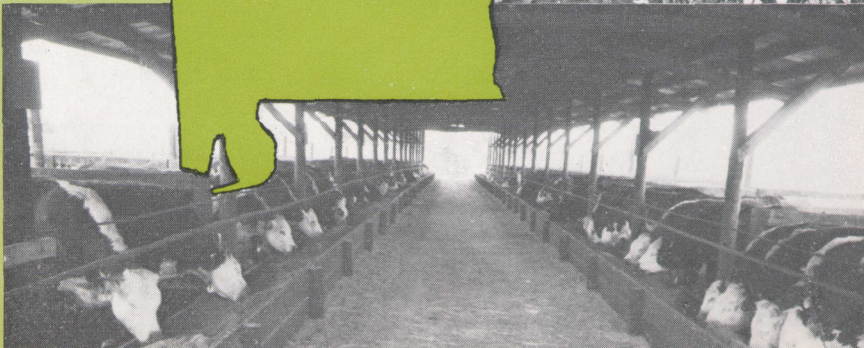
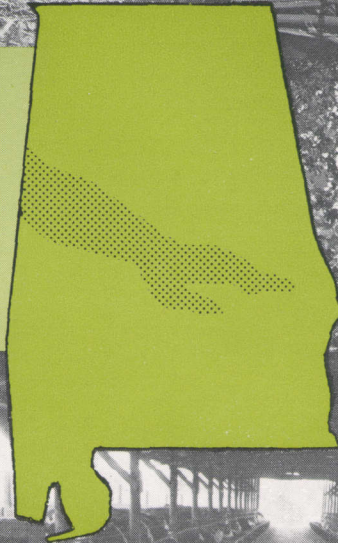


Full Time Hired Farm Labor in Alabama's Black Belt

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Full Time Hired Farm Labor In Alabama's Black Belt

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INTRODUCTION

SINCE THE 1930's the number of farmers and farm workers has declined steadily. To compensate for the decreasing supply of farm workers the remaining farmers expanded their operations and substituted tractors, combines, and other mechanical devices for laborers. Growth in the economy provided nonfarm job opportunities for those workers leaving agriculture, making rural areas a reservoir of labor for industrial development across the country.

Despite extensive substitution of capital for labor inputs, farm managers more than ever require quality labor for successful operation. As farm operations have expanded in size in recent years, the demand for labor on these farms has increased. Laborers available to farmers often do not have the skills required for operation of costly equipment. Most farm laborers with marketable skills have moved out of agriculture to industry where wages are considerably higher. Average daily wage of approximately \$27.00 in 1972 for production workers in nonagricultural industries in the United States was more than twice the agricultural daily rate of \$13.20 (15,13). Traditionally farm wages have lagged behind nonagricultural wages. However, during the past decade agricultural wages have increased relative to industrial wages.

In Alabama the average daily agricultural wage of \$10.30 in 1972 was not only lower than the national average, but also below wages paid in surrounding states. According to U.S. Department of Agriculture information, farm wages paid in Alabama in 1972 ranked 47th among states in the continental United States (13). Many farm operators in Alabama, however, are paying wages

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competitive with industry to retain skilled workers who can operate equipment, handle livestock, and do other farm chores requiring skill. Many other farmers experience a continuous labor turnover. With high investment in equipment, farmers must recognize the need to employ qualified laborers. Some Alabama farmers claim the labor problem is so critical that unless satisfactory workers can be found they will either cease farming or reduce their businesses to family-size operations.

PURPOSE OF STUDY

The purpose of this study was to examine the problems of recruitment, training, and retention of hired farm workers in Alabama's Black Belt, an area that has experienced a large change in the agricultural work force. Specific objectives of the study were: (1) To describe trends relating to the use of full-time hired farm labor; (2) To determine and analyze factors affecting the supply of full-time farm labor for selected areas and enterprises; and (3) to determine management practices used by farmers who attract full-time hired labor.

PROCEDURE AND METHODOLOGY

The Black Belt of central Alabama was chosen for analysis in this study of full-time agricultural labor on the basis of homogeneity of farms and on the amount of out-migration of labor. Five counties, Montgomery, Lowndes, Dallas, Marengo, and Sumter, were randomly selected from the 10-county area defined as the Black Belt, Figure 1. From secondary data, it was determined that cotton, soybeans, dairy, and beef were the major farm enterprises of the area. Since a concurrent study was being conducted with full-time labor employed on dairy farms in Alabama, this analysis was concerned only with full-time labor on cotton, soybean, and beef cattle farms.

From Cooperative Extension Service records in each of the five counties, names of the major producers of each enterprise were obtained. Twelve farmers were selected from each county with four producers of each major commodity to be interviewed in each county. Larger-size farms were chosen in an attempt to select farmers who employed full-time labor. Additional farmers were selected in case the sample operators did not hire full-time labor or the farm was other than the type anticipated.

