bureau of Economic Analysis (BEA), where farm employment includes farm proprietors and hired labor.

Source: USDA, National Agricultural Statistics Service, *2002 Census of Agriculture*.

**Economic Impacts Associated with Livestock Production in Gage County, Nebraska**

Information presented in the continuing portion of this report focuses on the economic impacts associated with livestock operations in Gage County. This analysis utilizes an IMPLAN economic input-output (I-O) model developed specifically for Gage County.

From the Gage County I-O model, economic multipliers are derived that quantify the level or magnitude of economic activity necessary to support the production activity of local livestock enterprises. As such, the input-output analysis identifies and quantifies economic linkages associated with the inputs required in order for the livestock sector to produce the level of output it has achieved (backward linkages). The model does not evaluate forward linkages. That is, the model does not provide a measure of additional (downstream) processing made possible by the production of the livestock output, although this is certainly an important factor for Nebraska and for many Nebraska counties.

To provide a basic understanding of the structure and size of the agricultural sector within Gage County, data in Table One provide basic information from the *2002 Census of Agriculture* describing production activity and other parameters for the farm sector.

The IMPLAN database and input-output model provide further insight into the value of production of livestock and livestock products in Gage County. The data in Table Two present estimates of the value of production for the livestock sector reported by the IMPLAN database and I-O model for Gage County for 2006. As the data in Table Two show, the total value of output for livestock and livestock products was reported to be \$80.656 million dollars for 2006 (compared to the \$49.8 million market value of livestock and livestock products sold reported by the *2002 Census of Agriculture*).

The data in Table Two also provide a further disaggregation of livestock and livestock products. As reported in Table Two, cattle ranching and farming (which includes cow-calf operations and cattle feeding) was reported to have a value of production of \$49.245 million for the year 2006. Gage County’s other animal production activities, except cattle and poultry, had an estimated output value of \$22.303 million and poultry and egg production had a reported value of \$9.108 during 2006.

**Table Two**  
**Agricultural Sector Parameters, Gage County IMPLAN Database, 2006**

<b>Industry</b>	<b>Industry Output</b>	<b>Employee Employment</b>	<b>Employee Compensation</b>	<b>Proprietor Income</b>	<b>Other Property Income</b>	<b>Total Value Added</b>
	(Million \$)	(Number)	(Million \$)	(Million \$)	(Million \$)	(Million \$)
Oilseed farming	28.329	198	0.184	6.783	7.782	15.366
Grain farming	33.476	424	0.928	6.723	7.823	16.077
All other crop farming	5.610	22	0.718	1.297	1.243	3.345
<b>Livestock &amp; Livestock Products</b>	<b>80.656</b>	<b>723</b>	<b>7.442</b>	<b>0.756</b>	<b>1.506</b>	<b>11.123</b>
Cattle ranching and farming	49.245	312	3.291	0.237	0.367	4.937
Poultry and egg production	9.108	11	0.880	0.789	1.733	3.434
Animal production, except cattle and poultry	22.303	400	3.271	-0.270	-0.594	2.752

Source: Minnesota IMPLAN Group, Inc., IMPLAN Input-Output Model and database for Gage County (2006 data).

The data presented in Table Two show the most significant livestock sector is the beef-producing sector, accounting for 61.0 percent of the total production of livestock and livestock products in Gage County in 2006. Moreover, the beef-producing sector accounted for 312 of the 723 total reported employees in the livestock-producing sector and accounted for 44.3 percent of the value added by the livestock and livestock products sector.

### **Economic Impact Analysis**

The economic linkages and impacts associated with livestock operations in Gage County are analyzed in the balance of this report. The analysis utilizes an input-output model developed for Gage County, for which the livestock producing sectors have been collapsed (aggregated) into one sector (livestock and livestock products). This involves aggregating the three livestock sectors shown in Table Two into one livestock sector. The analysis then focuses on the economic impacts associated with the production of livestock and livestock products in Gage County. This analysis involves identifying the multiplier effects associated with this production sector, where the multiplier effects evaluated include the output multiplier, the employment multiplier, and the value-added multiplier.

Each of the multipliers, in turn, consists of three components: the direct effect, the indirect effect, and the induced effect. The output multiplier defines (quantifies) the change in total output for the economy, which is associated with the delivery of an additional unit (dollar) of output of livestock and livestock products to final demand.

