Understanding the Interaction Between Cotton Ginning and Rural Economics in the Mid-South Under a Changing Cotton Environment

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Community Level Economic Impacts and Outlook for Cotton Ginning from Structural Change in the Cotton Industry

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Abstract

This study estimates economic impact of ginning on Mid-South states applying input-output analysis to gin cost data. Results indicated that cotton ginning activity in the Mid-South generated over $258 million in direct output effects during 2007 and $438 million in total effects with a multiplier of 2.39.

Introduction

With sizeable acreage reductions in cotton production in 2007 and 2008, there are concerns growing from producers and others in the cotton supply chain about the long-term sustainability of the industry. Cotton gin numbers continue to decline, especially in the Mid-South, alongside the reduced cotton production (National Agricultural Statistics Service). Producers are concerned that since there is no economically valuable next best use for portions of the supply chain infrastructure (e.g. cotton gins), gin closures will accelerate and eliminate opportunities for producers in future years to plant cotton when market conditions improve for the commodity.

The focus of our research is to measure the economic impact that cotton gins have on the economy of the Mid-South region of the United States. In particular, we focus on the economic impacts that cotton gins have through their spending on material and service inputs as well as household spending that occurs through the incomes paid to full-time and seasonal labor in addition to profits earned by gin owners. The paper will be organized as follows. First, a literature review on the cotton ginning economics research will be presented. Second, the methodology used in data collection of gin costs is presented. Third, descriptive statistics from

the gin cost survey are reviewed. Fourth, economic impacts using region-wide and state-specific input-output models are discussed. Finally in the conclusion section, discussions for future research are presented.

Literature Review

The cotton ginning industry has undergone tremendous change during the course of its history. A variety of economic studies have been conducted to explain and/or predict changes within the industry. Studies have described the size and structure of the industry in various states and/or regions. Other studies have focused determining the optimum size and location of gins within a region. Still other studies have focused on the economic importance of gins to the economy of a state or region.

A study by Fuller and Washburn in 1974 utilized a Stollsteimer plant location model to determine the optimal plant size and location for cotton gins in the Rio Grande Valley of New Mexico. This study found that considerable savings could be realized by changing the number, size, and location of gins within the study area. Since the study was a static, partial equilibrium analysis, the impact of these changes was not estimated.

Hudson, Fondren, Lamkin and Stennis conducted a study to evaluate the optimum spatial organization for the cotton industry in the Mississippi Delta area of Louisiana. This study utilized linear programming to estimate the least-cost spatial flows for cotton in Northeast Louisiana. The study also estimated the least-cost spatial organization for gins and warehouses in the Mississippi Delta area of Louisiana. Results of the study indicated that the least-cost solutions contained fewer gins and warehouses than existed at the time of the study.

Several other studies have examined the issue of plant size and location in the cotton ginning and warehousing industry. Some of these studies include: Cleveland; Hudson and Jesse;

Capstick, Stennis, Lampkin, and Fondren; Cleveland and Blakely; McPeek; and Misra, McPeek and Segarra. Results from these studies generally indicate that efficiency in the industry could be improved with fewer, larger gins and warehouses. Trends within the industry since these studies have certainly verified the findings.

More recently, a study by Boyd and Hudson evaluated the impact of production variability on the optimal organization of the cotton industry in Mississippi. This study used non-linear programming models to determine the optimal organization for average cotton production levels and how industry organization changed with production variability. Results of this study were similar to previous studies in that it found that the industry would be more efficient with fewer gins. One difference between this study and earlier studies was that the optimal solution did include some smaller gins. An increase in production variability had little impact on the optimal organization for average production.

A study by Robinson and Mancill evaluated the impact of reduced cotton acreage on the sustainability of cotton gins. This study found that gins were operating at sub-optimal volume levels. However, a significant reduction in cotton acreage would be required to force gins out of business in the short run. Reductions in volume ginned would increase per bale costs of ginning. These costs would presumably be passed on to cotton producers and thereby increase their costs associated with cotton production.