To obtain the data required to fulfill the objectives of the study, a questionnaire was personally administered to farm operators in June and July of 1971. The first section of the questionnaire was

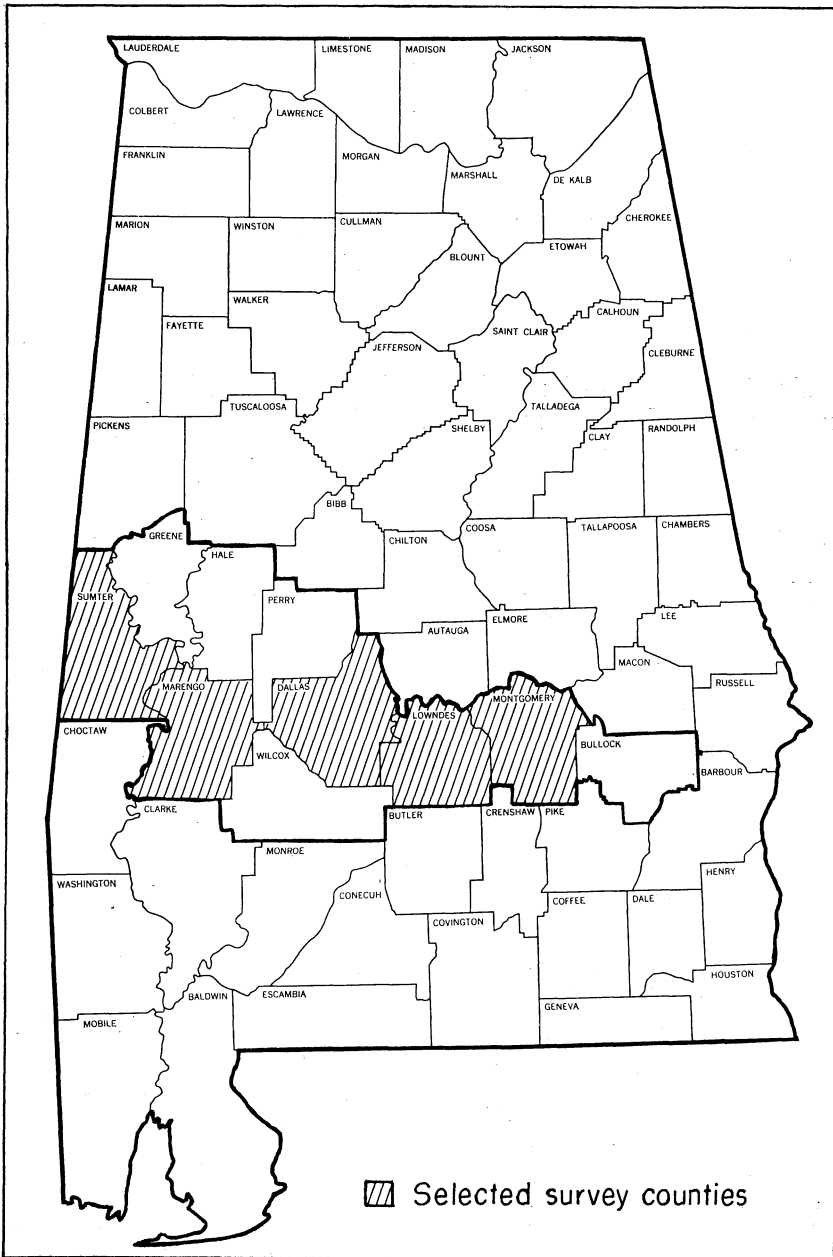


FIG. 1. Alabama Black Belt and Counties Included in Farm Labor Study, 1971.

designed to secure information about the farm, the operator, and family labor used on the farm. Labor characteristics and earnings were studied in the second section. Most questions were adapted for statistical evaluation, however, the operator was offered an opportunity to express his views about farm labor, as well as problems involved in securing and retaining a satisfactory labor force.

TERMS AND DEFINITIONS USED

Employee or Worker — A full-time hired farm worker employed on a year-round basis.

Operator — Owner or general manager of farm.

Family Laborer — A member of the operator's family who was employed on the farm more than 15 hours per week during the calendar year but was not employed full-time.

Total Investment — Capital stock on the farm including investment in farm machinery, buildings, and livestock. Land was excluded from total investment in this analysis.

Non-white and White — The term "non-white" is used to refer to other than "white" races, including Negroes, Indians, and Puerto Ricans.

Hourly Cash Wage — Cash money received by worker per hour of agricultural labor. In some instances, hourly cash wage considers hourly wages regardless of time worked by employee.¹

Monthly Cash Wage — Cash money received by worker per month of agricultural labor. Monthly cash wage considers monthly wages based on actual time worked.²

Perquisites — Monthly noncash benefits and cash incentives or bonuses paid workers.

Monthly Total Wage — Total cash wages plus perquisites received by worker.

Method of Payment — Basis of payment of wages to workers; either hourly, daily, weekly, or monthly.

Miles from Montgomery — Distance to the farm from Montgomery, Alabama.

¹ Hourly cash wage assumes each employee worked 221.3 hours per month. This assumption was based on the average of hours worked per month by all full-time hired workers in the sample.

² Monthly cash wage was based on actual hours worked per month by each employee, and unlike hourly cash wage it is not an average.

FARM POPULATION TRENDS

Of the 208 million people in the United States in 1972, only 9.6 million, or 4.6 percent lived on farms, Table 1. Since 1960, when there were 15.6 million farm people, farm population has declined by 6.0 million. This was a 39 percent reduction in farm population in 13 years. Total farm employment including family workers, declined 38 percent between 1960 and 1972, while non-agricultural employment gained 30 percent.

Although the farm exodus began in the 1930's, the depression slowed this migration. Shortly after World War II, when 8-million people left the farm, the exodus began again and has continued into the 1970's (1). The rate of decline has slowed in recent years and a slight increase in farm population was indicated in 1972. However, preliminary data for 1973 showed a reduction.

