



The University of Georgia

Center for Agribusiness and Economic Development

College of Agricultural and Environmental Sciences

Economic Impact of Goat and Sheep Production in Georgia

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Center Report: CR-06-15
November 2006**



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Production of goats and sheep in Georgia was distributed among more than 140 of Georgia's 159 counties in 2005 according to the Georgia Farm Gate Value Report compiled by the Center of Agribusiness and Economic Development. County agents reported total production of 156,374 goats with a value of \$12.5 million and 8,005 sheep with a value of \$680,931. Figure 1 shows goat production and Figure 2 shows value of goat production for Georgia counties in 2005. Input requirements of goat and sheep production stimulate economic activity throughout the Georgia economy. Wages and benefits earned by producers and employees of indirectly effected businesses are another source of economic impact from production.

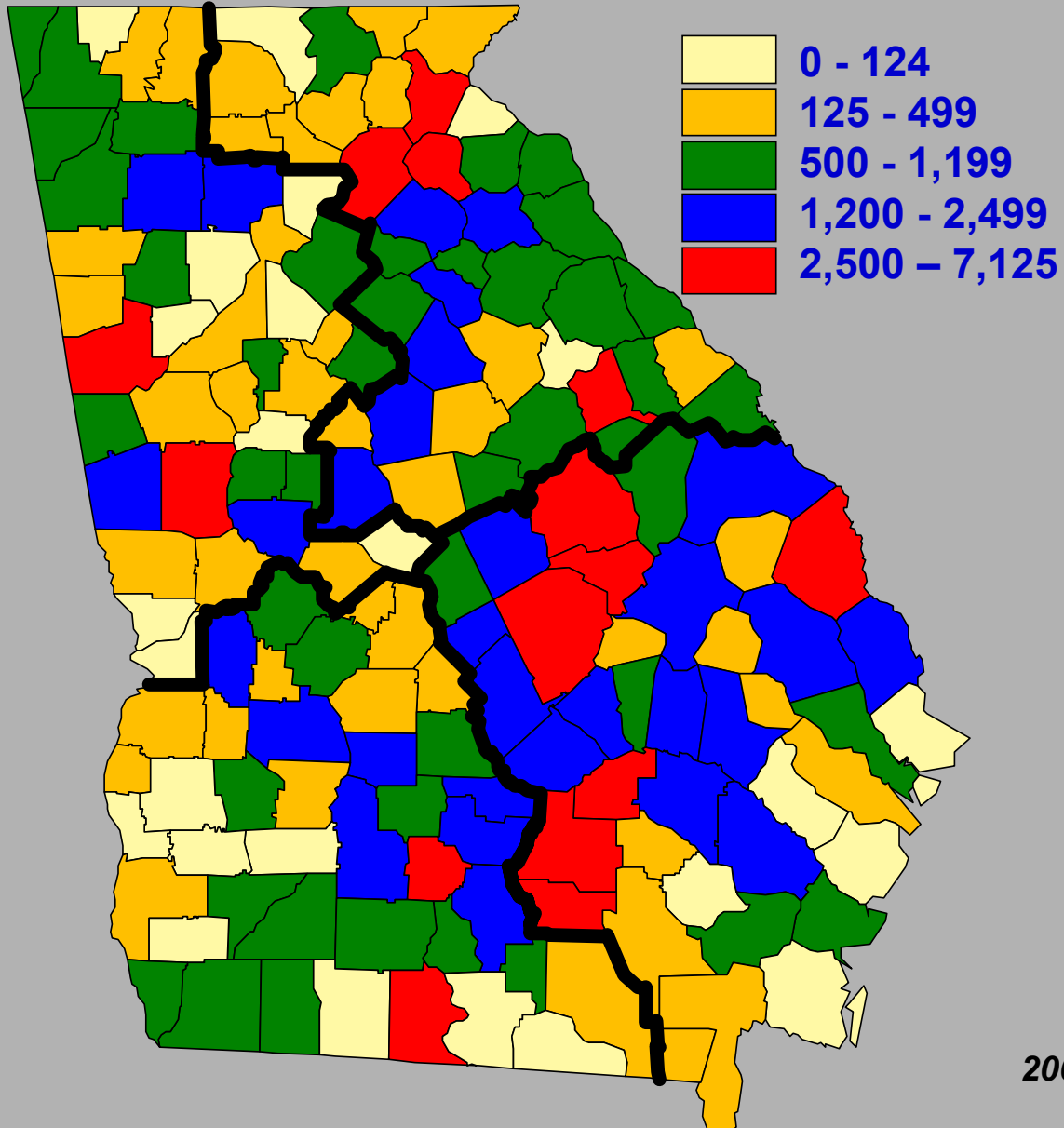
Principles of Economic Impact Analysis

Economic impacts can be estimated with input-output models (IMPLAN) that separate the economy into various industrial sectors such as agriculture, construction, manufacturing, trade, and services. The input-output model then calculates how a change in one industry changes output, income, and employment in other industries. These changes, or impacts, are expressed in terms of direct and indirect effects. Impacts are interpreted as the contribution of the enterprise to the total economy. Direct effects represent the initial impact on the