The multipliers specified for the livestock sector recognize that changes in output (increases in sales to final demand) by this sector will require additional inputs from other businesses or economic sectors be provided. The industries or economic sectors supplying additional inputs to the livestock sector will find they also must purchase additional inputs in order to expand their output to supply the increased inputs demanded by the livestock enterprises. As the increased demand for goods and services associated with the initial increase in sales to final demand works itself through the sectors of the economy, these effects are collected and termed the indirect effects component of each of the economic multipliers.

The induced component of the economic multipliers follows from the increased personal income (payments to households) in Gage County resulting from the increase in the demand for labor, both with respect to the direct and indirect economic effects. That is, as output is increased by the livestock products sector (direct effect) and in the economic sectors that supply the additional inputs to the livestock sector (indirect effects), these sectors will add labor inputs and increase their payments to labor. The translation of the additional household incomes into additional expenditures for (consumer) goods and services is referred to as the induced effects. The three effects—direct, indirect, and induced—together represent the total economic impacts embodied in the multipliers utilized to measure the economic impacts associated with the subject livestock enterprises.

The estimated direct, indirect, and induced components of the economic multipliers associated with the production of livestock and livestock products in Gage County are provided in Table Three. The three economic multipliers for which values are reported include the output, value-added, and employment multipliers. The output multiplier indicates that for each dollar of sales to final demand by the livestock sector in Gage County, there will be an estimated increase in total economic output of \$1.4441 for the Gage County economy.

**Table Three**  
**Input-Output Multipliers for the Livestock & Livestock Products Sector,**  
**Gage County**

Multiplier Component	Total		
	Total Output <sup>(a)</sup>	Value Added <sup>(b)</sup>	Total Employment <sup>(c)</sup>
Direct	1.0000	0.1379	8.9693
Indirect	0.3659	0.1335	5.3187
Induced	0.0782	0.0484	1.0037
Total	1.4441	0.3198	15.2917
Multiplier <sup>(d)</sup>	1.4441	2.3191	1.7049

<sup>(a)</sup> Increase in output for each dollar of sales to final demand.

<sup>(b)</sup> Change in value added for each dollar of sales to final demand.

<sup>(c)</sup> Total jobs created per million dollars of sales to final demand.

<sup>(d)</sup> Multiplier values equal the total effects divided by the direct effect.

Source: Minnesota IMPLAN Group, Inc., IMPLAN Input-Output Model for Gage County, 2006 data.

The value-added multiplier estimates there will be total payments to the factors of production of \$0.3198 for each dollar of sales of livestock and livestock products to final demand. This total value-added effect includes the direct effect of \$0.1379 associated with the initial sales of one dollar of output to final demand, \$0.1335 of payment to the factors of production associated with the increase in output (sales) for the intermediate (supplying) sectors, and the induced effect of \$0.0484 related to the increased household demand for goods and services resulting from the increased payment to labor (household income). The value-added multiplier of 2.3191 indicates for each dollar of value-added in the livestock and livestock products sector, we would expect to see approximately \$1.32 of additional value-added in other sectors of the Gage County economy.

The employment multiplier indicates for each \$1,000,000 of sales to final demand by the livestock and livestock products sector, there will be a total of 15.2917 jobs supported, including the direct, indirect, and induced components of the employment multiplier. Moreover, the employment multiplier of 1.7049 indicates that for each 100 workers employed in the livestock and livestock products sector, we would expect to find 70 workers employed in other sectors which support livestock production in Gage County.

Table Four provides a summary of the economic effects associated with the production of livestock and livestock products in Gage County. As the information provided in this table is reviewed, it will be of interest to note the estimated sales to final demand by the livestock sector are presented in the table as the direct effects (output, employment, and value-added). For example, the direct output (value of production) associated with sales of livestock and livestock products to the final demand sector by Gage County livestock producers is estimated to be \$70 million. From the Gage County I-O model, we estimate that for the Gage County livestock sector to sell this amount of output to final demand, it would need to produce a total of \$80.7 million of total output, as approximately 13.2 percent (\$10.6 million) of the total output would represent intermediate sales (sales by one producer in the livestock sector to other producers in the same sector).