It was reported by Beale in a North Carolina study that the rate of out-migration from farms has declined substantially and will probably decline further. He concluded that migration and mobility were a part of modern society, and cities would continue to receive a substantial proportion of farm youth (1). Persons who left farming and realized gains in income stayed in nonfarm employment, while those who left farming and subsequently experienced lower incomes returned. Older agricultural workers with low mobility rarely increased incomes by moving to non-farm employment (5).

A study at the Washington State Agricultural Experiment Station found that the supply of agricultural labor was a function

TABLE 1. TOTAL RESIDENT AND FARM POPULATION, UNITED STATES, SELECTED YEARS, 1910-1972

Year	Total resident population	Farm population	
		Number	Share of total population
	<i>Thousands</i>	<i>Thousands</i>	<i>Percent</i>
1910.....	92,228	32,077	34.8
1920.....	106,022	31,974	30.2
1930.....	123,203	30,529	24.8
1940.....	132,165	30,547	23.1
1950.....	151,326	23,048	15.2
1960.....	179,323	15,635	8.7
1965.....	192,983	12,363	6.4
1970.....	203,235	9,712	4.8
1971.....	205,660	9,425	4.6
1972.....	207,775	9,610	4.6

Source: U.S. Bureau of Census.

of relative wages, availability of jobs in non-agricultural sectors, and the acceptability of farm employment (3). In the mid-1960's Heady at Iowa State noted that farm labor was becoming more responsive to wage rates, although the response was slow (2). With continued technological advancements, Heady projected a decline in use of hired labor of 30 to 35 percent by 1980. With the remaining farms increasing in size, demand for qualified hired labor was projected to rise as operator and family labor become inadequate.

The decline in farm population was more pronounced among non-whites than in the white rural population during the 1960's. Annual average rate of decline was 10.5 percent for non-whites as compared to a 3.8 percent decrease among whites. During the 1960's, the proportion that non-whites were of the total farm population fell from 16 to 10 percent.

During the past decade the age composition of farm population changed significantly. Numbers of children under 14 years of age in 1960 comprised 32 percent of all farm people, but only 26 percent in 1970 (12). In the total population children under 14 years of age comprised 31 percent in 1960 and 29 percent in 1970. Farm people over 55 years of age increased from 18 to 23 percent during the period, while the national increase was from 18 to 19 percent.

Percentage of female farm residents participating in agricultural labor also has increased since 1960. Female farm-resident participation in agricultural labor increased from 30 to 38 percent while the male participation rate declined from 85 to 80 percent between 1960 and 1972. Total increase of females in the national work force was from 38 to 44 percent, a higher participation rate than in agriculture. Male participation in the total labor force decreased from 84 to 80 percent (15).

Proportion of farm population employed solely or primarily in agriculture has continued to decline. In 1960, 66 percent of the employed farm resident labor worked on the farm and 34 percent were employed at nonagricultural occupations. In 1970 the proportions were 55 and 45 percent, respectively.

Labor force participation was higher among white farm residents than among non-whites. In 1970 three-fifths of the white farm population over 14 years of age were either working or seeking work as compared to 54 percent for non-whites (12). Unemployment in the agricultural sector was higher among Negroes and other races than among whites. Rate of unemployment for

white farm residents was 1.7 percent as compared to 4.0 percent for non-whites. However, agricultural unemployment was low in comparison to nonfarm unemployment by race.

ALABAMA'S AGRICULTURAL POPULATION

Trends in Alabama's agricultural population and employment paralleled national declines both in number of workers and farms, while size of remaining farms increased. Farm population in the State decreased from 403,000 in 1960 to 160,000 in 1970, a decline of 60 percent. Alabama's farms numbered 72,000 in 1970, a 38 percent decrease from the 116,000 in 1960. Farm size in Alabama increased by 32 percent during the 1960's to an average of 188 acres per farm.

Alabama's farm population decline exceeded national reductions in percentage, while growth in industrial employment lagged behind the national growth, Table 2. Total agricultural employment in Alabama declined 45 percent since 1960, while hired farm workers decreased by 49 percent and family labor by 44 percent.

Within the State the largest population change since 1950 was the loss of 800,000 people in rural farm population, Table 3. In

TABLE 2. AGRICULTURAL AND NONAGRICULTURAL WORKERS LABOR FORCE, UNITED STATES AND ALABAMA, 1960-1973

Year	Nonagricultural workers		Agricultural workers					
	United States	Alabama	United States			Alabama		
			Family	Hired	Total	Family	Hired	Total
<i>Thousand</i>								
1960.....	54,234	953	5,172	1,885	7,057	116	33	149
1961.....	54,042	954	5,029	1,890	6,919	109	33	142
1962.....	55,596	968	4,873	1,827	6,700	102	31	133
1963.....	56,702	987	4,738	1,780	6,518	103	32	135
1964.....	58,331	1,023	4,506	1,604	6,110	100	28	128
1965.....	60,815	1,065	4,128	1,482	5,610	99	22	121
1966.....	63,955	1,110	3,854	1,360	5,214	85	26	111
1967.....	65,857	1,122	3,650	1,253	4,903	84	24	108
1968.....	67,915	1,135	3,536	1,213	4,749	82	22	104
1969.....	70,284	1,166	3,420	1,176	4,596	77	22	99
1970.....	70,593	1,175	3,348	1,175	4,523	71	19	90
1971.....	70,645	1,189	3,275	1,161	4,436	68	18	86
1972.....	72,764	1,243	3,228	1,145	4,373	65	17	82

Sources: U.S. Department of Agriculture, Statistical Reporting Service, *Farm Labor*, 1960-1973 annual summaries.

