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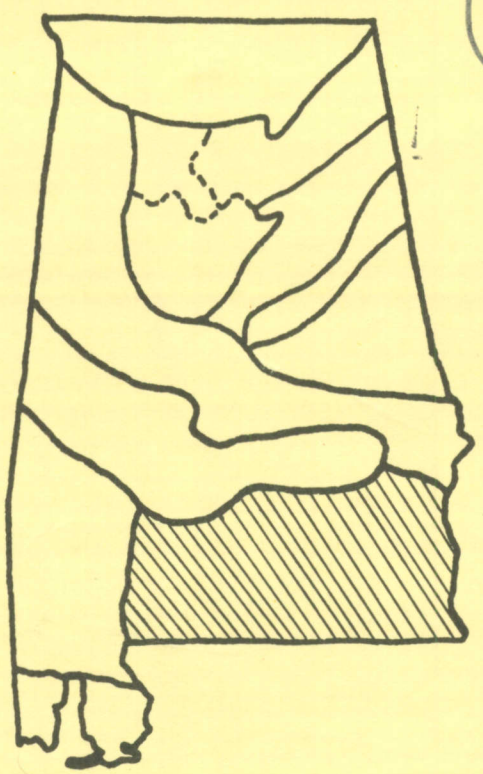
MINIMUM OPEN LAND REQUIREMENTS FOR A $5,000 FARM INCOME, WIREGRASS AREA Lower Coastal Plains ALABAMA



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The overall purposes of this regional project are (1) to provide guides to farmers when choosing among alternative production opportunities, especially as those opportunities are affected by changes in prices and technology, and (2) to provide guides to persons engaged in developing and administering public agricultural programs.

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SUMMARY

The area to which the study applies is the fairly homogeneous, 12-county area in southern Alabama commonly called the Wiregrass. The soils of the area are capable of producing good crop yields if good management practices are used. Cotton and peanuts are the major cash crops.

The objectives of this study were to determine the minimum acreage of open land that would be required for a labor and management income of $5,000 under various price and allotment levels. It was also planned to determine the adjustment that would be required in farm numbers if all farms presently smaller than this minimum acreage were increased to the minimum acreage.

The procedure for the study was: (1) to determine the open land acreage in the area, (2) to develop enterprise budgets for various crops and livestock activities, (3) to determine the minimum open land requirement and the optimum enterprise organization for various price, allotment, and enterprise considerations, and (4) to determine the reduction in farm numbers if all farms smaller than the minimum were combined into farms of the minimum size.

Crop budgets were developed for cotton, peanuts, oats, corn, wheat, soybeans, grain sorghum, and Coastal bermudagrass hay. Livestock budgets were developed for hogs, cow-calf, and steer enterprises. Minimum open land requirements were determined: (1) with all the above activities considered, (2) with Coastal bermudagrass hay production restricted to that used on the farm, and (3) with Coastal restricted and with hogs and steers not permitted in the enterprise combination.

With each of the above enterprise groupings, requirements were determined for 5 variations in land price. Also, with Coastal hay production limited to that used on the farm, investigations were made using 12 cotton price and allotment combinations, and 3 variations in labor price.

The minimum open land required to obtain the $5,000 income ranged from 105 acres to 192 acres. The 105-acre solution occurred when all activities were considered and no interest charge was made for land. The 192-acre solution occurred when hogs, steers, and hay selling were not considered as activities, and the interest charge for land was based on a value of $210 per acre. With any one enterprise grouping, increasing the value of land had a noticeable effect on the minimum requirement. On the other hand, labor price had very little effect because very little hired labor was required for any of the organizations.

Cotton and peanuts were planted to the acreage allotment limit with prices near or above current price. Only when the price of cotton was reduced to below 26 cents per pound of lint was cotton replaced in the organization. Peanut prices were not varied, thus no estimate was made of how much reduction in peanut price could take place before peanuts are replaced in the optimum program.

When Coastal bermudagrass hay for sale was considered in the programming model, it was planted on more than 50 per cent of the open land acreage, and used most of the land not taken by cotton and peanuts When Coastal production was limited to that used on the farm, corn, oats, steers, and hogs were in the optimum organization.

More than 75 per cent of the farms in the area currently have fewer acres than the smallest of the programmed minimum requirements (105 acres)

for the $5,000 net return. If those farms with less than the minimum acreage were raised to the minimum size, the reduction in farm numbers would be at least 43 per cent. For the largest size requirement, 192 acres of open land, there would be a reduction in farm numbers of 62 per cent.

The study does not infer that a $5,000 return is, or should be, a policy goal. The purpose was to determine the resource requirements necessary for this income level. Farmers can use this information in studying adjustment alternatives and it should be helpful to policy makers in evaluating policy alternatives.

MINIMUM OPEN LAND REQUIREMENTS FOR $5,000 FARM INCOME, WIREGRASS AREA (Lower Coastal Plains), ALABAMA

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Introduction

Some segments of American agriculture have had a low income problem for many years. Even though average farm income has increased, average nonfarm income has increased more rapidly.

This income problem still exists even though American agriculture has had, during the last 2 decades, the greatest advancements in technology ever achieved and today is the most efficient agricultural economy in the world. It exists even though the number of farms has been steadily declining for several years. Improving technology has permitted American farmers to produce larger quantities of farm commodities than the American consumers will utilize at "fair" prices to farmers. The over-supply has tended to depress the farm price of commodities. At the same time, the increasing demand for nonfarm items has increased the price of raw materials and consequently has increased the cost of many farm inputs.

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The adoption of new technology in most instances has required farmers to utilize more capital in the farm operation. Many farmers who were earning low incomes and operating small farms did not have, and have been unable to obtain, the capital to adopt new technologies. These farmers have become relatively less efficient and their relative income position has worsened.

In studying farming adjustment alternatives, one consideration is whether to stay in farming or to move into nonfarm employment. In making such decisions, individual farmers could use information about the quantities of land and other resources needed to obtain an equivalent income from farming as from nonfarm employment. In studying the same problem, farm leaders and policymakers need information about the number of farmers that would need to have other employment if farm incomes were raised to an equivalent level of average nonfarm income.

The objectives of the study on which this report is based were: (1) to determine the minimum open land required to obtain a $5,000-return to operator's labor and management using advanced technology and specified cotton price and allotment levels, (2) to determine the optimum combination of enterprises consistent with the assumptions and minimum land requirements; (3) to determine the amounts of other resources (labor and capital) required by these enterprise organizations, and (4) to determine the number of farms currently below the minimum size and the number of farms that could exist in the area if these farms were enlarged to the minimum size.

Description of the Area

The geographic area to which this study applies is part of the Lower Coastal Plains of Alabama, commonly called the "Wiregrass." It includes 12

counties: Barbour, Butler, Coffee, Conecuh, Covington, Crenshaw, Dale, Geneva, Henry, Houston, Monroe, and Pike (Figure 1).

Open land soils vary from 2 to 10 per cent in slope and are composed of slightly acid soils of a loamy sand texture. Deficiencies in calcium and potash are common. However, good crop yields are obtained with improved management practices. Average annual rainfall in the area is 51 inches. Length of the growing season ranges from 240 to 255 days.

The trend in the last decade has been toward fewer and larger farms. In 1959, the area contained 20,070 farms averaging 132 acres in size. Livestock was listed as the primary source of income on 39 per cent of the farms with 26 per cent classified as cotton farms.

Census figures for 1959 indicate the average age of farm operators as 48 years. The majority of labor was supplied by the family. Only 21 per cent of the commercial farms in the area reported any hired labor.

Method of Analysis

Linear programming was used to determine the optimum combination of enterprises that would require the least amount of open land to obtain the $5,000 operator's labor and management return. The programming technique also calculated the quantity of labor and capital that would be required to operate this combination of enterprises.