economy of either construction or operations of an enterprise. Indirect effects are changes in other industries caused by direct effects of an enterprise and include changes in household spending due to changes in economic activity generated by direct effects. Thus, the total economic impact is the sum of direct and indirect effects. Input-output analysis can interpret the effects of an enterprise in a number of ways including output (sales), labor income (employee compensation and proprietary income), employment (jobs), and tax revenue.

Economic impacts result from a multiplier effect that begins with expenditures of an enterprise stimulating business to business spending, personal income, employment, and tax revenue. IMPLAN models include a regional purchase coefficient (RPC) for each impact variable that represents percentage of demand that is satisfied by production within an impact area. Enterprises vary in their multiplier effects due to differing expenditure levels, RPC's, and sectors in which their expenditures are directed. Impact analysis involves quantification of spending levels and proper allocation to impacted sectors.

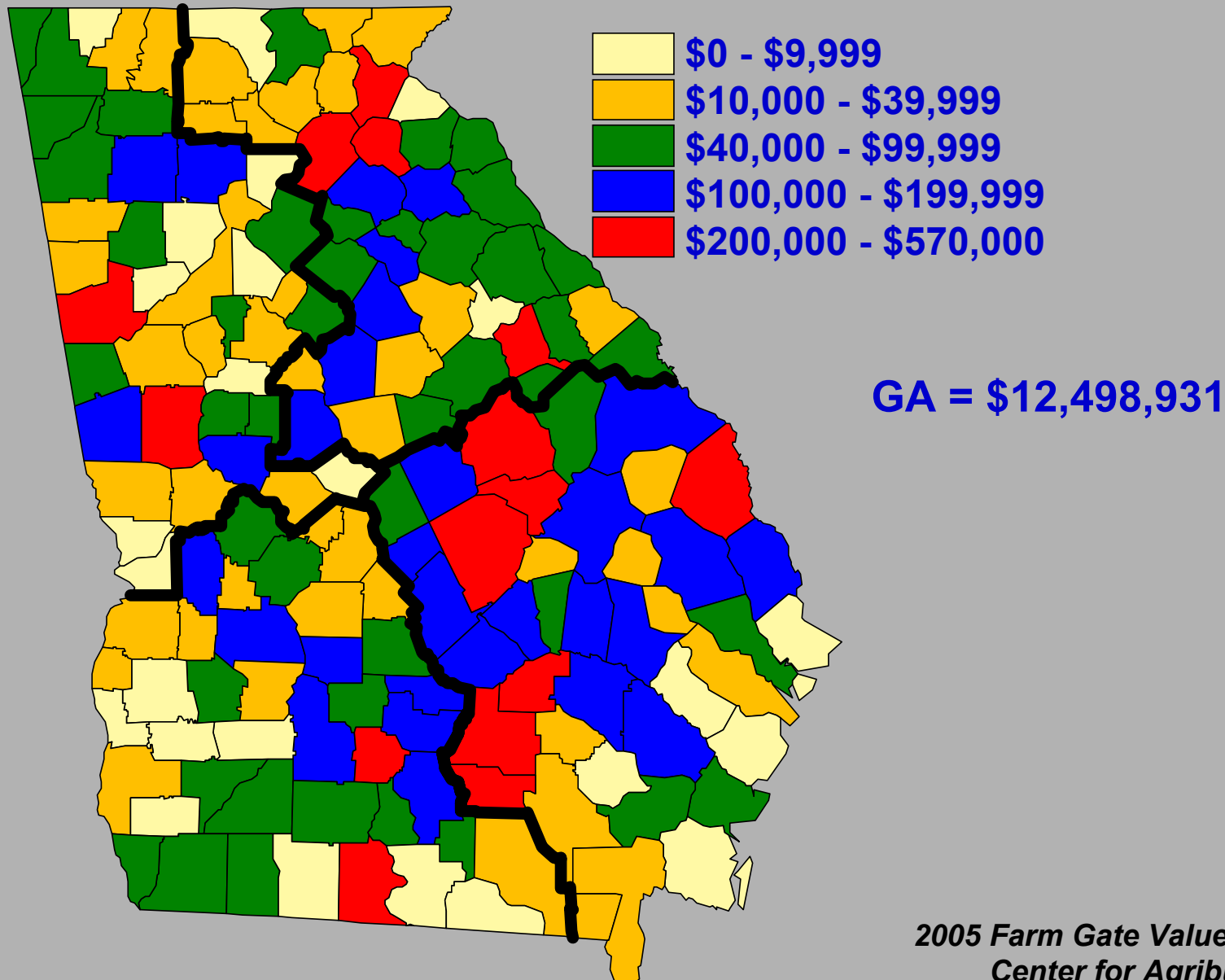
Output impacts are a measure of economic activity that results from enterprise expenditures in a specific industrial sector. Output is equivalent to sales, and this multiplier offers insights into how initial economic activity in one sector leads to sales in other sectors. Personal income impacts measure purchasing power that is created due to the output impacts. This impact provides the best measure of how standards of living are affected for residents in the impact area.