Alabama Department of Industrial Relations, Research and Statistics Division, *Alabama Employment Review* 1970, 1973 summaries

U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings* 20:7, 1974.

TABLE 3. RESIDENTIAL CHARACTERISTICS OF POPULATION BY RACE, ALABAMA, 1950-1970

Year	Total	Urban		Rural non-farm		Rural farm	
		White	Non-white	White	Non-white	White	Non-white
1950.....	3,061,743	886,717	454,220	550,966	209,347	641,908	318,585
1960.....	3,266,740	1,237,094	558,075	768,499	300,217	278,024	124,831
1970.....	3,444,165	1,444,990	566,998	962,255	310,542	127,636	30,727

Source: U.S. Census of Population, Alabama, 1950, 1960, and 1970.

1970, this segment of the population in Alabama was only 16 percent of the 1950 level. White farm population declined 80 percent and non-white population dropped 90 percent.

In the two decades total white population in Alabama increased 22 percent, but non-white population declined 7.5 percent. Loss of non-white population was particularly important to agriculture since a large proportion of agricultural labor in the State has been non-white.

POPULATION CHANGES IN THE BLACK BELT OF ALABAMA

Significant population changes occurred in the Black Belt region of central Alabama between 1950 and 1970, Figure 2. Total population, rural population, and non-white population declined during the period.

In 1950, the 10-county area of the Black Belt had a population of 363,000, which was predominately rural non-white. Sixty-one percent of the total population was non-white and 61 percent was rural. The 220,000 rural residents in 1950 consisted of 162,000 non-whites and 59,000 whites.

Average size of the 31,000 farms in the Black Belt in 1950 was 135 acres with a range in average acreage of 101 acres in Hale County to 168 acres in Montgomery County. Farm size in the State, as a whole, averaged 99 acres (9).

Although total population of the area declined 4.4 percent between 1950 and 1970, population increased by 8,000 between 1950 and 1960. The increase was due to the growth of urban population in Montgomery County. Population in the other nine counties declined during that decade. Out-migration from the region was by non-white residents. Total non-white population decreased from 223,000 in 1950 to 202,000 in 1960 and 171,000 in 1970. During the period 1950-1970, white population of the area actually increased 25 percent from 141,000 to 176,000.

Rural population in the Black Belt decreased from 174,000 in

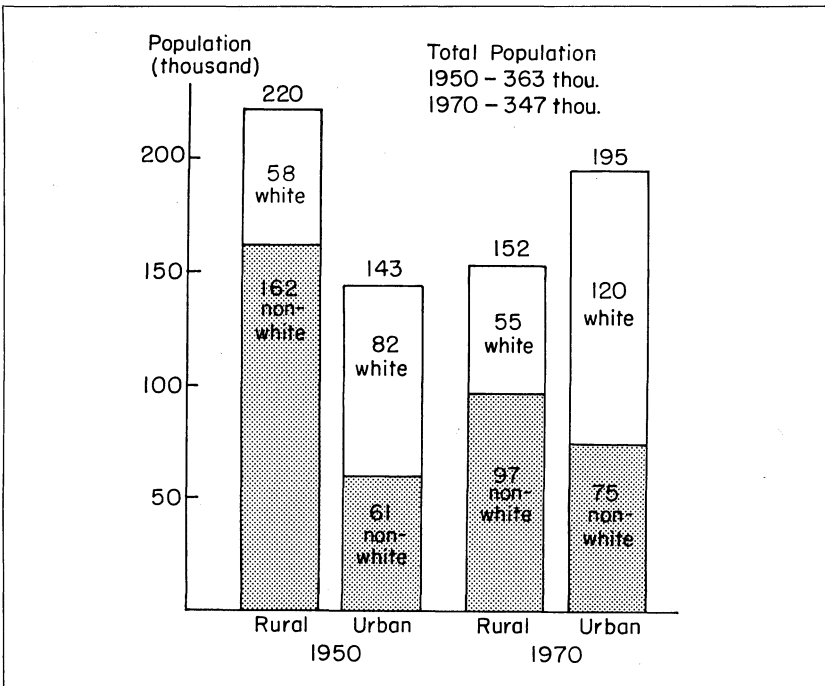


FIG. 2. Rural and Urban Population by Race, 10 Black Belt Counties, Alabama, 1950 and 1970.

1960 to 152,000 in 1970, a 12 percent drop. Of the 152,000 people having a rural residence in 1970 in the Black Belt, 97,000 or 63 percent were non-white (9).

In 1959, size of the 18,000 farms in this region averaged 208 acres, while 9,000 farms in 1969 averaged 324 acres (10,11). During this period, number of farms declined 50 percent while size of farms increased 56 percent. For Alabama, as a whole, between 1959 and 1969, number of farms decreased 39 percent to 73,000 and size of farms increased 32 percent to 188 acres.