The economic impact of ginning was the focus of a study by Fannin, Paxton, and Barreca. This study utilized an input-output framework within IMPLAN software to evaluate the impact on the economy of a state of switching acreage from cotton to corn. Expenditure differences as well as income differences between the two crops were considered. Only the acres switched were considered in the analysis. The study found that while the expenditures associated

with cotton production and ginning generated a significant impact on the economy, the income generated from corn production and handling also generated a significant impact. Since the reduction in cotton acreage was a negative impact and the income from corn was a positive impact, the two effects were offsetting.

Methodology

To measure the economic impact of the cotton ginning, one has to identify the scenario under which the impact is to be measured. One approach to identifying the impact scenario is to ask the following question: what would happen if the cotton ginning industry did not exist?

Cotton ginning represents a necessary infrastructure element in the cotton supply chain. At one extreme, one could argue if we had no gins, there would be no capacity to grow cotton and therefore the losses to the economy would be the sum of losses from cotton production, ginning, warehousing and marketing. At the other extreme, we could simply argue that the physical, human and financial resources would be re-allocated to their next best use if cotton gins no longer existed. We attempted to address this issue in Fannin, Paxton and Barreca for Louisiana. There, we summed the impacts of lost cotton acreage and the resulting reduction in bales ginned against the impacts gained from increased corn acreage planted and the resulting bushels processed by elevators. In that study, the net effects were almost neglible. However, those effects were not distributed evenly. That is, most of the gains came from proprietary income of farmers at the expense of reduced usage of hired farm labor, contract labor, input supply purchases, and ginning revenue.

The focus of the cotton ginning sector in that study was very narrow – only on Lousisiana assuming 2004 ginning cost per bale data for the 2006 ginning season.The Southern Cotton Ginner's Association after reviewing some of our initial results from this study approached us to

evaluate the entire Mid-South ginning industry. Hence, in this study, the focus is broader for the ginning industry. In particular, we focus our impact analysis on five southern states – Arkansas, Louisiana, Missouri, Mississippi, and Tennessee. However, we keep our focus strictly on "ginning" impacts, those economic impacts direclty associated with cotton ginning. They are primarily identified in three main areas – impacts from material and service input spending by the ginning industry, impacts from full-time and seasonal labor income spending, and proprietary income spending earned by the gin ownership.

To assist in measuring the gin impact, we worked with the Southern Cotton Ginning Association in the development of its tri-annual ginning cost survey. We embellished on the existing survey questions and added a second page of questions. Specifically, we asked questions concerning the location of specific variable input ginning costs. We asked what percentage of total spending for each of these inputs was in-county, in-state, and out-of-state. Second we asked a set of questions regarding ownership structure to better understand the relationship of ownership to the local communities and to local cotton farmers. We finally asked additional questions concerning affiliated activities and plans for the future. A total of 61 surveys were returned for a response rate of approximately 25%. This resulted in a sampling error rate of approximately 10% given the Mid-South gin population (Dillman). A copy of the survey is provided in the Appendix.

Data were coded by both investigators as well as Agricultural Research Service employees for consistency in tabulation.[1] Cost data were multiplied by average percent of in-state purchases to obtain total cost per bale for a particular category spent in a given state. Since over 95% of gins ginned for seed, proprietary income for gins was based on revenue from a

[1] Descriptive statistics such as ginning costs per bale differ between statistics reported by long-running panel data series for the entire beltwide region as Valco et al. These differences lie primarily in different procedures using to eliminate outlying observations and the differing purposes for the dataset.

market average price of cottonseed for 2007 and the first three quarters of 2008, and a mote sales price from Oliver and Paris. Gross revenue was calculated on a per bale basis and subtracted from total per bale costs to estimate net revenue per bale. Per bale estimates were calculated for both Mid-South wide as well as state-specific per bale cost and returns data.

The per bale costs and income data were then multiplied by the total number of bales ginned in the Mid-South and respective states to generate what we called total final demand. This final demand was used as the major input in an input-output model called IMPLAN™ (Minnesota IMPLAN Group). In this input-output model, the local final demand results in the creation of additional demand for material and service inputs as well as labor demand in order to replenish the inventories of vendors from whom the cotton ginners are purchasing inputs. The additional demand also includes additional spending created when employees are hired to fill demand in grocery stores, clothing stores, car dealerships, etc that are created by the spending of cotton gin employees as well as by the income spent from the owners of the gin. This additional spending is known as the indirect effect. The sum of the direct effect (initial local effect spending) and indirect effect spending results in the total output effect.

