



The University of Georgia

Center for Agribusiness and Economic Development

College of Agricultural and Environmental Sciences

Economic Importance of Cotton Production to Georgia County Economies

**Prepared by:
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Executive Summary

Cotton is Georgia's largest crop commodity in terms of acreage planted and production value. The 2006 Farm Gate value of cotton production was \$745 million. Cotton production had a \$1.4 billion economic output impact in the 2006 state economy and led to 11,700 jobs. Cotton production leads to sales of inputs and agricultural services, as well as purchases that are due to income earned directly in production and in related industries. Cotton production composes more than 1% of the total economy in 46 Georgia counties. Of these 46 counties, total economic output impact from cotton is greater than 3% of the economy in 21 counties, greater than 7% in 10 counties, and greater than 10% in 3 counties.

Economic Importance of Cotton Production to Georgia County Economies

Cotton is Georgia's largest crop commodity in terms of acreage planted and production value. The 2006 Farm Gate value of cotton production was \$745 million. There were 1.4 million acres harvested in 91 Georgia counties. Cotton production leads to sales of inputs and agricultural services, as well as purchases that are due to income earned directly in production and in related industries. Research at the Center for Agribusiness and Economic Development at the University of Georgia indicates that cotton production had a \$1.4 billion economic output impact in the 2006 state economy and led to 11,700 jobs. Changes in the Georgia cotton industry have economic impacts throughout the state economy.

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. An input-output model calculates how a change in the cotton 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 cotton production to the total economy. Direct effects represent the initial impact on the economy of cotton production. Indirect effects are changes in other industries caused by direct effects of production and include changes in household spending due to changes in economic activity. 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. Output impacts are a measure of economic activity that results from cotton production expenditures in a specific industrial sector. Output is equivalent to sales, and the output multiplier indicates how initial economic activity in one sector leads to sales in other sectors. 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. Demand for inputs not satisfied within the impact area represent leakages that have no indirect impacts in the 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.

Economic Output Impacts and Cotton Production in County Economies

Table 1 shows the direct impact and total impact of cotton production in each of the 91 Georgia counties having cotton acreage in 2006. Indirect impact in each county is equal to the difference in total impact and direct impact. The output multiplier is equal to the ratio of total impact to direct impact. Output multipliers increase as counties have expanded capacity to provide cotton inputs from within a county economy. Multipliers decrease as counties have diminished capacity to provide inputs from within a county, and inputs that are purchased outside of a county are referred to leakages.

Table 1. Economic Impacts of Cotton Production, Economy Output, and Total Cotton Impact as Percent of County Economy, 2006

County	<i>Dollars</i>			Total Impact as a Percent of Economy Output	Rank ¹ of Percent
	Direct Impact	Total Impact	Economy Output		
Appling	14,513,033	19,718,673	1,356,786,000	1.45	41
Atkinson	5,615,605	6,414,089	360,575,000	1.78	36
Bacon	7,880,275	10,061,876	628,230,000	1.60	39
* Baker	19,747,893	26,198,982	135,185,000	19.38	1
* Barrow	5,915	7,277	2,315,758,000	0.00	91
* Bartow	797,120	978,227	7,361,734,000	0.01	84
Ben hill	6,017,464	7,102,744	1,286,620,000	0.55	52
Berrien	17,225,922	18,311,202	1,004,891,000	1.82	33
Bleckley	11,657,358	14,135,409	651,471,000	2.17	30
* Brooks	29,828,465	40,869,001	524,772,000	7.79	8
* Bryan	336,498	411,530	844,663,000	0.05	79
Bulloch	27,521,114	37,028,005	2,715,013,000	1.36	42
* Burke	22,169,615	30,584,576	1,339,706,000	2.28	28
Calhoun	14,366,882	18,468,078	185,144,000	9.97	4
Candler	10,549,816	14,982,591	388,718,000	3.85	17
Chattooga	195,188	223,169	1,387,121,000	0.02	83
Clay	7,392,358	8,397,126	194,986,000	4.31	16
Clinch	104,137	116,193	581,968,000	0.02	82
Coffee	17,415,581	24,468,933	2,345,680,000	1.04	46
Colquitt	38,336,190	53,386,746	2,047,577,000	2.61	24
Cook	13,674,941	21,207,712	846,449,000	2.51	26
* Crawford	607,710	745,079	238,023,000	0.31	59
Crisp	23,788,955	37,572,046	1,226,242,000	3.06	21
Decatur	24,897,311	31,119,978	1,528,285,000	2.04	31
Dodge	9,638,733	12,541,706	708,581,000	1.77	37
Dooley	50,027,839	65,225,228	676,560,000	9.64	6
* Dougherty	3,581,695	4,645,983	7,612,327,000	0.06	76
Early	38,235,221	54,816,936	1,089,584,000	5.03	12
* Effingham	2,218,155	2,558,303	1,840,325,000	0.14	67
Elbert	1,134,829	1,375,661	951,645,000	0.14	66
Emanuel	11,250,233	14,348,914	1,097,387,000	1.31	43
Evans	3,485,382	3,942,284	704,446,000	0.56	51
* Floyd	1,543,928	1,939,266	7,222,836,000	0.03	81
Glascocock	344,283	346,726	86,869,000	0.40	56
Grady	17,093,552	23,144,764	925,067,000	2.50	27
Hart	527,372	610,969	1,040,786,000	0.06	77
* Houston	7,712,365	9,599,776	7,209,313,000	0.13	68
Irwin	18,236,949	25,157,535	515,800,000	4.88	13
Jeff Davis	13,330,405	16,099,357	635,694,000	2.53	25
Jefferson	10,388,131	13,679,514	848,986,000	1.61	38
Jenkins	8,769,200	10,045,261	368,517,000	2.73	23
Johnson	922,607	1,043,207	269,637,000	0.39	57
* Lamar	1,387,339	1,579,575	566,062,000	0.28	61
* Lanier	4,804,737	5,565,008	165,075,000	3.37	20
Laurens	4,310,419	5,187,581	2,760,218,000	0.19	64
* Lee	15,295,832	19,555,389	570,217,000	3.43	19
* Liberty	68,881	80,070	3,631,368,000	0.00	89
* Long	99,413	115,259	116,284,000	0.10	71
* Lowndes	6,819,466	10,181,204	6,384,995,000	0.16	65
Macon	9,289,140	10,264,061	664,107,000	1.55	40