The decision to minimize open land was made because scarcity of open land is usually the most limiting factor on small farms. Land is the major capital item on most farms, therefore minimizing land would provide almost the same solution as minimizing capital. Land prices are variable, as in most land transactions factors other than economic value play a role in determining the selling price. Minimizing the land requirement places less pressure on determining an accurate land price.

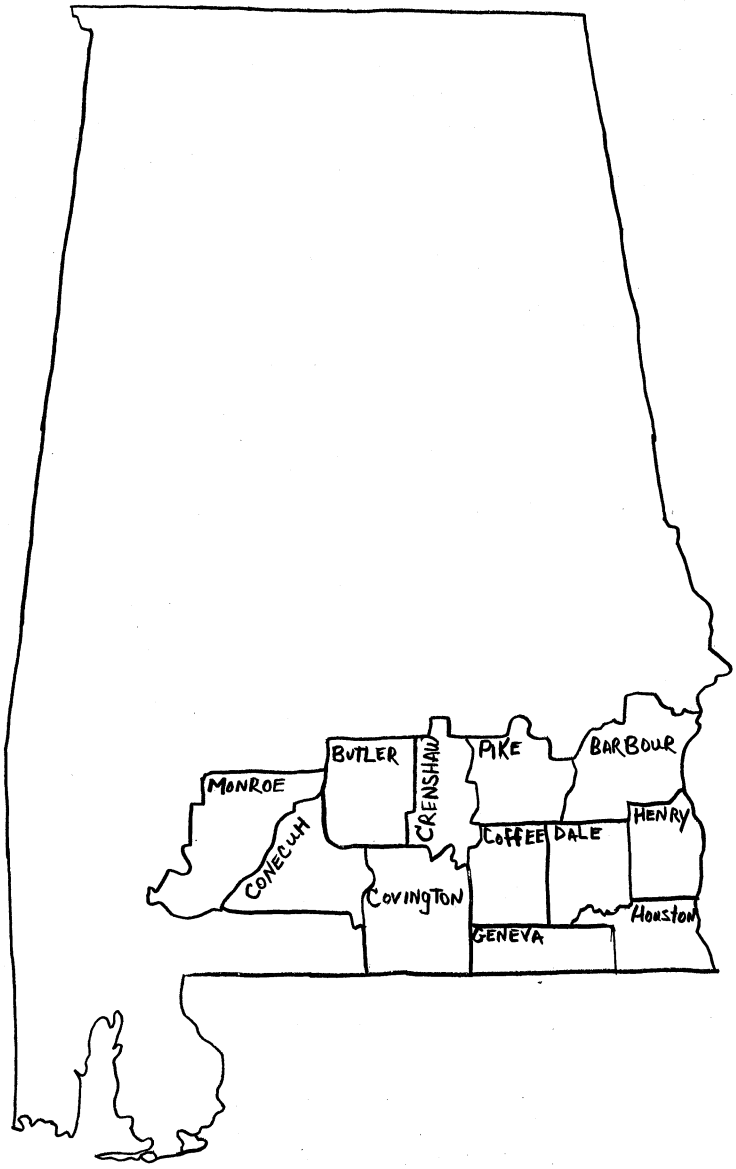

Figure 1. Map of Alabama With Outline Portion Denoting the Area of Study.

Census data on farm size distributions by acres of cropland harvested and by total acres of land were used to determine a farm size distribution by open land acreage. From these data, a cumulative distribution of open land by per cent and size of farm was determined. This distribution was used to determine the number of farms below the minimum size level and the acreage of open land on these farms. This open land acreage was divided by the minimum acreage required to determine the number of farms of the minimum size which could be reorganized on this acreage. The difference between the number of farms below the minimum size now in the area and the number of the minimum size that could be reorganized on this acreage is the minimum adjustment gap in farm numbers required to raise all farm operator's labor and management return to at least $5,000.

Assumptions

The input-output budgets used for this study were based on improved management practices. These practices are those recommended by the Agricultural Experiment Station and the Cooperative Extension Service of Auburn University and being used by the best farmers in the area. The 5-year average yields and the expected yield levels under normal weather conditions, using such technology, are shown in Table 1.

Enterprises Considered

Crop enterprises considered include cotton, peanuts, corn, oats, wheat, soybeans, grain sorghum, and Coastal bermudagrass hay. Livestock enterprises considered include a cow-calf operation, feeder steers, and hogs. Peanuts were restricted to a 1-year-in-3 rotation. All grain and hay for the livestock enterprises had to be grown on the farm.

Table 1. Average Per Acre Yields for 1958 Through 1961 and Per Acre Yields Assumed for Study, Specified Crops, Wiregrass Area, Alabama

Crop	Unit	Average yield per acre				
		1958	1959	1960	1961	Assumed[a]
Cotton, lint	Lb.	387	315	376	297	594[b]
Corn	Bu.	31	25	26	34	55
Peanuts	Lb.	1,011	745	1,114	1,037	1,800
Soybeans	Bu.	18	15	20	23	22

Source: Alabama Agricultural Statistics, 1960 and 1961.

[a]These yields were predicted for average weather conditions when recommended production practices were followed.

[b]The assumed yield is 625 pounds of lint less a 5 per cent machine picking loss.

The input-output coefficients used for these enterprises are based on cost and returns budgets for the Wiregrass Area (3, 4).[1]

Enterprises Not Considered

Several enterprises were not considered because of agronomic and economic conditions. Dairy enterprises were not considered since market conditions somewhat limit the entry of new dairy farms. Fruits and vegetables were not considered because they are usually grown as speciality crops on those farms producing them. If a large number of farmers began producing a large quantity of vegetables, their profitableness would greatly decrease. Poultry enterprises were not considered because they require no open land for operation and it is not feasible to require all feed to be grown on the farm. Some programming was done that allowed Coastal bermudagrass hay for sale as an alternative. This activity entered the optimum

[1]Numbers in parenthesis refer to Literature Cited on page 27.

programs at fairly high acreage levels. If Coastal hay were produced for sale by a large number of farmers at the levels indicated by these programs, markets would not likely be available and the price would be greatly depressed. Results with and without Coastal hay for sale activities are presented in the results for comparisons.

The excluded enterprises might be profitable alternatives for individual farmers to consider. However, in appraising alternatives for the entire area, use of these enterprises on all farms would be impractical.

Land and Allotments

Land classifications used in this study were determined from Soil Conservation Service definitions (6). Open land is capability classes I through IV land currently being used for cropland and pasture (Table 2). Plowable land is open land in classes I through III. Row cropland is open land in classes I and II and one-half the open land in classes IIIe and IIIw.

Cotton and peanuts are the only crops being grown extensively in the area under acreage controls. Current (1963) allotments determined as a percentage of open land were used as restrictions on both of these crops. To appraise the effect that allotment levels might have on the land requirement, the allotment level of cotton was also restricted to 55 per cent of current, 85 per cent of current, and 115 per cent of the current allotment level. These variations were not made on peanut allotments.

Labor

The productive labor of one full-time operator was assumed for each farm. No other family labor was considered available. Necessary seasonal labor needed at planting and harvesting time was added to each budget. The wage rate for this labor was 60 cents an hour. If full-time labor other than the operator were needed on the farm it could be hired at a rate of $1.00 per hour.

Table 2. Wiregrass Soils, by Current Use and Capability Class and Classification as Used in Study*

Class	Current use	
	Cropland	Pasture
	Acres	Acres
I	151,804	26,525
IIe	461,967	86,405
IIs	18,222	3,065
IIw	26,472	10,600
IIIe	258,711	109,352
IIIs	228,268	50,926
IIIw	21,083	15,634
IVe	44,468	36,492
IVs	105,674	47,012
IVw	2,272	7,426
Total	1,318,941	393,437

Classification used in study	Definition	Acreage
Open land	Class I through IV cropland and pasture	1,712,378
Plowable land	Class I, II, and III cropland and pasture	1,469,034
Row cropland	Class I, II, and ½ Class IIIe and IIIw cropland and pasture	987,450

*Current use and capability classes were determined from county work sheets for the Alabama Soil and Water Conservation Needs Inventory. The definition of the land capability classes are found in Alabama Soil and Water Conservation Needs Inventory published by the State Soil Conservation Committee, 1961.