In addition to direct, indirect, and total output effects, we also calculate similar value-added effects and labor income effects. Value-added represents the difference between the value of output sold and material and service inputs purchased. In particular, it includes such items as employee compensation, corporate and non-corporate proprietor earnings, other property-type income and indirect business taxes (sales taxes, excise taxes, etc). Labor income represents a subset of value-added that includes employee compensation and non-corporate proprietor income.

In the following section we present descriptive statistics on ginning costs. This includes both Mid-South wide as well as state-specific costs. We then present Mid-South ginning impacts followed by state-specific impacts.

Impacts

Descriptive Statistics

Key descriptive statistics including production and ginning costs are presented in Table 1. We provide 2007 and 2008 ginned bales by state to give a backdrop for the relative size of each state's production against their gin costs. If we look first at the ginning cost data for the Mid-South, we see that total cost is estimated to be just over $39 per bale. Variable non-labor costs were the largest aggregate cost category with just under $19 spent per bale. The largest individual cost categories included repair and maintenance, module hauling and electricity. Two of these input categories (module hauling and electricity) were measurably influenced by the increasing energy prices – particularly diesel for module hauling and natural gas for electricity. In percentage terms, non-labor variable inputs were approximately 49% of all gin costs.

For the Mid-South as a whole, full-time labor costs exceeded seasonal labor costs. Full-time labor costs were $6.51 per bale compared to $5.88 per bale for seasonal labor. Combined, labor represented 32% of total gin costs.

Comparing state averages, the highest cost state is Tennessee with total costs just over $45 per bale. The low costs state appears to be Arkansas with a per bale cost of almost $36.

Table 1. Cotton Production and Gin Costs Statistics, 2007.

State	AR	LA	MO	MS	TN	Mid-South
Observations	19	11	10	12	8	60
Bales Ginned Per Sampled Gin	30,142.0	16,787.0	27,858.0	20,034.0	21,644.0	24,353.0
Bales Ginned 07 (All Gins)	1,806,050	695,800	783,100	1,270,050	586,400	5,141,400
Bales Ginned 08 (All Gins	1,226,650	279,500	698,600	654,350	520,950	3,380,050
Gin Costs	**$/bale**	**$/bale**	**$/bale**	**$/bale**	**$/bale**	**$/bale**
Electricity	3.26	3.84	2.25	4.54	3.97	3.55
Dryer Fuel	1.48	1.61	1.52	1.74	2.28	1.67
Bags/Ties	4.06	4.47	3.89	4.07	4.26	4.13
Repair & Maintenance	4.60	5.25	4.37	3.58	4.32	4.42
Module	4.06	3.52	4.72	4.61	4.98	4.32
Tarp	0.76	0.66	1.03	0.49	1.62	0.9
Variable Non-Labor Costs	*18.22*	*19.35*	*17.78*	*19.03*	*21.43*	*18.99*
Seasonal Labor	5.19	6.53	5.43	5.90	7.45	5.88
Total Variable Costs	*23.41*	*25.88*	*23.21*	*24.93*	*28.88*	*24.87*
Insurance	2.42	2.42	2.42	2.42	2.42	2.42
Office	0.35	0.35	0.35	0.35	0.35	0.35
Capital Improvements	3.14	4.91	5.55	3.36	8.56	4.87
Total Fixed Costs	6.41	6.73	7.81	5.97	5.42	6.51
Total Costs	35.73	40.29	39.34	37.03	45.63	39.02

Note: Insurance and office costs were not included in the ginning costs survey. Estimates were applied from Oliver and Paris. Bales ginned in 2007 and 2008 include all gins in a respective state, not the sampled gins only.

Tennessee's higher total costs are primarily driven by higher capital improvement costs and seasonal labor costs. Arkansas's lower costs can be attributed to lower energy and seasonal labor costs.[2]

[2] When comparing state averages, it should be noted that smaller sample sizes can create greater sampling error. Consequently, a state with a small number of responses (e.g. Tennessee), when an increase in one response (from 8 to 9) occurs, it can impact the state average much greater than an increase of one response for a state with a larger number of responses (e.g. Arkansas (from 20 to 21)).