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County	<i>Dollars</i>			Total Impact as a Percent of Economy Output	Rank ¹ of Percent
	Direct Impact	Total Impact	Economy Output		
* Madison	21,632	25,399	771,059,000	0.00	88
* Marion	138,873	176,761	281,950,000	0.06	75
Miller	32,053,288	41,711,345	261,939,000	15.92	2
Mitchell	42,689,599	64,369,331	1,454,182,000	4.43	15
Montgomery	2,497,954	2,777,790	281,312,000	0.99	48
Morgan	594,154	834,160	1,013,805,000	0.08	72
* Oconee	255,237	303,492	1,116,700,000	0.03	80
Peach	2,982,080	3,726,739	1,157,951,000	0.32	58
Pierce	5,323,840	6,342,458	548,962,000	1.16	44
Polk	954,102	1,123,673	1,923,078,000	0.06	78
Pulaski	22,658,904	31,602,983	432,429,000	7.31	10
Quitman	148,317	157,619	66,567,000	0.24	62
Randolph	12,567,471	14,661,656	322,710,000	4.54	14
* Richmond	129,870	164,962	14,992,309,000	0.00	90
Schley	677,347	679,993	353,874,000	0.19	63
Screven	15,154,376	16,732,293	599,700,000	2.79	22
Seminole	26,063,008	37,280,648	332,158,000	11.22	3
Stewart	2,183,328	2,845,774	126,041,000	2.26	29
Sumter	23,123,294	32,398,529	1,798,894,000	1.80	35
Tattnall	5,667,736	7,583,783	715,232,000	1.06	45
Taylor	2,308,192	2,680,810	270,937,000	0.99	47
Telfair	4,171,927	4,728,936	962,746,000	0.49	54
* Terrell	19,477,690	23,014,943	303,163,000	7.59	9
Thomas	22,863,238	26,678,408	2,964,947,000	0.90	50
Tift	15,507,504	23,802,017	2,583,487,000	0.92	49
Toombs	3,322,339	4,538,934	1,457,732,000	0.31	60
Treutlen	1,985,123	2,308,451	127,815,000	1.81	34
Turner	16,213,578	19,018,210	309,446,000	6.15	11
* Twiggs	3,547,967	3,736,511	184,651,000	2.02	32
Upson	99,989	113,075	874,599,000	0.01	85
* Walton	170,059	197,866	2,527,115,000	0.01	86
Ware	963,740	1,254,720	1,878,011,000	0.07	74
Warren	172,141	209,933	177,034,000	0.12	69
Washington	903,639	1,125,923	1,101,241,000	0.10	70
Wayne	4,353,506	5,032,790	1,147,256,000	0.44	55
Webster	4,091,208	4,571,802	131,539,000	3.48	18
Wheeler	928,949	1,009,156	199,437,000	0.51	53
Wilcox	18,675,045	21,624,354	219,014,000	9.87	5
Wilkes	29,339	33,473	518,674,000	0.01	87
Wilkinson	390,761	411,009	595,604,000	0.07	73
* Worth	33,838,508	44,642,042	523,320,000	8.53	7
Total	905,281,510	1,192,612,736	127,766,903,000	0.93	
Avg County	9,945,718	13,103,204	1,404,031,901	2.33	