**Table Four**  
**Summary of Output, Employment and Value-Added Effects**  
**Associated with the Livestock Products Sector in Gage County, Nebraska**  
**(Annual Estimates, 2006)**

	<b>Livestock Products</b>	<b>Other Economic Sectors</b>	<b>Total Economic Impacts</b>
<b>Output Effects</b>			
Direct Output (Value of Production)	\$70,017,000	\$0	\$70,017,000
Indirect Effects [0.3659 of Direct]	\$10,617,000	\$15,004,000	\$25,621,000
Induced Effects [0.0782 of Direct]	\$23,000	\$5,455,000	\$5,478,000
<b>Total Output Effects</b>	<b>\$80,657,000</b>	<b>\$20,459,000</b>	<b>\$101,116,000</b>
<b>Employment Effects</b>			
Direct Employment (FTE)	628	0	628
Indirect Effects [0.5908 of Direct]	95	276	371
Induced Effects [0.1099 of Direct]	0	69	69
<b>Total Employment (FTE)</b>	<b>723</b>	<b>345</b>	<b>1,068</b>
<b>Value-Added Effects</b>			
Direct Value-Added (Payments)	\$9,656,000	\$0	\$9,656,000
Indirect Effects [0.9682 of Direct]	\$1,464,000	\$7,885,000	\$9,349,000
Induced Effects [0.3507 of Direct]	\$3,000	\$3,383,000	\$3,386,000
<b>Total Value-Added Effects</b>	<b>\$11,123,000</b>	<b>\$11,268,000</b>	<b>\$22,391,000</b>

Source: Computed from the IMPLAN Input-Output Model for Gage County (2006 data).

### **-Output Effects**

A review of the data presented in Table Four indicates the total output effects (including the direct, indirect, and induced output) associated with the production of livestock and livestock products in Gage County are estimated to be \$101.1 million. Of this total, 79.8 percent (\$80.7 million) is accounted for by output (direct, indirect, and induced) produced by the livestock sector and the indirect and induced effects in other Gage County economic sectors represent an additional \$20.5 million of output.

### **-Employment Effects**

There are an estimated 628 people employed in the livestock products sector to produce the output dedicated to sales to final demand (\$70 million); when the indirect and induced effects are included, the estimated employment in the livestock sector increases to 723 people. The other secondary employment effects (indirect and induced effects in sectors other than livestock and livestock products), account for an additional 345 jobs and total employment in Gage County supporting the production of livestock and livestock products is estimated to be 1,068 employees.

### **-Value-Added Effects**

The value-added effects associated with the livestock production in Gage County provide a measure of the economic value associated with this sector. Value-added consists of payments to the factors of production within the economy and includes payments to labor, proprietors' income, other property income, and indirect business taxes. As the data in Table Four show, the total value-added effects related to the production of livestock and livestock products in Gage County are estimated to be \$22.4 million. Of this amount, \$11.1 million is value-added in the livestock products sector itself and an estimated \$11.3 million is value-added in other economic sectors that results because of the additional economic activity in these other economic sectors required to support the production of livestock and livestock products in Gage County.

Table Five provides additional detail describing the economic effects associated with the production of livestock and livestock products in Gage County. The data in the table identify the business or economic sectors that are the primary beneficiaries of the economic activity resulting from livestock production in Gage County. Shown in the table is a list of the economic and business sectors likely to be positively impacted by the production of livestock products. The impacts presented in the table include the predicted output, value-added, and employment impacts for each of the sectors associated with the production and sales to final demand of the output produced by the livestock sector in Gage County.

**Table Five**  
**Distribution of Livestock Production Economic Impacts, by Selected Economic Sector<sup>(a)</sup>,**  
**Gage County Nebraska, 2006**

Industry	Total Output	% Total Output	Value Added	Employment	% Total Emp.
Livestock	80,656,000	79.77	11,123,000	723.4	67.68
All other crop farming	3,164,000	3.13	1,608,000	12.3	1.15
Agriculture and forestry support activities	2,136,000	2.11	1,548,000	169.8	15.89
Wholesale trade	1,580,000	1.56	1,065,000	14.1	1.32
Real estate	1,374,000	1.36	964,000	17.3	1.62
Owner-occupied dwellings	1,245,000	1.23	1,112,000	0.0	0.00
Veterinary services	834,000	0.82	253,000	14.2	1.33
Farm machinery and equipment manufacturing	826,000	0.82	169,000	2.1	0.20
Monetary authorities and depository credit institutions	809,000	0.80	578,000	4.9	0.46
Rail transportation	753,000	0.74	462,000	2.5	0.23
Truck transportation	650,000	0.64	283,000	5.4	0.51
Grain farming	517,000	0.51	248,000	6.5	0.61
Hospitals	506,000	0.50	244,000	5.0	0.47
Other State and local government enterprises	431,000	0.43	149,000	2.2	0.21
Food services and drinking places	383,000	0.38	145,000	9.6	0.90
Nitrogenous fertilizer manufacturing	310,000	0.31	55,000	0.2	0.02
Commercial machinery repair and maintenance	284,000	0.28	121,000	3.0	0.28
Motor vehicle and parts dealers	267,000	0.26	167,000	3.5	0.33
Civic- social- professional and similar organizations	252,000	0.25	75,000	10.6	0.99
Offices of physicians- dentists- and other healthcare	241,000	0.24	161,000	3.2	0.30
Maintenance and repair of nonresidential buildings	233,000	0.23	79,000	2.2	0.21
Waste management and remediation services	227,000	0.22	91,000	1.9	0.18
Oilseed farming	209,000	0.21	113,000	1.5	0.14
General merchandise stores	196,000	0.19	113,000	3.9	0.36
Telecommunications	183,000	0.18	84,000	0.6	0.06
All other	2,849,000	2.82	1,381,000	49.0	4.58
<b>Total</b>	<b>101,115,000</b>	<b>100.00</b>	<b>22,391,000</b>	<b>1,068.9</b>	<b>100.00</b>