Total Economic Impacts

In Table 2, aggregate economic impacts are presented for the cotton ginning sector in the Mid-South. Non-labor impacts include all non-labor material and service inputs including contract labor. Labor and proprietor income impacts include impacts from seasonal labor, full-time labor, and net revenue returning to gin ownership. In the impact analysis, we assumed two thirds of seasonal labor was migrant labor and that 50% of that labor income was spent according to spending patterns of households earning $10,000 to $15,000 per year. One-third of seasonal labor was assumed to be in-state residents and 100% of their incomes were assumed to be spent according to patterns of $10,000 - $15,000 per year households. We assumed that 100% of full-time labor were in-state residents and assumed they spent according to household spending patterns of $25,000 - $35,000 households. Since over 95% of Mid-South cotton gin ownership was from in-state residents, we assumed that 100% of proprietary income earned from gins went to in-state residents with household spending patterns of households earning $75,000 - $100,000 per year.

Table 2. Aggregate Economic Impacts by Selected Category, Mid-South Cotton Ginning, 2007.

Category	Direct ($)	Total ($)	Spending Multiplier
Output			
Non-Labor	112,181,887	189,761,207	1.69
Labor & Proprietor	146,177,556	249,160,842	1.70
Total	258,359,443	438,922,049	1.70
Value-Added			
Non-Labor	55,779,657	95,854,499	1.72
Labor & Proprietor	77,442,607	131,469,308	1.70
Total	133,222,264	227,323,807	
Labor Income			
Non-Labor	33,407,834	57,399,293	1.72
Labor & Proprietor	42,682,902	73,795,907	1.73

Spending over all categories resulted in over $258 million of Mid-South direct economic impact. When including the additional spin-off, or multiplier effect spending, the total economic output effects exceeded $438 million. Over $249 million, or 57% of the total output effects were generated by employee and gin ownership spending. Total value added effects exceeded $227 million and labor income effects totaled almost $74 million from initial spending by gins, their employees, and gin ownership.

As can be seen in Table 2, spending multipliers ranged in a very narrow window from 1.69 to 1.73. These multipliers are specific to the category (output, value added, or labor income), region (Mid-South) and year (2007). For example, the output spending multiplier is interpreted as follows: for a one dollar increase cotton gin-related spending that occurs within the five Mid-South states, the total change in output across all sectors of the Mid-South economy is $1.67. This includes the original $1 in spending by cotton gins to locations within the five state region plus an additional $0.67 of local spending in all other sectors of the economy. It should be noted that the local spending multiplier is not the entire cotton supply chain multiplier. A discussion of the cotton supply chain multiplier will be discussed in the conclusion section. Further, the local spending multiplier does not represent the multiplier for total spending.

The total cotton ginning output multiplier for the Mid-South is $2.39. It is interpreted for a one dollar increase in demand for cotton ginning services, there is a total increase in output across all sectors of the five-state Mid-South economy of $2.39. The first dollar of output goes to meet the initial cotton ginning service demand. The remaining $1.39 is the result of additional spending across all other sectors of the Mid-South economy. It should be noted that the difference between the local spending multiplier (1.70) and the additional spending effects in the total cotton ginning multiplier (1.39) represents the average lost multiplier effects from out-of-

region spending of gin inputs. If one has no information to transform total gin spending into local (state or region) spending, then one can use the additional spending effects from the total multiplier as an approximation for estimating total effects from a gin's input spending.

In Table 3, we disaggregate the output effects on the Mid-South by detailed economic sector. In terms of output, the sector that is most impacted by the cotton ginning industry is the manufacturing sector. Direct effects exceed $153 million of the total $258 million, or 59%. This is not surprising given the amount of manufactured goods that are purchased in both capital improvements and repair and maintenance of gins. The next largest category is transportation and warehousing with just over $30 million, or 11.62% of total direct output effects. This number is measurably large due to the amount of transportation costs of shipping manufactured goods purchased by gins either direct to the gin or to wholesale and retail outlets as well as transportation costs incurred by employee and gin owner households spending their disposable incomes. We see similar relationships occurring in total output effects as well as value added and labor income effects.