To appraise the effect of wage rates on optimum solutions, programs were computed with the rate of seasonal and hired labor at 50 per cent and 100 per cent above base rates.

Capital

Capital, both operating and investment, was assumed to be available in unlimited quantities. All operating and non-land investment capital

was charged at an annual rate of 6 per cent. The investment in land was charged at an annual rate of 5 per cent.

Prices

Input prices used in the study were determined from a survey of farm supply and equipment dealers in the Wiregrass Area (Appendix A Table 1). Product prices, except for cotton, were assumed as current prices adjusted for trends and cycles (Appendix A Table 2). They were determined from 5-year (1958-1962) monthly averages taken from Alabama Agricultural Statistics (1, 2). The cotton price was varied from 20.8 cents to 36.4 cents per pound of lint to further augment the appraisal of varying the cotton allotment level. The assumed current cotton price was 31.2 cents per pound of lint.

The assumed current land price was estimated on the basis of a survey of selected county agents, Farmers Home Administration supervisors, and land appraisers in the area. This price represents the value of an acre of open land with no improvements. No value was determined for woodland and wasteland. After the base land price was determined, programs were computed with land price varied from no charge to 100 per cent above the current price.

Machinery

Full ownership of a two-row tractor and a full complement of land preparation, cultivating, and some harvesting equipment was assumed for each situation (Table 3). An overall charge was made against gross farm income for interest and depreciation on this component of equipment.

Overhead Cost

An overall charge for overhead cost was also made against the gross income of the farm operation. These costs include such items as telephone,

Table 3. Assumed Complement of 2-Row Machinery, Wiregrass Area of Alabama

Item	Size	New cost[a]
		Dollars
Planting		
Tractor	2-plow	2,500
Bottom plow	2-bottom	250
Disc harrow	6½ ft.	240
Section	2-section	100
Planter	2-row	360
Pre-emergence equipment	2-row	90
Fertilizer attachment	2-row	100
Fertilizer spreader	8 ft.	275
Grain drill	8 ft.	460
Cultivation		
Cultivator	2-row	340
Rotary hoe	2-section	200
Post-emergence equipment	2-row	50
Sprayer	6-row	300
Harvesting		
Corn picker	1-row pull	1,200
Grain elevator		375
Combine	6 ft. PTO	2,050
Mower	7 ft.	350
Side-delivery rake	8 ft.	500
Hay baler	sm. twine	1,750
Peanut digger-shaker	2-row	450
Peanut combine		3,000
Rotary mower	7 ft.	430

[a]Based on a 1962 survey of machinery and equipment dealers in the area.

bookkeeping, tax service, liability insurance, and truck use (Appendix A Table 3). Also, real estate taxes were charged at a rate of $1.00 per acre. Insurance on livestock, buildings, and machinery sheds were charged to the individual enterprises using them or as a part of machinery overhead.

Minimum Open Land Requirements

Minimum land requirements and farm organizations were computed for 5 land value levels with 3 different sets of enterprise possibilities, 3 labor price levels, and 12 combinations of cotton price and cotton acreage allotment levels.

The five land values were: (1) full ownership (no charge), (2) $52.50 per acre, (3) $105 per acre (the base), (4) $157.50 per acre, and (5) $210 per acre. The 3 labor charges were (1) base - $1.00 per hour for regular labor and $0.60 per hour for seasonal labor, (2) 50 per cent above base, and (3) 100 per cent above base. Cotton allotment levels were 55, 85, 100, and 115 per cent of 1963 allotments. The 1963 allotment level is referred to as the "current" level in the remainder of this report. Cotton price levels were 20.8 cents, 26 cents, 31.2 cents, and 36.4 cents per pound of lint. The three sets of enterprise considerations were (1) all enterprises including Coastal bermudagrass hay for sale, (2) all enterprises except selling of Coastal hay, and (3) all enterprises except Coastal hay selling, hogs, and steers. The complete optimum organizations for each of these situations are presented in Appendix B.

The situation that most nearly approximates the current conditions is: current cotton acreage allotment, cotton price at 31.2 cents, land price at $105 per acre, labor cost at base price, and all enterprises considered except hay selling. In the following discussions, this will be the base situation; the discussion will concern the changes that occurred when the base assumptions were changed.

A. Specified Land Values, Three Sets of Enterprise Alternatives

When Coastal bermudagrass hay production for sale was permitted, the minimum open land requirement to produce the $5,000 net return ranged

from 105 acres to 130 acres as the land charge was increased from no charge to $210 per acre (Table 4A). In all of these organizations, cotton and peanuts were planted to their full allotment. Coastal was planted on 57 per cent of the open land and a corn-hog enterprise used the remaining land.

For some farmers, planting more than one-half of their land in Coastal hay to be sold could be a profitable adjustment alternative. However, if all farmers in the area reorganized on the basis of these optimum programs, more than 975,000 acres would be used for Coastal hay. At the assumed yield of 5 tons per acre, this acreage could produce almost 5 million tons of hay, compared with 43,000 tons of hay sold by all Alabama farmers in 1961 (2). These magnitudes and comparisons were the basis for removing Coastal hay production for sale from the remainder of the analyses.

When Coastal hay production was limited to that used on the farm, the minimum open land requirements ranged from 120 acres to 154 acres (Table 4B). This was an increase of 14 to 18 per cent. Cotton and peanuts were planted to the maximum of the allotment. Corn and hogs were still in the program. Oats for sale and a steer enterprise using corn silage were added in place of the Coastal hay.

When the hog and steer enterprises were eliminated from consideration, or the farm was organized into a crop-beef cow system, the minimum open land requirements ranged from 153 acres with a land value of $52.50 per acre to 192 acres with a land value of $210 per acre (Table 4C). Cotton, peanuts, corn, and oats were the crops grown. From 13 to 16 beef cows were in the organization. Increasing the land value, increases the open land required to obtain the $5,000 net return, but in no instance did this increase affect the relative proportion of enterprises in the optimum organization. Thus eliminating enterprises from consideration

Table 4. Estimated Minimum Open Land Requirements and Enterprise Organizations for a $5,000 Return to Operator's Labor and Management, Specified Land Values and Enterprise Considerations, 31.2 Cents Per Pound of Lint Cotton Price, Current Cotton Allotments, Wiregrass Area (Lower Coastal Plain), Alabama

Enterprise considerations and optimum organization	Unit	Land value per acre				
		0	$52.20	$105	$157.50	$210
A. All specified enterprises considered						
Total open land	acre	104.9	110.1	115.9	122.3	129.5
Cotton	acre	11.5	12.1	12.8	13.5	14.2
Peanuts	acre	13.1	13.8	14.5	15.3	16.2
Corn	acre	14.7	15.4	16.2	17.1	18.1
Coastal	acre	60.3	63.3	66.6	70.3	74.4
Pasture for hogs	acre	5.3	5.5	5.8	6.1	6.6
Sows	no.	4.6	4.8	5.1	5.4	5.7
B. Coastal bermudagrass hay selling excluded						
Total open land	acre	120.3	127.2	135.0	143.7	153.7
Cotton	acre	13.2	14.0	14.8	15.8	16.9
Peanuts	acre	15.0	15.9	16.9	18.0	19.2
Corn	acre	34.4	36.4	38.6	41.1	44.0
Oats	acre	28.0	29.6	31.4	33.4	35.7
Corn for silage	acre	6.7	7.1	7.6	8.0	8.6
Pasture	acre	23.0	24.2	25.7	27.4	29.3
Steers	no.	28.4	30.1	32.0	34.0	36.4
Sows	no.	5.1	5.4	5.7	6.1	6.5
C. Coastal hay, hogs, and steers excluded						
Total open land	acre		152.7	164.0	177.1	192.4
Cotton	acre		16.8	18.0	19.5	21.2
Peanuts	acre		19.1	20.5	22.1	24.1
Corn	acre		52.2	56.1	60.6	65.8
Oats	acre		42.9	46.1	49.8	54.1
Pasture and hay	acre		21.7	23.3	25.1	27.2
Beef cows	no.		12.9	13.6	14.7	15.9

increased the minimum open land requirement. However, within the same enterprise consideration, changing the land value did not change the relative enterprise organization.