<sup>(a)</sup> The business or economic sectors impacted by the production of \$70,017,000 of livestock and livestock products for sales to final demand in Gage County (2006).

Source: Computed from the IMPLAN Input-Output Model for Gage County (2006 data).

### **Livestock Production and Economic Well Being**

Data presented in Table Six provide further insight into the importance of livestock production activities as a contributing factor to economic well being for selected livestock production counties. Included in the table are data showing the average per acre value of livestock and livestock products sold for Gage County and for the leading livestock counties, according to this metric. Also included in the table are data showing per capita personal income for the counties, as a percent of per capita personal income for all non-metropolitan counties. The per capita personal income index data are included for two time periods. First the income index data are included for 2005. Also, recognizing the volatility of year-to-year changes in total personal and per capita personal income, especially in rural counties, an average per capita personal income index measure is included for a ten-year period, 1996–2005.

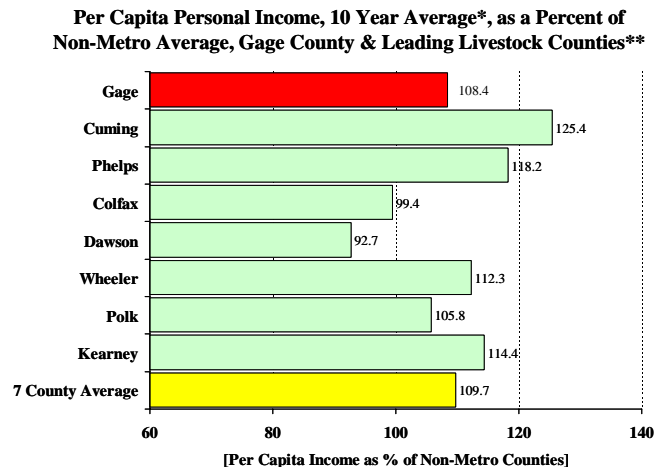
**Table Six**  
**Livestock Production and Per Capita Personal Income,**  
**Gage County and Leading Nebraska Livestock Counties**

County/Nebraska	Livestock & Livestock Products Per Acre		Per Capita Income (% of Non-Metro Counties)	
	Value (\$)	County Rank	2005	10 Yr Avg. (1996-2005)
<b>Gage</b>	<b>90.20</b>	<b>57</b>	<b>108.1</b>	<b>108.4</b>
NEBRASKA	137.60	N/A	118.3	116.5
Cuming	1,434.40	1	110.7	125.4
Phelps	693.10	2	114.3	118.2
Colfax	536.10	3	96.6	99.4
Dawson	476.30	4	86.9	92.7
Wheeler	398.80	5	104.9	112.3
Polk	374.70	6	103.0	105.8
Kearney	367.60	7	109.7	114.4
<b>Average for Top Seven Livestock Counties</b>			<b>103.7</b>	<b>109.7</b>

Source: USDA, National Agricultural Statistics Service, *2002 Census of Agriculture*, and U.S. Bureau of Economic Analysis (BEA), County Personal Income, 1996-2005.

As the data shown in Table Six and the accompanying chart indicate, per capita personal income for 2005 in Cuming County, the leading county in Nebraska in terms of the production of livestock and livestock products, was 10.7 percent more than the average per capita personal income for all non-metropolitan counties. For the ten-year period from 1996 to 2005, the average per capita personal income in Cuming County was 25.4 percent more than the average for the non-metropolitan areas of Nebraska. In the case of Gage County, which ranked 57<sup>th</sup> among the Nebraska counties in terms of livestock sold per acre, average per capita income for the ten-year period, from 1996 to 2005, was \$26,109. This per capita income level was 8.4 percent above the average per capita income level for all non-metropolitan counties for the 1996–2005 period. In 2005, per capita personal income for Gage County was \$30,083, or 8.1 percent more than the average per capita income level for all non-metropolitan counties.