State-Level Effects

In addition to the Mid-South wide impact analysis, we estimated impacts on output, value added and labor income for each of the representative Mid-South states. Output, value added and labor income effects for each of the five states are presented in Table 4 through Table 6. Sector – specific effects by detailed category are available on request from the authors.

When we evaluate the state-specific effects, the first finding that is most obvious is the state with the largest impacts is also the state with the greatest amount of ginned bales, Arkansas. This occurs not just in direct output effects, but also in the total effects as well as value added effects. The second major finding is that the local spending multiplier, calculated as the total

Table 3. Detailed Economic Impacts by Detailed Industry Sector, Mid-South Cotton Ginning, 2007.

Sector	Output ($)		Value Added ($)		Labor Income ($)	
	Direct	Total	Direct	Total	Direct	Total
Ag, Forestry, Fish & Hunting	538,859	3,240,097	269,264	1,162,963	123,548	433,108
Mining	430,518	4,641,991	221,128	2,603,874	117,224	1,177,628
Utilities	21,091,894	24,544,747	12,897,868	15,021,355	3,818,939	4,446,667
Construction	11,946,895	16,101,016	5,436,730	7,296,233	5,177,814	6,649,730
Manufacturing	153,552,104	287,266,104	78,259,988	147,075,400	39,077,312	76,461,208
Wholesale Trade	227,689	886,051	104,337	406,029	65,246	253,905
Transportation & Warehousing	30,182,212	42,950,718	18,247,352	26,017,782	15,773,401	22,404,690
Retail Trade	4,911,707	8,007,419	2,934,912	4,081,279	1,816,362	3,005,435
Information	20,700,440	30,831,827	10,057,054	14,904,992	6,913,772	10,220,716
Finance & Insurance	4,721,926	8,632,233	2,941,329	5,460,667	1,899,346	4,311,008
Real Estate & Rental	3,568,713	5,333,362	1,852,302	2,583,234	1,307,773	1,821,106
Professional-Scientific & tech svcs	0	0	0	0	0	0
Institutions	6,486,486	6,486,486	0	0	0	0
Total	258,359,443	438,922,049	133,222,264	227,323,807	76,090,736	131,195,200

effect divided by the direct effect, varies by state. For example, while the direct output effect for Mississippi is over $56 million, its indirect (or spinoff/multiplier spending) is only $25 million. Missouri, on the other hand, has $20 million less in direct output effects ($36 million), but only $2 million less in indirect effects ($23 million). This difference shows up when we compare the multipliers.

The state spending multiplier for Missouri was 1.65 compared to only a 1.45 spending multiplier for Mississippi. For example, the Missouri multiplier is interpreted for every one dollar increase in spending by Missouri cotton ginning on local inputs within the state, there is a total increase in spending across all sectors of Missouri of $1.65. This includes the $1 of initial

local spending plus an additional $0.65 of additional (spinoff/multiplier) spending in all other sectors of the Missouri economy. Other spending multipliers include 1.50 for Arkansas, 1.52 for Louisiana, and 1.61 for Tennessee.

Table 4. State-Specific Output Effects, Cotton Ginning 2007 (Dollars).

State	Direct	Indirect	Total
Arkansas	85,452,727	42,915,861	128,368,585
Louisiana	32,040,908	16,528,282	48,569,191
Missouri	36,317,367	23,436,428	59,753,794
Mississippi	56,412,007	25,376,068	81,788,078
Tennessee	28,154,422	17,066,409	45,220,831
Mid-South	258,359,443	180,562,614	438,922,049

Table 5. State-Specific Value Added Effects, Cotton Ginning 2007 (Dollars).

State	Direct	Indirect	Total
Arkansas	42,163,088	21,849,004	64,012,090
Louisiana	16,218,495	8,422,326	24,640,822
Missouri	18,635,236	12,659,217	31,294,452
Mississippi	27,788,858	12,578,739	40,367,596
Tennessee	14,819,556	9,396,654	24,216,209

Table 6. State-Specific Labor Income Effects, Cotton Ginning 2007 (Dollars).

