



The University of Georgia

Center for Agribusiness and Economic Development

College of Agricultural and Environmental Sciences

Economic Impact of Blueberry Production in Georgia

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Executive Summary

Production of blueberries in Georgia is concentrated in southeastern counties according to the 2005 Georgia Farm Gate Value Report compiled by the Center of Agribusiness and Economic Development. County agents in the state reported a total of 9,042 acres with a value of \$59.4 million. Production leads to a total economic impact of \$97.4 million, or \$10,771 per acre. Output leads to a total of 1,367 full-time and part-time jobs in Georgia with earnings and benefits that total \$36.9 million, or 26,967 per job. Each acre of Georgia blueberry production leads to \$4,077 of labor income for employees and proprietors. State tax revenues generated by blueberry production are \$2.9 million and local tax revenues are \$1.9 million for total taxes of \$4.8 million.

Economic Impact of Blueberry Production in Georgia

Production of blueberries in Georgia is concentrated in southeastern counties according to the 2005 Georgia Farm Gate Value Report compiled by the Center of Agribusiness and Economic Development. County agents in the state reported a total of 9,042 acres with a value of \$59.4 million. Value of production includes all fruit produced and differs from cash receipts which consist only of fruit harvested and marketed for sales. Input requirements of blueberry 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.

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 Blueberry Production

The direct output of blueberry production is \$59.4 million in Table 1 and is equivalent to the farm gate value. Indirect impacts of \$38.0 million lead to a total output impact of \$97.4 million in the Georgia economy. Direct output creates \$24.7 million in wages and benefits for employees and proprietary income for farmers. Indirect income due to production of \$12.2 million leads to total income of \$36.9 million. Direct income is associated with 998 jobs for employees and proprietors, and indirect income is associated with 368 jobs. Total income of \$36.9 million for 1,367 jobs averages \$26,967 per job. Total jobs include full-time and part-time jobs.

Table 1. Blueberry Production: Annual GA Economic Impacts

	Direct Impact	Indirect Impact	Total Impact
Output (\$)	59,387,912	38,002,181	97,390,093
Labor Income (\$)	24,667,432	12,196,647	36,864,079
Employment	998	368	1,367
State Taxes (\$)			2,898,359
Local Taxes (\$)			1,871,180
Sum of Taxes (\$)			4,769,539

Output and labor income from associated jobs generates tax revenues for state and local governments in Georgia. Total tax revenues in Georgia from blueberry production are \$4.8 million. \$2.9 million goes to the state government and \$1.9 million goes to local governments throughout the state.

Economic impacts from blueberry production are distributed throughout industrial sectors of the Georgia economy. Table 2 shows the economic impacts for major industrial sectors. Agriculture has the greatest impacts for output, labor, and employment. A combination of general services with an output of \$10.6 million, as well as financial, insurance and real estate services has the second greatest impacts due to blueberry production. Impacts in the trade sector include marketing of blueberries and trade associated with labor income earnings.

Table 2. Blueberry Production: Annual Economic Impacts to Major Sectors, GA

Sector	Output (\$)	Labor	
		Income (\$)	Employment
Agriculture	62,488,524	26,473,162	1,086
Mining & Construction	243,004	100,540	2
Utilities	1,067,880	217,996	1
Manufacturing	5,902,728	757,841	15
Transportation, Warehousing	1,533,902	662,078	15
Trade	6,081,115	2,353,953	64
Finance, Insurance, & Real Estate	5,786,686	1,487,555	33
Services	10,627,758	4,654,482	146
Government and non-NAICS	3,658,496	156,473	3
Total	97,390,093	36,864,079	1,367

Estimating impacts for expansion of blueberry production is facilitated by determining the impacts in Table 1 on a per acre basis. Table 3 is derived from dividing Table 1 impacts by the Farm Gate Report for acreage of 9,042 blueberry acres. Direct output impact of \$6,568 per acre is equal to the farm gate revenue per acre, and direct labor income of \$2,728 per acre indicates that employees and farmers earn this amount of gross income and benefits for each blueberry acre in production. A direct employment factor of 0.1104 is interpreted as 100 acres of blueberries leads to 11 jobs at the farm level. Similar interpretations are associated with indirect and total impacts in Table 3. One acre of blueberries leads to state tax revenues of \$321 per acre and local tax revenues of \$207 per acre for governments throughout the state.

Table 3. Blueberry Production: Annual GA Economic Impacts per Acre

	Direct Impact	Indirect Impact	Total Impact
Output (\$)	6,568	4,203	10,771
Labor Income (\$)	2,728	1,349	4,077
Employment	0.1104	0.0407	0.1511
State Taxes (\$)			321
Local Taxes (\$)			207
Sum of Taxes (\$)			527

Summary

Blueberry production on 9,042 acres in Georgia had a farm gate value of \$59.4 million in 2005. Production leads to a total economic impact of \$97.4 million, or \$10,771 per acre. Output leads to a total of 1,367 full-time and part-time jobs in Georgia with earnings and benefits that total \$36.9 million, or 26,967 per job. Each acre of Georgia blueberry production leads to \$4,077 of

labor income for employees and proprietors. State and local taxes generated due to blueberry production are \$4.8 million.

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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