B. Specified Labor Prices

The farm organization for the base situation required only a small quantity of hired seasonal labor and no hired regular labor. Therefore, increasing the labor price had a small effect on the minimum open land requirement (Table 5). Doubling the labor price increased the minimum requirement by 5 acres, but did not change the relative enterprise combinations.

Table 5. Estimated Minimum Open Land Requirements and Enterprise Organization for a $5,000-Return to Operator's Labor and Management, Specified Labor Prices, Base Land Price, 31.2 Cents Per Pound of Lint Cotton, 100 Per cent Allotment, Wiregrass Area of Alabama

Item	Unit	Labor price per hour		
		Base[a]	Base plus 50%	Base plus 100%
Total land	acres	135.0	137.4	140.0
Cotton	acres	14.8	15.1	15.4
Peanuts	acres	16.9	17.2	17.5
Corn	acres	38.6	39.3	40.1
Oats	acres	31.4	32.0	32.6
Corn for silage	acres	7.6	7.7	7.8
Pasture and hay	acres	25.7	26.1	26.6
Steers	no.	32.0	32.6	33.2
Sows	no.	5.7	5.8	5.9

[a]Base program. See Table 4 with $105 per acre land, and Coastal bermuda hay selling excluded.

C. Specified Cotton Prices and Allotment Levels

With a cotton price of 20.8 cents per pound of lint, no cotton entered the optimum farm organization (Table 6). The optimum organization consisted of peanuts, corn, oats, steers, and sows, and the minimum open land requirement was 154 acres.

With a cotton price of 26 cents per pound of lint, cotton entered the optimum organization at the maximum limit of the allotment. The minimum open land requirement decreased from 147.4 acres to 146.4 to 145.2 acres as the cotton allotment level increased from 85 to 100 to 115 per cent of the 1963 allotment level. The small decrease in minimum open land requirement when the cotton allotment increased indicated that 26 cents is about the break-even point for cotton.

With a price of 31.2 and 36.4 cents per pound of lint, cotton was produced at the limit of the allotment, and minimum open land requirements decreased more rapidly as the cotton allotment level increased. With cotton at 31.2 cent, the minimum requirement decreased from 142.8 acres when the allotment level was 55 per cent to 132.4 acres when the allotment was 115 per cent of the current level. At a 36.4-cent cotton price the minimum open land requirement decreased from 136.6 acres with the allotment level at 55 per cent to 125.2 acres with the current allotment level.

At the current allotment level the minimum open land requirement decreased from 154 acres with cotton at 20.8 cents to 125.2 acres with cotton price of 36.4 cents. No cotton was planted at the 20.8 cent price, but allotments were fully planted at the other 3 price levels.

Table 6. Estimated Minimum Open Land Requirements and Enterprise Organization for a $5,000 Return to Operator's Labor and Management, Specified Levels of Cotton Prices and Allotments, Base Land and Labor Prices, Wiregrass Area of Alabama

Item	Unit	Allotment level (percentage of 1963 allotment) 55	85	100	115
Cotton price[a]					
20.8 cents					
Total land	acres			154.0	154.0
Peanuts	acres			19.2	19.2
Corn	acres			61.0	61.0
Oats	acres			29.7	29.7
Corn silage	acres			8.6	8.6
Pasture and hay	acres			35.5	35.5
Steers	no.			36.4	36.4
Sows	no.			11.8	11.8
26.0 cents					
Total land	acres		147.4	146.4	145.2
Cotton	acres		13.9	16.1	18.5
Peanuts	acres		18.4	18.3	18.2
Corn	acres		44.5	41.9	39.1
Oats	acres		33.4	34.0	34.7
Steers	no.		34.9	34.6	34.4
Sows	no.		7.0	6.2	5.4
Corn silage	acres		8.2	8.2	8.1
Pasture and hay	acres		29.0	27.9	26.6
31.2 cents					
Total land	acres	142.8	137.4	135.0[b]	132.4
Cotton	acres	8.7	12.9	14.8	16.8
Peanuts	acres	17.9	17.2	16.9	16.6
Corn	acres	47.9	41.5	38.6	35.6
Oats	acres	30.7	31.2	31.4	31.6
Steers	no.	33.8	32.6	32.0	31.4
Sows	no.	8.2	6.5	5.7	4.9
Corn silage	acres	8.0	7.7	7.5	7.4
Pasture and hay	acres	29.6	26.9	25.8	24.4
36.4 cents					
Total land	acres	136.6	128.7	125.2	
Cotton	acres	8.3	12.1	13.8	
Peanuts	acres	17.1	16.1	15.7	
Corn	acres	45.8	38.9	35.8	
Oats	acres	29.4	29.2	29.1	
Steers	no.	32.4	30.4	29.6	
Sows	no.	7.8	6.1	5.3	
Corn silage	acres	7.6	7.2	7.0	
Pasture and hay	acres	28.4	25.2	23.8	

[a]Per pound of lint.
[b]Base program.

Adjustments in Farm Numbers

Further analysis was made to determine the effect on the number of farms in the area if all farms were at least the minimum size required to obtain the $5,000 return to operator labor and management. In determining this, it is assumed that those farms now having open land acreage above the minimum requirement would make no adjustment, and that all open land currently in farms with acreages less than the minimum requirement would be recombined into farms of the size required to yield the return under the specified conditions.

The 1959 Census of Agriculture listed 20,070 farms in the 12-county area. From the Soil Conservation Service data, it was determined that there are 1,712,378 acres of open land in the area. On the basis of available data, the farms in the area were distributed according to size in open land acreage. From this distribution, the total open land acreage in the area was distributed to the various size groups. From these data a cumulative distribution curve was constructed from which can be determined the percentage of farms and of open land area in farms below a specified size (Figure 2).

This curve was used to determine, for each of the various programmed situations, the number of farms that are currently larger than the minimum size required and the acreage of open land that is in farms having less than the minimum acreage required to yield the $5,000 return. The minimum acreage required was divided into the open land acreage in farms below the minimum size to determine number of minimum size farms that could exist on this acreage. This adjusted number of farms added to the number of farms currently above this level gives the number of farms which would exist after adjustment.