State	Direct	Indirect	Total
Arkansas	23,826,215	12,544,124	36,370,388
Louisiana	9,370,368	5,046,835	14,417,203
Missouri	10,635,857	7,370,328	18,006,185
Mississippi	15,033,288	7,379,620	22,412,908
Tennessee	8,534,780	5,540,376	14,075,156

Why might we see the diversity in multipliers across the states? First, some states have in-state suppliers of for a large number of gin input categories. The gin supply industry is concentrated in the Mid-South with a large proportion of their suppliers located around Memphis. This concentration results in an in-state purchase for Tennessee gins thereby increasing the total number of linkages for the Tennessee ginning industry and their multiplier. Likewise, Missouri gins purchase most of their natural gas from an in-state supplier resulting in

increased multipliers. A state such as Mississippi, while having a historically large ginning industry, may have a slightly smaller multiplier because those gins (especially those in the northern third of the state) purchase supplies from some of the same Memphis gin suppliers resulting in a leakage and reduced multiplier for their state. Likewise, Mississippi's multiplier is also dampened by the incomes earned by gin owners being spent on household goods and services in the Memphis area.

The final, and most subtle, characteristic of the state- specific effects is the comparison between the Mid-South effects and the state-specific effects. For example, when we sum the state-specific total output effects, we obtain a value of $364 million. This value is only 83% of the $439 million in Mid-South wide effects. This discrepancy is a function of the differences in how the Mid-South wide and state-specific models estimate linkages. If we go back to the example Mississippi ginners purchasing gin supplies from Memphis suppliers, this purchase would be considered a leakage for the state of Mississippi. Since state-specific models don't count spending from out-of-state ginners in their respective states, then any out-of-state gin spending is considered a leakage on the whole region and would evaporate entirely from the state-specific totals. As a result, the 17% difference between the state-specific total and the Mid-South wide total output effects is that out-of-state spending to other Mid-South states is considered a linkage, not a leakage, and adds to the overall Mid-South multiplier.

Conclusion

This study estimated the overall economic impacts that cotton ginning has on the five state Mid-South region of Arkansas, Louisiana, Missouri, Mississippi, and Tennessee. This study cooperated with the Southern Cotton Ginning Association and Agricultural Research Service to collect ginning cost data for all Mid-South states. These data combined with specific data on

location of spending and ownership structure to identify local spending demands. These demands were applied to a Mid-South wide and state-specific input-output model to measure total economic impacts.

Cotton Ginning created over $258 million in direct output effects in 2007. When adding the additional indirect effects from this initial spending, the total output effect on the Mid-South region generated almost $439 million. In addition, $227 million in value added and $74 million in labor income was created from Mid-South cotton ginning activities in the same year.

Arkansas's ginning sector generated the most economic activity of the five Mid-South states creating over $128 million in total output. Tennessee had the smallest economic impacts with just over $45 million in total output created. The state with the largest spending multiplier was Missouri at 1.65 and Mississippi had the smallest at 1.45.

There are numerous opportunities for future research that came from this study. First, from a methods standpoint, it will be helpful to perform an inter-regional impact analysis. This would involve estimating economic impacts using an inter-regional model. The approach would allow for feedback effects to occur in output, value added and employment that were lost due to non-local spending. If an inter-regional impact analysis was performed, the impact of Mississippi cotton gins on Mississippi's economy would include the impact of household spending by gin supply employees in Memphis who drive down to Tunica, MS, to gamble at the casinos. Second, bootstrapping techniques could be applied to the state-level final demand scenarios. Such an approach would help provide a range on the impact estimates that would provide a better indication of the effects that just a single point estimate. From an industry perspective, it would be helpful to construct geographic economic margins that identify how far out cotton gins can profitably transport modules from field to gin. Sensitivity analysis can be applied to see how

these economic margins adjust to changes in fuel price and whether or not adjusting gin seed rebates based on distance from gin may be an alternative for administering seed rebates.

Cotton ginning is one of the oldest processing industries in the United States. The sector has adjusted to major changes both upstream and downstream in the cotton supply chain over its history. With continual evaluation and re-adjustment, the sector should continue to be sustainable in the long-term.