* Metropolitan County

¹Rank: 1 = highest (range, 1-91)

Dooly County has the greatest direct impact of \$50.0 million. The total impact is \$65.2 million which indicates the indirect impact is \$15.2 million. The output multiplier for Dooly County cotton production is 1.30. The total output impact of cotton production is 9.64% of the Dooly County economy. Dooly County ranks first in total output impact value, and it is sixth in terms of cotton output impact as percentage of the county economy. Baker County cotton production total impact ranks first as percentage of the county economy with 19.38%. Direct output impact is \$19.7 million and total impact is \$26.2 million. The output multiplier is 1.33.

Table 2 ranks counties by percentage of total economies that is due to cotton production. Cotton production composes more than 1% of the total economy in 46 Georgia counties. Of these 46 counties, total economic output impact from cotton is greater than 3% of the economy in 21 counties, greater than 7% in 10 counties, and greater than 10% in 3 counties. Baker, Miller, and Seminole Counties have the highest rankings for cotton output impact as percentage of the economy. Calhoun, Wilcox, Dooly, Worth, Brooks, Terrell, and Pulaski Counties, each with more than 7%, complete the top ten rankings as percentage of the total economy.

Figure 1 shows cotton producing counties with more than 1% of the total economy deriving from cotton production. There is a belt of cotton production extending from the southwestern corner of Georgia to central eastern counties. Counties with the greatest dependence on cotton production are in the southwest. Economic impacts in the cotton industry have the greatest effects on county economies with the most dependence on cotton production. Thus, public policy decisions that affect the cotton industry have consequences that are concentrated in these counties.

Table 3 shows the distribution of Georgia employment that is due to cotton production. Most of the jobs are in the agricultural sector and include farmers, farm employees, ginning operations, as well as other services related to production and marketing. The service sector has the second most jobs and this includes business services related to production, as well as services that are due to wage earners spending their income. Trade is composed mostly of retail sales and is indicative of the personal earnings that are due to cotton production.

Summary

Changes in the Georgia cotton industry have economic impacts throughout the state economy. Cotton production leads to sales of inputs and agricultural services, as well as purchases that are due to income earned directly in production and in related industries. Public policy decisions that affect the cotton industry have consequences that are concentrated in county economies with the most dependence on cotton production. Research at the Center for Agribusiness and Economic Development at the University of Georgia indicates that cotton production had a \$1.4 billion economic output impact in the 2006 state economy and led to 11,700 jobs. Cotton production composes more than 1% of the total economy in 46 Georgia counties. Figure 1 shows that of these 46 counties, total economic output impact from cotton is greater than 3% of the economy in 21 counties, greater than 7% in 10 counties, and greater than 10% in 3 counties.

Table 2. Economic Impacts of Cotton Production, Economy Output, and Total Cotton Impact as Percent of County Economy, 2006 (ranked by percent)

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Calhoun	14,366,882	18,468,078	185,144,000	9.97	4
Wilcox	18,675,045	21,624,354	219,014,000	9.87	5
Dooly	50,027,839	65,225,228	676,560,000	9.64	6
* Worth	33,838,508	44,642,042	523,320,000	8.53	7
* Brooks	29,828,465	40,869,001	524,772,000	7.79	8
* Terrell	19,477,690	23,014,943	303,163,000	7.59	9
Pulaski	22,658,904	31,602,983	432,429,000	7.31	10
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* Marion	138,873	176,761	281,950,000	0.06	75
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* Walton	170,059	197,866	2,527,115,000	0.01	86
Wilkes	29,339	33,473	518,674,000	0.01	87
* Madison	21,632	25,399	771,059,000	0.00	88
* Liberty	68,881	80,070	3,631,368,000	0.00	89
* Richmond	129,870	164,962	14,992,309,000	0.00	90
* Barrow	5,915	7,277	2,315,758,000	0.00	91
Total	905,281,510	1,192,612,736	127,766,903,000	0.93	
Avg County	9,945,718	13,103,204	1,404,031,901	2.33	