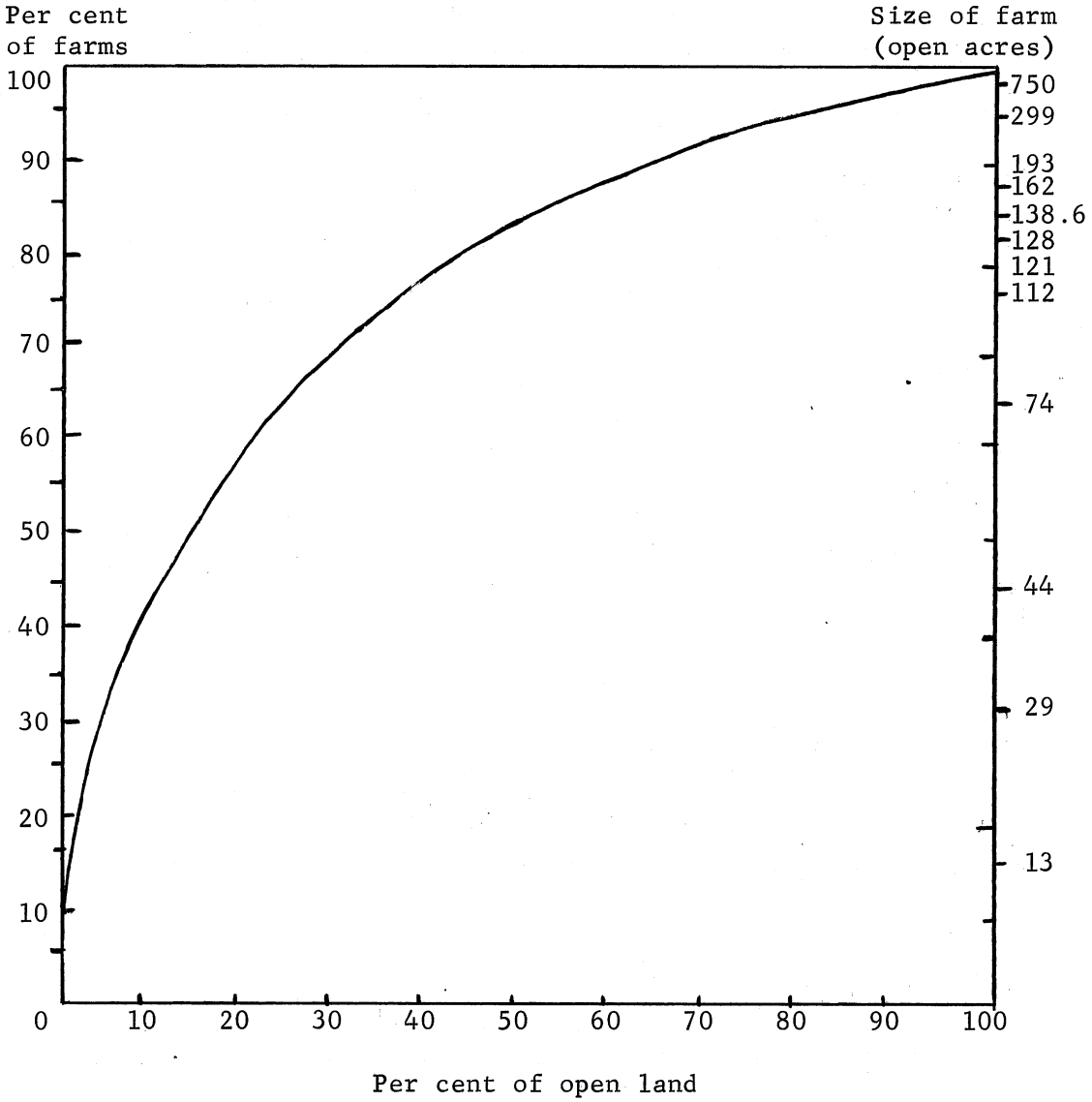

Fig. 2. Cumulative distribution of number of farms and associated open-land in each farm size category, Wiregrass Area of Alabama, 1959.

The calculations to determine the adjustments in farm numbers for each of the programmed situations are shown in Appendix B, Tables 9 through 12. To show the magnitude of the required adjustments, the percentage change for each situation is shown in Table 7.

The minimum change in number of farms ranged from 43.4 per cent when all activities including Coastal hay selling were considered and no return to land was required, to a high of 62.3 per cent when Coastal selling, hogs, and steers were excluded and land was valued at $210 per acre. For the base situation the minimum reduction in farm numbers would be 52.8 per cent.

Implications

Cotton and peanuts were the two most profitable crops for the Wiregrass area. The cotton price was reduced below 26 cents per pound of lint before any alternative replaced it in the organization. Peanut prices were not varied, but other research (5) has indicated that the peanut price would probably have to be reduced by a larger percentage before other enterprises would replace them.

Large acreages of Coastal bermudagrass hay to be sold were produced when the program permitted hay selling. If the yields assumed for this study (5 tons per acre) were attained, Coastal hay for sale would become the most profitable enterprise after peanuts and cotton. However, at present, such large quantities of hay are not produced in the area, nor is there evidence of a market for such a large volume. When a market for Coastal hay develops, many farmers can make a profitable adjustment to hay production.

Hogs are the most profitable livestock enterprise under the assumed condition. With the price level assumed, it was more profitable to feed

Table 7. Percentage Decrease from Present Number of Farms Consistent With a $5,000 Operator Return, Specified Programming Assumptions, Wiregrass Area, Alabama

A. Cotton allotment at 1963 level, cotton price at 31.2 cents per pound, labor at base price

Enterprises considered	Land price per acre (dollars)				
	0	52.5	105	157.5	210
	(percentage decrease in number of farms)				
All enterprises including Coastal hay selling	43.4	46.1	48.1	50.1	52.2
Coastal selling not permitted	48.4	50.7	52.8	54.8	56.5
Coastal selling, hogs and steers not considered	--	56.1	58.5	60.6	62.3

B. Land and labor price at current level, Coastal hay selling not permitted

Cotton allotment	Cotton price (cents per pound of lint)			
	20.8	26.0	31.4	36.4
(Per cent of 1963 level)	(Percentage decrease)			
55	--	--	54.6	53.0
85	--	55.3	53.2	51.1
100	56.7	55.1	52.8	50.2
115	56.7	55.0	52.0	--

C. Cotton allotment and price at current level, land at current level, Coastal hay selling not permitted

Labor price (percentage of base)		
100	150	200
52.8	53.2	53.3

corn to hogs than to sell it as grain. Beef cows and steers entered the enterprise organization to utilize roughage grown on the unplowable open land. No other alternative was available for such land.

Very little labor was hired in any of the program results. Therefore it seems possible that with good management and organization, an operator-labor income of at least $5,000 can be obtained on a farm falling in the family-farm category. However, since 79 per cent of the farms in the area at present do not have the minimum required acreage, many farms would have to become larger if this income is obtained. This would require some consolidation of farms and some farmers leaving agriculture.

If it is desirable for farmers to obtain at least a $5,000-operator-labor income, there are two further problems unanswered by these results. (1) How are the farms to be consolidated and where are farmers to get the means (capital, machinery, etc.) to consolidate, and (2) where and how are those persons who do not remain in agriculture going to locate gainful employment.

The first question could lead to a study of the financial management position of farmers, credit structure of the area, and sociological patterns of the local communities. It also leads to policy alternatives of letting the "free" enterprise system operate and have the survival of the fittest, or letting society set the rules and determine what is done.

The second question is equally perplexing. Low-income farming areas are often removed from urban development. Also, many low-income farmers are not well trained or educated. Therefore, the opportunity for gainful employment often requires both training in the desired skill and moving to another location. Neither of these is easily obtained especially when the average farm operator is over 45 years of age - "too old to learn new tricks

and too well rooted to pull up and move." The solution of the problem is not simple.

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APPENDIX A

Appendix A, Table 1. Assumed Base Prices Received by Farmers, Wiregrass Area of Alabama

Item	Unit	Price
		Dollars
Crops		
Lint cotton	lb.	0.312
Cottonseed	ton	50.00
Peanuts	ton	198.00
Corn (grain)	bu.	1.05
Grain sorghum	bu.	1.05
Soybeans	bu.	2.00
Oats	bu.	0.81
Wheat	bu.	1.80
Coastal bermudagrass hay	ton	20.70
Livestock		
Hogs	cwt.	16.00
Sows	cwt.	13.00
Boar	cwt.	6.00
Calves	cwt.	22.00
Cull cows	cwt.	15.50
Bull	cwt.	18.00
Steers	cwt.	24.00

Based on "Alabama Agricultural Statistics," Bulletin 11, Division of Agricultural Statistics, Alabama Department of Agriculture and Industries, in cooperation with Statistical Reporting Service, U. S. Department of Agriculture, July 1962.