The data presented in the table and the accompanying chart also show that, for the top seven livestock counties, the ten-year (1996–2005) average per capita personal income was 9.7 percent more than for all non-metropolitan counties. In 2005, per capita personal income in the leading livestock counties was 3.7 percent more than for all non-metropolitan counties.



\* 10 Year Average (1996-2005).

\*\*Note: Leading seven Nebraska counties in terms of value of livestock and livestock products produced per acre. Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

## **Livestock Production and Property Taxes**

As the data presented in Table Seven show, livestock production activity contributes in a significant and positive manner to the tax base and to tax revenues needed to support local schools and other local public services. Part A of the table indicates the per farm assessed valuation of agricultural property (other than agricultural land) was \$194,127 for the leading seven livestock counties, 35.2 percent more than the \$143,592 of per farm assessed valuation for all non-metropolitan counties in the state. In the case of Gage County, the per farm assessed valuation of agricultural property (except agricultural land) was \$131,047. This value was 91.3 percent of the per farm assessed value of the same class of property for all non-metropolitan counties.

**Table Seven**  
**Agricultural Property Valuation and Taxes Levied Per Farm, Gage County,**  
**Non-Metropolitan Nebraska, and Leading Nebraska Livestock Counties**

<b>Part A -- Per Farm Assessed Valuation</b>				
<b>County/Nebraska</b>	<b>Ag. Outbuildings &amp; Farmsite</b>	<b>Ag. Personal Property</b>	<b>Ag. Dwelling &amp; Homesite</b>	<b>Total Ag. Property Except Ag. Land</b>
<b>GAGE</b>	<b>\$22,151</b>	<b>\$19,887</b>	<b>\$89,009</b>	<b>\$131,047</b>
Non-Metro Area*	\$33,861	\$39,839	\$69,892	143,592
Cuming	\$53,599	\$46,110	\$64,823	164,532
Phelps	\$61,324	\$95,436	\$72,673	229,433
Colfax	\$55,821	\$39,674	\$111,762	207,257
Dawson	\$34,515	\$58,391	\$92,821	185,727
Wheeler	\$113,671	\$48,695	\$37,055	199,421
Polk	\$48,113	\$47,330	\$111,915	207,358
Kearney	\$39,546	\$75,534	\$80,156	195,236
<b>Average for Top 7 Livestock Counties</b>	<b>\$52,081</b>	<b>\$56,985</b>	<b>\$85,061</b>	<b>\$194,127</b>

<b>Part B -- Per Farm Taxes Levied</b>				
<b>County/Nebraska</b>	<b>Ag. Outbuildings &amp; Farmsite</b>	<b>Ag. Personal Property</b>	<b>Ag. Dwelling &amp; Homesite</b>	<b>Total Ag. Property Except Ag. Land</b>
<b>GAGE</b>	<b>\$371</b>	<b>\$349</b>	<b>\$1,555</b>	<b>\$2,275</b>
Non-Metro Area*	\$548	\$658	\$1,146	\$2,352
Cuming	\$875	\$772	\$1,020	\$2,667
Phelps	\$1,008	\$1,520	\$1,173	\$3,701
Colfax	\$863	\$656	\$1,674	\$3,193
Dawson	\$570	\$1,058	\$1,574	\$3,202
Wheeler	\$1,510	\$576	\$491	\$2,577
Polk	\$735	\$743	\$1,439	\$2,917
Kearney	\$789	\$1,306	\$2,614	\$4,709
<b>Average for Top 7 Livestock Counties</b>	<b>\$836</b>	<b>\$944</b>	<b>\$1,447</b>	<b>\$3,227</b>

\* Non-Metro Area includes Nebraska except Cass, Douglas, Lancaster, Sarpy, and Washington counties.

Source: Special tabulation provided by the Nebraska Department of Property Assessment & Taxation.

Part B of Table Seven also illustrates that local tax revenues are significantly enhanced by the presence of livestock production activity. These data show the per farm taxes levied on agricultural property (other than agricultural land) were \$3,227 for the top seven livestock counties. This level of per farm tax revenues was \$875, or 37.2 percent more than per farm tax revenues for the same class of agricultural property for all non-metropolitan counties. In the case of Gage County, per farm taxes levied on this class of agricultural property were \$2,275, or 96.7 percent of the average per farm tax levied for all non-metropolitan areas.

**If further information about this analysis is desired or if the reader has questions about any aspect of this report, please contact:**

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