WAGE RATES

Despite large reductions in the number of agricultural laborers, farm wage rates remained substantially below wage rates paid in nonagricultural sectors, Table 4. Workers on nonagricultural payrolls in the United States in 1972 earned \$3.65 per hour as compared to \$1.84 for agricultural laborers. During 1972, hired farm workers as a group earned \$13.20 in cash wages per day (without

TABLE 4. AGRICULTURAL AND NONAGRICULTURAL WAGE RATES, UNITED STATES AND ALABAMA, 1960-1972

Year	Nonagricultural wages				Agricultural wages				
	United States		Alabama		United States		Alabama		
	Hourly	Weekly	Hourly	Weekly	Hourly	Weekly	Daily	Hourly	Daily
	<i>Dollars</i>								
1960.....	2.09	80.67	1.97	75.65	.97	6.60	45.75	.60	4.50
1961.....	2.14	82.60	2.00	79.20	.99	6.60	46.50	.61	4.55
1962.....	2.22	85.91	2.06	82.61	1.01	6.90	47.75	.63	4.75
1963.....	2.28	88.46	2.11	85.46	1.05	7.10	48.50	.66	4.80
1964.....	2.36	91.33	2.17	88.97	1.08	7.30	49.50	.69	5.00
1965.....	2.45	95.06	2.24	93.63	1.14	7.60	51.50	.76	5.30
1966.....	2.56	98.82	2.31	96.33	1.23	8.20	55.75	.82	5.80
1967.....	2.68	101.84	2.40	98.16	1.33	9.00	60.50	.93	6.60
1968.....	2.85	107.73	2.55	105.32	1.43	9.90	66.25	1.02	7.10
1969.....	3.04	114.61	2.71	111.38	1.58	10.90	72.75	1.14	8.00
1970.....	3.22	119.46	2.86	114.97	1.64	11.70	78.00	1.24	8.70
1971.....	3.43	126.91	3.01	122.51	1.73	12.20	81.00	1.32	9.30
1972.....	3.65	135.78	3.22	132.34	1.84	13.20	85.75	1.43	10.30

Source: U.S. Department of Agriculture, Statistical Reporting Service, *Farm Labor* (Washington, D.C.: USDA, 1960-1970 Annual Summaries).

U.S. Department of Labor, Bureau of Census, *Handbook of Labor Statistics* 1973 (Washington, D.C.: Government Printing Office, Bulletin 1790, 1973).

room and board) and \$85.75 for those paid weekly (15). In comparison, production workers in U.S. manufacturing industries received a weekly wage of \$135.78, which was 58 percent greater than farm workers paid by the week. This disparity of wages shifts further to the disadvantage of farm workers when fringe benefits received by industrial workers are considered.

Despite the difference in wage rates, agricultural pay rose 90 percent since 1960, while hourly industrial wages increased by 75 percent. Weekly wages in agriculture doubled, compared to a 68 percent increase in nonagricultural industries. Of the major farm inputs, cost of labor made one of the largest increases during the past decade (13).

Hourly wage rate for agricultural employees in Alabama in 1972 was \$1.43, or 22 percent below the national average. Although farm wages in Alabama were among the lowest in the nation, the average hourly wage for industrial workers in the State was more comparable to the national average. Industrial workers earned 12 percent less per hour in Alabama than in the nation as a whole. However, when compared on the basis of weekly wages, Alabama's industrial employees were only 2.5 percent below the national average. (15).

A comparison of daily wages, without room and board, paid

agricultural workers in 1972 in adjoining states revealed that Alabama's wage of \$10.30 was the lowest in the five-state area, which includes Georgia, Mississippi, Tennessee, Florida, and Alabama. Daily wage in Florida, the highest in the area, was \$11.50 and only \$.20 below the national average (13).

SURVEY FARMS AND WORK FORCE

Selected characteristics of the survey farms, operators, and the hired work force are summarized in Tables 5 and 6. Characteristics are presented by county and enterprise.

Farm Size Characteristics

The 60 farms surveyed averaged 2,732 acres per farm with a range of 220 to 11,000 acres. Average size of farms varied by enterprise from 2,996 acres for soybean producers to 2,440 acres for cotton growers. Farm size varied little among Montgomery, Lowndes, Dallas, and Marengo counties. However, the 1,660-acre average per farm in Sumter County was significantly lower than in the other counties.

Forty-three of the farm operators interviewed rented land for agricultural purposes. Farmers renting land rented 55 percent of total acreage with soybean producers being most dependent on rented land. Dependence on rented land varied substantially among enterprises as soybean growers rented 57 percent of total acreage while beef producers rented only 14 percent.

Although the 60 farms were classified by major enterprise, most had a diversity of enterprises. Sixty percent of the operators raised soybeans, 60 percent raised cotton, and 82 percent of the farmers raised beef cattle. In addition, several farmers reported dairy and swine enterprises. Capital investment per farm, excluding land, averaged \$171,000. Because of cattle inventory, beef operators commonly had the highest investment per farm and per worker. The largest county investment was in Lowndes County with \$238,000 per farm.