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Appendix

Ginning Cost Survey – 2007 Season

Section 1. Capacity and Operation

1. How many bales did you gin in
   2007?_____ 2006?_____

2. How many days did your gin operate in 2007?
   _____days 2006?_____ days

3. How many shifts did you operate in 2007?
   Total_____ Hours/Per Shift_____
   How many shifts did you operate in 2006?
   Total_____ Hours/Per Shift_____

4. List the number, make and model of ginning stands owned by the gin in 2007.
   Make_____ Model_____ # _____
   Make_____ Model_____ # _____

5. What was your average hourly ginning rate in
   2007?_____bales/hr 2006?_____ bales/hr

6. What is your **rated** gin capacity in 2007?
   _____ bales/hr

7. What percentage of cotton ginned in 2007 that was
   Conventional Basket and Module _____%
   On-Board Module Builders _____%
   (*Example: John Deere 7760 and CaseIH 625)*

Section 2. Ginning Input Costs

Please complete the following section as completely as possible. All ginning input costs refer to the 2007 ginning season. In-county refers to purchases of inputs from vendors within the county where the gin is located; % in-state refers to all purchases from in-state vendors less % spent from in-county vendors, and out-of-state refers to to spending with all other vendors. Percent In-county, in-state and out-of-state should sum to 100%.

Cost Category and Physical Units Consumed	$ Total Spent	% In-County	% In-State	% Out-of-State
8. Electricity: Total KWH_____				
9. Drier Fuel: Total gallons LPG _____ or Total ft^3 natural gas _____				
10. Bale packaging material: *(per bale costs)* Bagging & Ties ___ or Ties Only ___				
11. Repairs and Maintenance: *(Do not include capital improvements, capacity increases or system modifications)*				
12. Capital Improvements or Modifications: *Please describe improvements below*				
13. Module Hauling Costs				
14. Tarp Costs Percent Provided by Gin _____% Percent Provided by Farmer _____%				

Section 3. Ginning Labor Costs

Note: For Questions 15 and 16, if these employees spent part of their time on associated businesses such as bale warehousing, farm supplies, etc., please include only your estimate of the part applicable to ginning.

15. What was your total seasonal labor cost in 2007? $_____ How many paid seasonal workers?_____
    (*Do not include labor costs of permanent, full-time employees)*

16. What was the total labor costs of full-time workers employed by the gin in 2007? $_____
    How many paid full-time workers?____ *(Do not include seasonal employment)*

Section 4. Ownership Structure

17. What form of ownership is the cotton gin? (Please check only one)
    a) Sole proprietorship b) Partnership
    c) Corporation/LLC d) Cooperative
    e) Other. Please describe._____

18. What percentage of total ownership is owned by residents
    In-County_____% In-State_____% Out-of-State_____ (Total must sum to 100%)

19. What percentage of total cotton ginned in 2007 was cotton supplied by gin ownership?
    _____%. Percent in 2006_____%

Section 5. Affiliated Activities and Plans for Future

20. What was the longest distance cotton was shipped from field to your gin in 2007?____ 2006?_____

21. Does your operation gin for cottonseed? (Y/N)___ for fee per/lb lint? (Y/N)___ Other? (Y/N)___

22. What related activities did your gin participate in during 2007 to generate additional income?
    (Check all that apply)
    a) ____Bale warehousing
    b) ____Marketing of Gin Trash, Motes and Other Co-Products
    c) ____Other activities. (Please describe)_____

23. Do you expect your gin to be operating in 2008? (Y/N)_____ How many bales do you expect to gin in 2008?_____

24. What percent probability would you place on your gin operating in 2009? _____ %
    3 years? _____% 5 years? _____%

25. What is the most significant long-run change you plan to make with your gin over the next 5 years to maintain survival?

_____

Please indicate the state in which your gin is located. _____ **What is the gin name? (Optional)**

_____ **Person furnishing the information (Optional)**

_____

Please return your questionnaire to: Tim Price, Southern Cotton Ginners Association, 874 Cotton Gin Place, Memphis, TN 38106; or Fax to (901) 947-3103.

We appreciate the time you have taken to complete the survey. Please note that your answers will be kept strictly confidential and statistics will only be reported in gin size/geographic averages. *If you have questions, please contact Tommy Valco, (662) 686-5255 or Thomas.valco@ars.usda.gov. Copies of the report should be available by late-summer and can be obtained by calling SCGA at (901) 947-3104.*