Appendix A, Table 2. Assumed Base Prices Paid by Farmers, Wiregrass Area of Alabama

Item	Unit	Price
		Dollars
Seed		
Cotton (acid delinted)	cwt.	17.60
Peanuts (Early Runner, certified)	lb.	0.26
Corn, hybrid	lb.	0.17
Grain sorghum, hybrid	lb.	0.19
Soybeans	bu.	3.50
Oats, certified	bu.	1.50
Wheat, certified	bu.	4.25
Bahia grass	lb.	0.32
Millet	lb.	0.14
Rye	bu.	4.00
Fertilizer		
4-12-12	cwt.	1.90
0-10-10	cwt.	1.70
0-20-20	cwt.	2.35
0-14-14	cwt.	1.65
Ammonium nitrate	cwt.	3.80
Pesticides		
3% BHC, 5% DDT	cwt.	7.50
20% toxaphene, 10% DDT	cwt.	14.00
4 lb. toxaphene, 2 lb. DDT	gal.	2.80
Copper, sulfur, 2.5% DDT	cwt.	8.50
Copper, sulfur, 5% DDT	cwt.	8.50
10% DDT	cwt.	7.25
Karmex (3 lb. equivalent)	gal.	18.00
CIPC (4 lb. equivalent)	gal.	8.35
Post-emergence oil	gal.	0.35
2-4, D Amine (4 lb. equivalent)	gal.	3.90
Feed and feed additives		
Peanut hay (includes hauling)	ton	17.00
Protein supplement (hog, 40% protein, commercial mix)	cwt.	5.00
Soybean meal (44% protein)	cwt.	4.00
Meat and bone scraps (50% protein)	cwt.	5.00
Cottonseed meal (41% protein)	cwt.	3.60
Alfalfa meal (17% protein)	cwt.	4.10

(Continued)

Appendix A, Table 2. (Continued) Assumed Base Prices Paid by Farmers, Wiregrass Area of Alabama

Item	Unit	Price
		Dollars
Feed and feed additives (Continued)		
Wheat middlings	cwt.	3.40
Molasses (cane)	cwt.	1.50
Vitamin mixture (hogs)	lb.	0.40
Dicalcium phosphate	cwt.	4.00
Antibiotic (hog)	lb.	0.90
Salt		
Loose	cwt.	1.80
Swine formula	cwt.	2.80
Mineralized 50 lb. blocks	blk.	1.55
Custom work		
Apply cotton defoliant by plane (does not include materials)	lb.	0.06
Picking cotton (machine)	lb. of lint	0.06
Ginning cotton (bagging & ties)	bale	13.00
Applying lime (includes materials)	ton	7.75
Labor		
Resident	hr.	1.00
Seasonal	hr.	0.60
Miscellaneous costs		
Land (interest and taxes at base price)	acre	6.25
Defoliant	lb.	0.07
Shelling corn	bu.	0.15
Mixing supplement	cwt.	0.10
Grinding and mixing feed	cwt.	0.30
Truck use		
Hauling feed and livestock	mile	0.15
Hauling hay	ton	0.60
Hauling silage	ton	0.40
Hauling livestock only	cwt.	0.25
Stilbestrol implants	head	0.07
Phenothiazine	lb.	0.70
Insecticide (cattle)	head	0.18

Appendix A, Table 3. Assumed Annual Overhead Cost Per Farm, 2-Row Equipment, Wiregrass Area of Alabama

Item	Cost
	Dollars
Taxes, insurance, interest and housing	
Planting equipment	176.18
Cultivating equipment	40.05
1-row corn picker	54.00
Grain elevator	16.88
Peanut digger-shaker	20.25
Peanut combine	135.00
Combine and grain drill	115.00
Rotary mower	19.35
Truck charge	250.00
Telephone	20.00
Bookkeeping and tax service	20.00
Liability insurance	30.00
Total annual overhead cost	896.71

APPENDIX B

FARM BUSINESS SUMMARIES FOR THE PROGRAMMED SITUATIONS

Linear programming techniques were used to determine the minimum acreage of open land that would be required to yield a $5,000 net return to a farm operator's labor and management under a specified set of assumptions. As a byproduct of the results, it was possible to determine the optimum combination of enterprises on this acreage, the amount of labor and capital required for this organization, and the receipts and expenses of the production.

All of the above data are summarized in the following tables. Each of the solutions results in a $5,000 return to operator's labor and management. Each solution differs from any other solution because of change in one or more specific assumptions. Each table title specifies the fixed assumptions for that group of solutions.

Appendix B, Table 1. Assumptions: Cotton Price, 31.2 Cents Per Pound of Lint; Cotton Allotment, 100 Per Cent of Current; Labor Price, Current; all Enterprises Including Hay Selling Considered; Land Price at Specified Values

Item	Unit	Land price per acre				
		$0	$52.50	$105	$157.50	$210
Total open land	acre	104.9	110.1	115.9	122.3	129.5
Cotton	acre	11.5	12.1	12.8	13.5	14.2
Peanuts	acre	13.1	13.8	14.5	15.3	16.2
Corn	acre	14.7	15.4	16.2	17.1	18.1
Coastal	acre	60.3	63.3	66.6	70.3	74.4
Pasture for hogs	acre	5.3	5.5	5.8	6.1	6.6
Sows	no.	4.6	4.8	5.1	5.4	5.7
Operator labor	hour	1,040	1,092	1,149	1,213	1,284
Seasonal labor	hour	797	837	881	930	984
Investment						
Land	dol.	--	5,780	12,170	19,622	27,195
Machinery	dol.	6,408	6,408	6,408	6,408	6,408
Operating capital	dol.	1,760	1,846	1,948	2,058	2,174
Total capital required	dol.	8,168	14,034	20,526	28,088	35,777
Gross receipts	dol.	13,511	14,186	14,935	15,759	16,680
Operating and overhead expense	dol.	8,406	8,787	9,211	9,656	10,190
Land costs	dol.	105	399	724	1,103	1,490
Return to operator's labor and management	dol.	5,000	5,000	5,000	5,000	5,000

Appendix B, Table 2. Assumptions: Cotton Price, 31.2 Cents Per Pound of Lint; Cotton Allotment, 100 Per Cent of Current; Labor Price, Current; Hay Selling Excluded; Land Price at Specified Values

Item	Unit	Land price per acre				
		$0	$52.50	$105	$157.50	$210
Total open land	acre	120.3	127.2	135.0	143.7	153.7
Cotton	acre	13.2	14.0	14.8	15.8	16.9
Peanuts	acre	15.0	15.9	16.9	18.0	19.2
Corn	acre	34.4	36.4	38.6	41.1	44.0
Oats	acre	28.0	29.6	31.4	33.4	35.7
Corn silage	acre	6.7	7.1	7.5	8.0	8.6
Pasture and hay for steers	acre	17.1	18.0	19.2	20.4	21.8
Pasture for hogs	acre	5.9	6.2	6.6	7.0	7.5
Steers	no.	28.4	30.1	32.0	34.0	36.4
Sows	no.	5.1	5.4	5.7	6.1	6.5
Operator labor	hour	1,119	1,183	1,255	1,336	1,429
Seasonal labor	hour	315	333	354	376	403
Capital						
Land	dol.	--	6,678	14,175	22,633	32,277
Machinery	dol.	6,408	6,408	6,408	6,408	6,408
Operating	dol.	5,944	6,288	6,673	7,103	7,594
Total capital required	dol.	12,352	19,374	27,256	36,144	46,279
Gross receipts	dol.	18,810	19,894	21,113	22,476	24,032
Operating and overhead expense	dol.	13,690	14,433	15,269	16,200	17,264
Land cost	dol.	120	461	844	1,276	1,768
Return to operator's labor and management	dol.	5,000	5,000	5,000	5,000	5,000

Appendix B, Table 4. Assumptions: Cotton Price, 31.2 Cents Per Pound of lint; Cotton Allotment, 100 Per Cent of Current; Land Price, Current; Hay Selling Excluded; Labor Price at Specified Values