Operator Characteristics

The average age of farmers interviewed was 46 years with some variation in age by enterprise. Operators averaged 14 years of education with a range of 8 to 20 years. Variation existed in

TABLE 5. SELECTED CHARACTERISTICS OF FARMS, WORK FORCE, AND WAGES PAID FULL-TIME HIRED WORKERS, AVERAGE OF 60 BLACK BELT FARMS, BY COUNTY, 1971

Characteristic and unit	Montgomery County	Lowndes County	Dallas County	Marengo County	Sumter County	Total/average
A. Farms						
Farms in sample; number.....	12	12	12	12	12	60
Size of farms; acres.....	3,210	2,700	3,354	2,733	1,660	2,732
Percentage renting land; percent.....	92	75	42	67	83	72
Percentage of total land rented; percent.....	27	36	21	50	51	35
Capital investment per farm (excluding land); dollars.....	193,000	238,000	164,000	129,000	132,000	171,000
Capital per worker (full-time hired, operator, family) on farms; dollars.....	36,700	42,700	25,900	34,400	46,600	49,100
B. Operators						
Operators in sample; number.....	12	12	12	12	12	60
Age; years.....	49.3	45.3	44.3	46.7	44.1	45.9
Education; years.....	15.2	14.4	14.8	14.3	12.4	14.2
Manager of farm; years.....	20.9	21.9	11.8	15.4	16.8	17.4
Hours worked per week; hours.....	52.5	52.7	56.7	49.6	49.3	51.9
Worker turnover in past 5 years; No.....	5.4	3.2	4.5	1.6	2.3	3.4
C. Work Force						
Full-time hired workers in sample; No.....	50	53	62	27	17	209
Full-time hired workers per farm; No.....	4.2	4.4	5.2	2.3	1.4	3.5
Tenure; years.....	11.9	9.3	8.1	7.3	6.6	9.1
Age; years.....	40.6	42.5	39.3	42.4	38.9	40.8
Formal education; years.....	8.5	7.5	7.9	7.2	6.9	7.8
Average hours worked by full-time labor per day; hours.....	9.9	9.8	10.6	10.1	10.3	10.1
D. Earnings of Hired Workers						
Monthly cash wage; dollars.....	314	255	274	260	192	270
Monthly perquisites, bonuses and incentives; dollars.....	44	58	35	54	43	46
TOTAL.....	358	313	309	314	235	316
Percentage of monthly earnings in perquisites, bonuses, and incentives; percent.....	12.3	18.5	11.3	17.2	18.3	14.6
Hourly earnings, dollars.....	1.42	1.15	1.24	1.17	0.87	1.22

TABLE 6. SELECTED CHARACTERISTICS OF FARMS, WORK FORCE, AND WAGES PAID FULL-TIME WORKERS,
AVERAGE OF 60 BLACK BELT FARMS, BY ENTERPRISE, 1971

Characteristic and unit	Soybean	Cotton	Beef	Total/average
A. Farms				
Farms in sample; number.....	20	20	20	60
Size of farms; acres.....	2,996	2,440	2,758	2,731
Percentage renting land; percent.....	95	70	50	72
Percentage of total land rented; percent.....	57	34	13	35
Capital investment per farm (excluding land); dollars.....	169,000	122,000	222,000	171,000
Capital per worker (full-time hired, operator, family) on farms; dollars.....	32,300	24,600	52,200	49,100
B. Operators				
Operators in sample; number.....	20	20	20	60
Age; years.....	41.6	44.4	51.7	45.9
Education; years.....	13.8	14.5	14.4	14.2
Manager of farm; years.....	13.2	16.2	22.8	17.4
Hours worked per week; hours.....	54.4	52.1	49.3	51.9
Worker turnover in past 5 years; No.....	3.6	4.0	2.5	3.4
C. Work Force				
Full-time hired workers in sample; No.....	73	74	62	209
Full-time hired workers per farm; No.....	3.7	3.7	3.1	3.5
Tenure; years.....	9.2	8.1	10.4	9.1
Age; years.....	40.6	39.3	42.0	40.8
Formal education; years.....	8.2	7.6	7.7	7.8
Average hours worked by full-time labor per day; hours.....	10.4	10.1	9.9	10.1
D. Earnings of Hired Workers				
Monthly cash wage; dollars.....	278	279	250	270
Monthly perquisites, bonuses and incentives; dollars.....	47	42	49	46
TOTAL.....	325	321	299	316
Percentage of monthly earnings in perquisites, bonuses, and incentives; percent.....	14.1	13.1	16.33	14.6
Hourly earnings, dollars.....	1.25	1.26	1.13	1.22

years farmed by enterprise in the sample area. On the average, soybean operators had farmed 17 years, compared to 20 years for cotton growers and 27 years for beef producers. In addition, half of the soybean farmers had at one time been employed full-time off the farm as compared to 30 percent of the beef producers.

Worker Characteristics

The 60 farmers hired 209 full-time laborers or an average of 3.5 workers per farm. Cotton and soybean producers hired 3.7 workers per farm while beef producers used an average of 3.1 workers. At least one worker was hired on each farm that was studied. Three men or less were employed on 36 farms and only eight hired more than six workers.

Black Belt farmers were hiring less full-time labor at the time of the study than either 5 or 10 years previously. One reason for reduction in hired workers cited by many operators was the Fair Labor Standards Amendments of 1966 as applied to agriculture. These amendments established minimum wages for agricultural workers on farms where 500 man-days of labor were hired per quarter in the peak season of the year.³

A substantial worker turnover was commonly reported by farm operators. Fifteen cotton farmers reported the loss of five full-time workers per farm during the previous 5 years and 16 soybean growers had lost an average of four workers per farm. Beef producers hired fewer workers and experienced a lower worker loss. In spite of the worker turnover, average tenure of workers on the farms at the time of study was slightly over 9 years. Many workers had been employed on the sample farms most of their adult lives. Lowest tenure, 6.6 years, was reported in Sumter County while a tenure of almost 12 years per worker was found in Montgomery County, the most industrialized county studied.