* Metropolitan County

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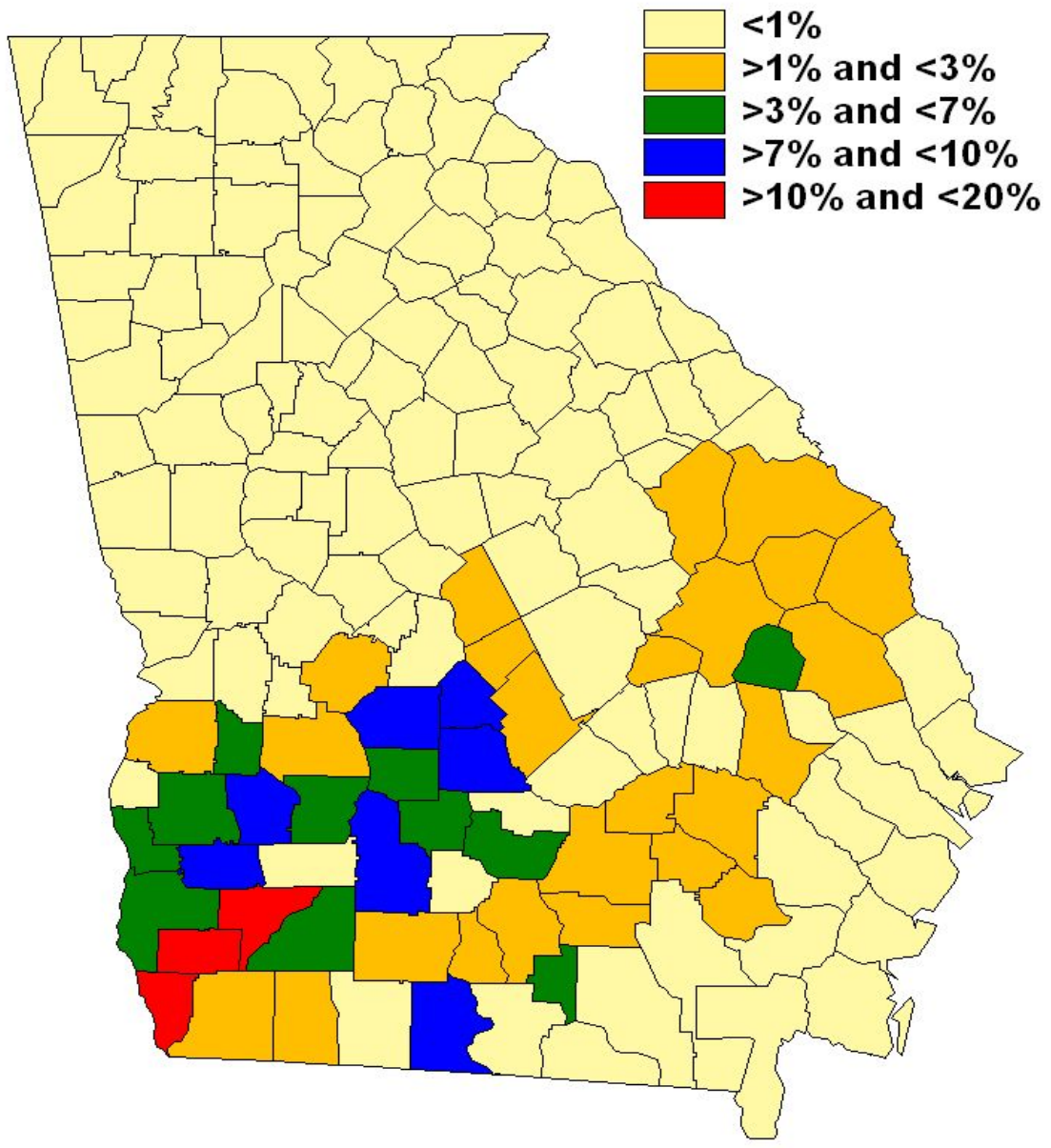


Figure 1. Economic Impact of Cotton Production as Percent of Total County Economy, 2006

Table 3. Cotton Production: Employment Impacts to Major Sectors, Georgia, 2006

Sector	Employment
Agriculture	8,664
Mining and Construction	21
Utilities	38
Manufacturing	131
Transportation & Warehousing	113
Trade	560
Finance, Insurance & Real Estate	369
Services	1,773
Government & Non NAIC's	64
Total	11,734

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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J. Scott Angle, Dean and Director