Figure 1. Goat Production: 2005



GA = 156,374

Figure 2. Value of Goat Production: 2005



An enterprise involves a specified number of employees that is determined by the technology of the enterprise. Employment multipliers indicate the effect on employment resulting from the enterprise initiating economic activity. IMPLAN indirect employment includes both full-time and part-time jobs without any distinction. Jobs calculated within an IMPLAN industrial sector are not limited to whole numbers and fractional amounts represent additional hours worked without an additional employee. With no measure of hours involved in employment impacts, IMPLAN summations for industrial sectors which include fractional employment represent both jobs and job equivalents. Since employment may result from some employees working additional hours in existing jobs, instead of terming indirect employment impacts as “creating” jobs, a more accurate term is “involving” jobs or job equivalents.

Economic Impacts of Goat and Sheep Production

The direct output of goat and sheep production is \$13.2 million in Table 1 and is equivalent to the combined farm gate value. Indirect impacts from production are \$8.5 million for a total output impact of \$21.7 million. Direct labor income is \$581,273 for 564 employees and proprietors. Average direct labor income of \$1,031 indicates the industry is characterized by small production units. Indirect impacts generate \$2.7 million in labor income for 79 jobs. Average indirect income of \$33,713 is more typical for employment in the Georgia economy. The total labor income impact is \$3.2 million for 643 employees and proprietors. Economic activity from goat and sheep production generates \$398,989 in state tax revenue for Georgia and \$348,702 for local governments throughout the state.

Table 1. Goat and Sheep Production: Annual GA Economic Impacts

	Direct Impact	Indirect Impact	Total Impact
Output (\$)	13,179,862	8,487,660	21,667,522
Labor Income (\$)	581,273	2,663,300	3,244,574
Employment	564	79	643
State Taxes (\$)			398,989
Local Taxes (\$)			348,702
Sum of Taxes (\$)			747,690

Economic impacts due to goat and sheep production are distributed among various industries. Table 2 shows output, labor income, and employment in the major industrial sectors of the Georgia economy. Production is in the agricultural sector and it has the greatest impacts. The services sector has the second greatest impacts consisting of \$1.5 million in output, \$627,013 of labor income, and 19 jobs. Finance, insurance, real estate, as well as manufacturing and trade have more than \$1 million in output.

Table 2. Goat and Sheep Production: Annual Economic Impacts to Major Sectors, GA

Sector	Output (\$)	Labor	
		Income (\$)	Employment
Agriculture	15,291,923	1,387,544	597
Mining & Construction	63,159	26,368	1
Utilities	342,657	69,988	0
Manufacturing	1,089,187	128,781	2
Transportation, Warehousing	657,024	266,810	6
Trade	1,073,210	409,169	9
Finance, Insurance, & Real Estate	1,325,198	305,142	8
Services	1,479,131	627,013	19
Government and non-NAICS	346,033	23,760	1
Total	21,667,522	3,244,574	643

Summary

Sheep and goats are produced throughout all regions of Georgia. Value of production was \$13.2 million in 2005. Indirect output associated with production generated additional economic activity of \$8.5 million for total output of \$21.7 million. Production generates labor income of \$3.2 million for 643 jobs in Georgia. Tax revenues received by state and local governments total \$747,690.

The Center for Agribusiness & Economic Development



The Center for Agribusiness and Economic Development is a unit of the College of Agricultural and Environmental Sciences of the University of Georgia, combining the missions of research and extension. The Center has among its objectives:

To provide feasibility and other short term studies for current or potential Georgia agribusiness firms and/or emerging food and fiber industries.

To provide agricultural, natural resource, and demographic data for private and public decision makers.

To find out more, visit our Web site at: <http://www.caed.uga.edu>

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Report Number: CR-06-15

December 2006

Issued in furtherance of Cooperation Extension Acts of May 8 and June 30, 1914, the University of Georgia College of Agricultural and Environmental Sciences, and the U.S. Department of Agriculture cooperating.

J. Scott Angle, Dean and Director