Formal education of workers averaged 7.8 years. Although little difference in worker education was found among enterprises, a difference of 1.6 years was reported in the average between Montgomery and Sumter counties. Analysis of hours worked showed little difference among counties or enterprises.

³ The Fair Labor Standards Act as amended in 1966 provided for establishment of minimum wage on certain farms. Payment of minimum wages was required of farmers who used more than 500 man-days of labor in a peak labor use quarter. The Act established a \$1.00 an hour minimum wage for agricultural laborers beginning February 1, 1967, \$1.15 minimum beginning February 1, 1968, and \$1.30 minimum wage beginning February 1, 1969. However, agricultural employees were exempted from overtime provisions of the law.

Worker Income

Most employees were paid on an hourly or weekly basis, Table 7. Of the 73 paid by the hour, 56 worked on farms under the Fair Labor Standards Amendment of 1966 as applied to agriculture. They received an average of \$1.39 per hour, whereas wages paid on farms not covered by the law were \$1.12 per hour. Only five employees on farms under minimum wages were paid other than on an hourly rate. When all wages were converted to a monthly basis, average cash wage was \$270 with workers in Montgomery County receiving the highest wages and workers in Sumter the lowest. Average monthly wages paid workers on soybean and cotton farms were approximately \$280, almost \$30 above workers on beef cattle farms. Hourly cash wages for cotton and soybean workers were about 10 percent higher than for workers on beef farms. One explanation for the wage difference was the greater skill needed for operation of equipment in cotton and soybean enterprises.

In addition to cash wages, workers received perquisites, bonuses, or incentives which amounted to \$46 or 14.6 percent of total monthly income.

Hourly cash wages appeared to be related to industrial concentration in the counties. Farmers in Montgomery and Dallas, two counties in which more off-farm job opportunities were available, paid the highest wages of \$1.42 and \$1.24, respectively. In Sumter County, which had relatively few industrial jobs, workers were paid the lowest hourly cash wage of \$.87.

Perquisites ranged by county from \$35 to \$58 per month. In counties in which the highest cash wages were paid, only 12 percent of monthly incomes was provided as perquisites.

Earnings of farm workers generally increased with level of investment per farm. Total monthly wages including perquisites on six farms with an investment exceeding \$300,000 was \$389 or

TABLE 7. BASIS OF CASH WAGE RATE, 209 FULL-TIME WORKERS IN SELECTED BLACK BELT COUNTIES, 1971

Basis of payment	Number of workers	Average wage	Range in wages
	No.	Dollars	Dollars
Hourly.....	73	1.33	0.75- 3.00
Daily.....	42	8.93	6.00- 20.00
Weekly.....	82	64.88	10.00- 200.00
Monthly.....	12	361.17	130.00-1000.00

about 30 percent more pay than on farms with an investment less than \$200,000. Value of land was excluded from this determination.

Racial Characteristics

A total of 178 non-white and 31 white workers were employed on the 60 farms, Table 8. Average age of white workers was 43 years as compared to 40 for non-whites. However, tenure on the present farm of non-white workers was about 1 year greater than for white laborers. Educational level of white workers of 10 years was almost 4 years greater than the formal schooling received by non-whites.

Greater variation found in the racial comparison was in the amount of wages paid employees. White workers were paid an average of \$1.95 per hour or \$.86 more than received by non-whites. Monthly compensation for whites was \$220 more than paid non-whites. Level of perquisites paid white workers also was greater. However, a larger proportion of non-whites received perquisites.

Factors apparently affecting the wage disparity included the higher educational levels of white workers. Also, white employees usually performed more specialized jobs than non-whites and were employed on larger farms which were, in some cases, covered by the minimum wage law.

FACTORS AFFECTING WAGES

Influence of selected factors on wages paid full-time hired farm workers was measured by multiple linear regression techniques. With this method, the statistical significance or the importance of the relationship between factors believed to affect wages was tested. The relative contribution of each factor, such as education or residence of worker, on the worker's earnings was

TABLE 8. SELECTED CHARACTERISTICS OF FULL-TIME HIRED WORKERS, BY RACE, AVERAGE OF 60 BLACK BELT FARMS, ALABAMA, 1971

Characteristic and unit	White	Non-white
Workers; number.....	31	178
Age; years.....	43.2	40.4
Tenure; years.....	8.1	9.3
Formal education; years.....	10.2	6.4
Hours per day worked; hours.....	10.0	10.2
Hourly cash wage; dollars.....	\$1.95	\$1.09
Total monthly wage; dollars.....	\$505	\$284
Monthly perquisites; dollars.....	\$ 73	\$ 42

approximated. Three dependent variables, all methods of earnings, were considered: hourly cash wage, monthly total wage, and perquisites. Hourly cash wage was salary per hour; monthly total wage measured wages and perquisites without regard to total hours or days worked. Perquisites were values of monthly non-wage compensation (including incentives and bonuses in some cases).

The factors studied, which were believed to influence wage levels, were: age and education of worker, number of workers on the farm, distance of the farm from Montgomery, acreage farmed including rented land, machinery and total investment excluding value of land, operator's age, type of enterprise, race, residence of worker, and method of payment of worker's wage.