Item	Unit	Labor price per hour		
		Current	Plus 50 per cent	Plus 100 per cent
Total open land	acre	135.0	137.4	140.0
Cotton	acre	14.8	15.1	15.4
Peanuts	acre	16.9	17.2	17.5
Corn	acre	38.6	39.3	40.1
Oats	acre	31.4	32.0	32.6
Corn silage	acre	7.5	7.7	7.8
Pasture and hay for steers	acre	19.2	19.4	19.8
Pasture for hogs	acre	6.6	6.7	6.8
Steers	no.	32.0	32.6	33.2
Sows	no.	5.7	5.8	5.9
Operator labor	hour	1,255	1,278	1,302
Seasonal labor	hour	354	360	367
Capital				
Land	dol.	14,175	14,427	14,700
Machinery	dol.	6,408	6,408	6,408
Operating	dol.	6,673	6,798	6,923
Total capital required	dol.	27,256	27,633	28,031
Gross receipts	dol.	21,113	21,507	21,902
Operating and overhead expense	dol.	15,269	15,649	16,027
Land cost	dol.	844	858	875
Return to operator's labor and management	dol.	5,000	5,000	5,000

Appendix B, Table 5. Assumptions: Cotton Allotment, 55 Per cent of Current; Land and Labor Prices, Current; Hay Selling Excluded; Cotton Prices at Specified Levels

Item	Unit	Cotton price per pound of lint	
		31.2 cents	36.4 cents
Total open land	acre	142.8	136.6
Cotton	acre	8.7	8.3
Peanuts	acre	17.9	17.1
Corn	acre	47.9	45.8
Oats	acre	30.7	29.4
Corn silage	acre	8.0	7.6
Pasture and hay for steers	acre	20.2	19.4
Pasture for hogs	acre	9.4	9.0
Steers	no.	33.8	32.4
Sows	no.	8.2	7.8
Operator labor	hour	1,432	1,370
Seasonal labor	hour	370	354
Capital			
Land	dol.	14,994	14,343
Machinery	dol.	6,408	6,408
Operating	dol.	7,150	6,841
Total capital required	dol.	28,552	27,592
Gross receipts	dol.	22,347	21,638
Operating and overhead expense	dol.	16,454	15,784
Land cost	dol.	893	854
Return to operator's labor and management	dol.	5,000	5,000

Appendix B, Table 6. Assumptions: Cotton Allotment, 85 Per Cent of Current; Land and Labor Prices, Current; Hay Selling Excluded; Cotton Prices at Specified Levels

Item	Unit	Cotton price per pound of lint		
		26.0 cents	31.2 cents	36.4 cents
Total open land	acre	147.4	137.4	128.7
Cotton	acre	13.9	12.9	12.1
Peanuts	acre	18.4	17.2	16.1
Corn	acre	44.5	41.5	38.9
Oats	acre	33.4	31.2	29.2
Corn silage	acre	8.2	7.7	7.2
Pasture and hay for steers	acre	21.0	19.4	18.2
Pasture for hogs	acre	8.0	7.5	7.0
Steers	no.	34.9	32.6	30.4
Sows	no.	7.0	6.5	6.1
Operator labor	hour	1,406	1,311	1,227
Seasonal labor	hour	385	359	336
Capital				
Land	dol.	15,477	14,427	13,514
Machinery	dol.	6,408	6,408	6,408
Operating	dol.	7,319	6,826	6,388
Total capital required	dol.	29,204	27,661	26,310
Gross receipts	dol.	22,634	21,504	20,506
Operating and overhead expense	dol.	16,713	15,646	14,701
Land cost	dol.	921	858	805
Return to operator's labor and management	dol.	5,000	5,000	5,000

Appendix B, Table 7. Assumptions: Cotton Allotment, 100 Per cent of Current; Land and Labor Prices, Current; Hay Selling Excluded; Cotton Prices at Specified Levels

Item	Unit	Cotton price per pound of lint			
		20.8 cents	26.0 cents	31.2 cents	36.4 cents
Total open land	acre	154.0	146.4	135.0	125.2
Cotton	acre		16.1	14.8	13.8
Peanuts	acre	19.2	18.3	16.9	15.7
Corn	acre	61.0	41.9	38.6	35.8
Oats	acre	29.7	34.0	31.4	29.1
Corn silage	acre	8.6	8.2	7.5	7.0
Pasture and hay for steers	acre	21.9	20.8	19.2	17.7
Pasture for hogs	acre	13.6	7.1	6.6	6.1
Steers	no.	36.4	34.6	32.0	29.6
Sows	no.	11.8	6.2	5.7	5.3
Operator labor	hour	1,683	1,361	1,255	1,164
Seasonal labor	hour	393	383	354	328
Capital					
Land	dol.	16,170	15,372	14,175	13,146
Machinery	dol.	6,408	6,408	6,408	6,408
Operating	dol.	7,829	7,237	6,673	6,193
Total capital required	dol.	30,407	29,017	27,256	25,747
Gross receipts	dol.	24,105	22,399	21,113	20,017
Operating and overhead expense	dol.	18,143	16,484	15,269	14,235
Land cost	dol.	962	915	844	782
Return to operator's labor and management	dol.	5,000	5,000	5,000	5,000

Appendix B, Table 8. Assumptions: Cotton Allotment, 115 Per Cent of Current; Land and Labor Prices, Current; Hay Selling Excluded; Cotton Prices at Specified Levels

Item	Unit	Cotton price per pound of lint		
		20.8 cents	26.0 cents	31.2 cents
Total open land	acre	154.0	145.2	132.4
Cotton	acre		18.5	16.8
Peanuts	acre	19.2	18.2	16.6
Corn	acre	61.0	39.1	35.6
Oats	acre	29.7	34.7	31.6
Corn silage	acre	8.6	8.1	7.4
Pasture and hay for steers	acre	21.9	20.4	18.8
Pasture for hogs	acre	13.6	6.2	5.6
Steers	no.	36.4	34.4	31.4
Sows	no.	11.8	5.4	4.9
Operator labor	hour	1,683	1,314	1,198
Seasonal labor	hour	393	382	348
Capital				
Land	dol.	16,170	15,246	13,902
Machinery	dol.	6,408	6,408	6,408
Operating	dol.	7,829	7,153	6,520
Total capital required	dol.	30,407	28,807	26,830
Gross receipts	dol.	24,105	22,152	20,715
Operating and overhead expense	dol.	18,143	16,245	14,888
Land cost	dol.	962	907	827
Return to operator's labor and management	dol.	5,000	5,000	5,000

Appendix B, Table 9. Optimum Number of Farms, Minimum and Percentage Changes Consistent With a $5,000 Return, Adjusted for Farm Units Above the Minimum Land Requirement Level, Specified Land Prices and Enterprise Exclusions, Wiregrass Area of Alabama

Land price and enterprise assumptions	1959 level	Minimum open land requirement per farm	Presently above minimum requirement	Resources to be adjusted	Maximum possible on adjustable resources	Resources after adjustment	Minimum change in farm numbers
All Activities Considered							
Land $0 per acre							
Number of farms	20,070		5,401	14,966	5,958	11,359	-8,711
Open land acres	1,712,378	104.9	1,087,360	625,018	624,994	1,712,354	
Per cent							-43.4
Land $52.50 per acre							
Number of farms	20,070		4,747	15,323	6,065	10,812	-9,258
Open land acres	1,712,378	110.1	1,044,551	667,827	667,757	1,712,310	
Per cent							-46.1
Land $105 per acre							
Number of farms	20,070		4,355	15,715	6,057	10,412	-9,658
Open land acres	1,712,378	115.9	1,010,302	702,075	702,007	1,712,309	
Per cent							-48.1
Land $157.50 per acre							
Number of farms	20,070		3,958	16,112	6,118	10,006	-10,064
Open land acres	1,712,378	122.3	964,069	748,309	748,231	1,712,300	
Per cent							-50.1
Land $210 per acre							
Number of farms	20,070		3,638	16,432	5,963	9,601	-10,469
Open land acres	1,712,378	129.5	940,096	772,282	772,208	1,712,304	
Per cent							-52.2

Appendix B, Table 10. Optimum Number of Farms, Minimum and Percentage Changes Consistent With a $5,000 Return, Adjusted for Farm Units Above the Minimum Land Requirement Level, Specified Land Prices and Enterprise Exclusions, Wiregrass Area of Alabama

Land price and enterprise assumptions	1959 level	Minimum open land requirement per farm	Presently above minimum requirement	Resources to be adjusted	Maximum possible on adjustable resources	Resources after adjustment	Minimum change in farm numbers
Coastal Hay Selling Excluded							
Land $0 per acre							
Number of farms	20,070		4,134	15,936	6,220	10,354	-9,716
Open land acres	1,712,378	120.3	964,069	748,309	748,266	1,712,335	
Per cent							-48.4
Land $52.50 per acre							
Number of farms	20,070		3,813	16,257	6,084	9,897	-10,173
Open land acres	1,712,378	127.2	938,383	773,995	773,884	1,712,267	
Per cent							-50.7
Land $105 per acre							
Number of farms	20,070		3,519	16,551	5,961	9,480	-10,590
Open land acres	1,712,378	135.0	907,560	804,818	804,735	1,712,295	
Per cent							-52.8
Land $157.50 per acre							
Number of farms	20,070		3,050	17,020	6,017	9,067	-11,003
Open land acres	1,712,378	143.7	847,627	864,751	864,643	1,712,270	
Per cent							-54.8

(Continued)

Appendix B, Table 10. (Continued) Optimum Number of Farms, Minimum and Percentage Changes Consistent With a $5,000 Return, Adjusted for Farm Units Above the Minimum Land Requirement Level, Specified Land Prices and Enterprise Exclusions, Wiregrass Area of Alabama

Land price and enterprise assumptions	1959 level	Minimum open land requirement per farm	Presently above minimum requirement	Resources to be adjusted	Maximum possible on adjustable resources	Resources after adjustment	Minimum change in farm numbers
Land $210 per acre							
Number of farms	20,070		2,669	17,401	6,071	8,740	-11,330
Open land acres	1,712,378	153.7	779,132	933,246	933,113	1,712,245	
Per cent							-56.5
Hogs and Steers Excluded							
Land $52.50 per acre							
Number of farms	20,070		2,769	17,301	6,044	8,813	-11,257
Open land acres	1,712,378	152.7	789,406	922,972	922,919	1,712,325	
Per cent							-56.1
Land $105 per acre							
Number of farms	20,070		2,488	17,582	5,847	8,335	-11,735
Open land acres	1,712,378	164.0	753,446	958,932	958,908	1,712,354	
Per cent							-58.5
Land $157.50 per acre							
Number of farms	20,070		2,308	17,762	5,608	7,916	-12,154
Open land acres	1,712,378	177.1	719,198	993,180	993,177	1,712,375	
Per cent							-60.6
Land $210 per acre							
Number of farms	20,070		2,047	18,023	5,429	7,476	-12,594
Open land acres	1,712,378	192.4	667,827	1,044,551	1,044,540	1,712,367	
Per cent							-62.8

Appendix B, Table 11. Optimum Number of Farms, Minimum and Percentage Changes Consistent With a $5,000 Return, Adjusted for Farm Units Above the Minimum Land Requirement Level, Specified Hired Labor Prices, Wiregrass Area of Alabama

Assumed labor prices	1959 level	Minimum open land requirement per farm	Presently above minimum requirement	Resources to be adjusted	Maximum possible on adjustable resources	Resources after adjustment	Minimum change in farm numbers
Base labor price							
Number of farms	20,070		3,519	16,551	5,961	9,480	-10,590
Open land acres	1,712,378	135.0	907,560	804,818	804,735	1,712,295	
Per cent							-52.8
Base labor price plus 50 per cent							
Number of farms	20,070		3,412	16,658	5,982	9,394	-10,676
Open land acres	1,712,378	137.4	890,436	821,942	821,927	1,712,363	
Per cent							-53.2
Base labor price plus 100 per cent							
Number of farms	20,070		3,371	16,699	5,993	9,364	-10,706
Open land acres	1,712,378	140.0	873,312	839,066	839,020	1,712,332	
Per cent							-53.3

Appendix B, Table 12. Optimum Number of Farms, Minimum and Percentage Changes Consistent With a $5,000 Return, Adjusted for Farm Units Above the Minimum Land Requirement Level, Specified Cotton Prices and Allotment Levels, Wiregrass Area of Alabama

Assumed cotton prices and allotments	1959 level	Minimum open land requirement per farm	Presently above minimum requirement	Resources to be adjusted	Maximum possible on adjustable resources	Resources after adjustment	Minimum change in farm numbers
20.8 cents, 100 per cent allotment							
Number of farms	20,070		2,629	17,441	6,071	8,700	-11,370
Open land acres	1,712,378	154.0	777,420	934,958	934,934	1,712,354	
Per cent							-56.7
26.0 cents, 85 per cent allotment							
Number of farms	20,070		2,930	17,140	6,040	8,970	-11,100
Open land acres	1,712,378	147.4	821,941	890,437	890,296	1,712,237	
Per cent							-55.3
26.0 cents, 100 per cent allotment							
Number of farms	20,070		2,990	17,780	6,023	9,013	-11,057
Open land acres	1,712,378	146.4	830,503	881,875	881,767	1,712,270	
Per cent							-55.1
26.0 cents, 115 per cent allotment							
Number of farms	20,070		3,010	17,060	6,014	9,024	-11,046
Open land acres	1,712,378	145.2	839,065	973,313	873,233	1,712,298	
Per cent							-55.0
31.2 cents, 55 per cent allotment							
Number of farms	20,070		3,150	16,920	5,971	9,121	-10,949
Open land acres	1,712,378	142.8	859,614	852,764	852,659	1,712,273	
Per cent							-54.6

(Continued)

Appendix B, Table 12. (Continued) Optimum Number of Farms, Minimum and Percentage Changes Consistent With a $5,000 Return, Adjusted for Farm Units Above the Minimum Land Requirement Level, Specified Cotton Prices and Allotment Levels, Wiregrass Area of Alabama

Assumed cotton prices and allotments	1959 level	Minimum open land requirement per farm	Presently above minimum requirement	Resources to be adjusted	Maximum possible on adjustable resources	Resources after adjustment	Minimum change in farm numbers
31.2 cents, 85 per cent allotment							
Number of farms	20,070		3,412	16,658	5,982	9,394	-10,676
Open land acres	1,712,378	137.4	890,436	821,942	821,927	1,712,363	
Per cent							-53.2
31.2 cents, 100 per cent allotment							
Number of farms	20,070		3,519	16,551	5,961	9,480	-10,590
Open land acres	1,712,378	135.0	907,560	804,818	804,735	1,712,295	
Per cent							-52.8
31.2 cents, 115 per cent allotment							
Number of farms	20,070		3,653	16,417	5,988	9,641	-10,429
Open land acres	1,712,378	132.4	919,547	792,831	792,811	1,712,358	
Per cent							-52.0
36.4 cents, 55 per cent allotment							
Number of farms	20,070		3,472	16,598	5,966	9,438	-10,632
Open land acres	1,712,378	136.6	897,286	815,092	814,956	1,712,242	
Per cent							-53.0
36.4 cents, 85 per cent allotment							
Number of farms	20,070		3,773	16,297	6,040	9,813	-10,257
Open land acres	1,712,378	128.7	934,958	777,420	777,348	1,712,306	
Per cent							-51.1
36.4 cents, 100 per cent allotment							
Number of farms	20,070		3,873	16,197	6,113	9,986	-10,084
Open land acres	1,712,378	125.2	946,945	765,433	765,348	1,712,293	
Per cent							-50.2