Workers' skills, which are likely major determinants of wages, were not specifically measured in this study. However, one indication of skills measured was worker education. Although a number of different equations were tested in the analyses, only those with significant and plausible results will be discussed. In each equation, only certain variables affected the level of wages and in no case were all variables included in the study significant factors. Summaries of the statistical analyses are presented in Appendix Tables 1, 2, and 3. A brief interpretation of the equations is also in the Appendix. Items that were found to significantly affect wages and perquisites are in the following discussion. Reference to the Appendix tables may be helpful in relating the significant variables discussed to the various wage equations.

Education of Worker

For both hourly cash wage and total monthly wage analyses, education of worker was highly significant in each case. Average education of workers was 7.8 years. Value of an additional year of education for workers on cotton and soybean enterprises was 7.2 cents per hour. On beef operations effect of education was less, 3.6 cents per hour. Value of education was somewhat higher for workers who lived off the farm, 8.0 cents, than for those residing on the farm, 5.1 cents.⁴

⁴ Significance of worker education as a wage determinant was supported by a 1968 Delaware study of hired farm labor (4). Education and distance of the farm from industrial employment opportunities were the two most important factors influencing workers wages.

The greatest contrast in values for education was between white and non-white workers. For each year of education non-white workers were paid 1.7 cents, while white workers received 23.0 cents. Educational level of white workers was higher, 10.2 years as compared to 6.4 for non-whites. Many of the 31 white workers held management or supervisory positions on the farms and were paid higher wages.

In the perquisite analysis, education of workers was not significant in any regression model.

Age of Worker

Age of worker as a determinant of wages was significant in only three total monthly wage models and in each case, age and wages were positively related. Employees residing on the farm received \$2.35 for each additional year of age. Age was not a significant wage determinant for workers living off the farm. For non-white workers age was significant, but had little effect on wages. Each additional year of age increased total monthly wages for non-white workers by only 83 cents per month.

Miles from Montgomery

Distance of the farm from Montgomery, the most industrialized area in the Black Belt, was a significant factor in five models, and in four cases the rate of wage declined as the farm was farther away from Montgomery. The hourly cash wage paid white workers declined .9 cent for each mile the farm was removed from this industrialized area. Wages of workers on beef farms were likewise negatively affected as distance from Montgomery increased. In the total monthly wage model wages paid workers living off the farm declined approximately 84 cents per month for each mile the farm was located from the industrialized area. In the perquisite model for beef enterprises, value of perquisites increased slightly as distance increased from Montgomery.

Machinery Investment

The level of investment in machinery on the farm was positively related to workers wages in both the total monthly wage and the hourly cash wage models, but was negatively related in the perquisite models. As farmers utilized more equipment, they were willing to pay an additional amount for skilled labor to operate the equipment. As larger cash wages were paid to these workers less were paid in the form of perquisites.

Total Investment

Total investment which excluded a value for land was positively related to level of wages, as well as perquisites in nine models. The positive relationship was indicative of payment for greater skills demanded of workers on farms with larger capital investment. In two analyses based on race, however, the relationship between total investment and wages was negative.

Operator's Age

Age of operator was found to be significantly related to wages in seven models. Generally, this relationship was negative. The older the operator the lower the wages paid farm employees. The only positive relationship between operator's age and wages was found on soybean enterprises where the average age of the operator was younger than other enterprise operators studied. A noticeable contrast was found between wages paid by soybean and beef operators. As operator's age increased for beef operators, average monthly wage declined by \$3.14. On soybean operations as operators age increased, total monthly wages increased by \$3.26.

Total Acreage

Large farms in the sample were not indicative of greater wages, as negative relationships between wages and total acreage were found in some hourly cash wage and total monthly wage models. No significant positive relationships were found between cash wages and acreage. However, positive relationships were found to be significant in two of the perquisite models.

Total Workers

In three wage models a positive relationship was found between the total number of workers on the farm and the level of wages. This relationship was highly significant in payment of hourly cash wages and the total monthly wages to non-white workers. On farms employing non-white workers, for each additional worker on the farm hourly cash wage increased approximately 5 cents.

Race of Worker

A significant difference was found in level of wages paid white and non-white workers. In the three wage analyses, race was

used as a model, however, in the perquisite models race was entered also as an independent factor affecting level of perquisites. In four perquisite models, significant differences were found between races as to the effect on perquisites. For example, non-white workers received \$40.13 less in perquisites than did white workers in the all-workers model. Non-white workers on beef cattle farms received approximately \$74 less in perquisites than did white workers. This difference was much less on soybean enterprises and the relationship was not significant on cotton enterprises. In the residence model non-white workers living on the farm received \$67.78 less than white workers. The race factor was not a significant variable for workers living off the farm.

Residence of Worker

Residence had a highly significant effect on the level of perquisites paid workers. In the all-workers model, laborers living off the farm received \$41.84 less perquisites than workers living on the farm. This factor was significant in each model and in each case perquisites were less for workers residing off the farm. The largest difference was in value of perquisites between white and non-white workers. White workers living off the farm received \$97.04 less in perquisites than on-farm white workers, while non-white workers received \$29.67 less.

Method of Payment

Method of payment of workers — hourly, daily, weekly, or monthly pay basis — was entered in the perquisite models as an independent variable affecting perquisites. In the all-workers model, laborers paid on an hourly basis received \$10.26 less in monthly perquisites than workers paid by the day; \$20.52 less than workers paid weekly; and \$30.78 less than those paid monthly.⁵

The largest effect of the method of payment on perquisites, \$16.61, was found in the soybean model. Method of payment was significant in each model, except the beef enterprise and white workers model.

⁵ The variable in the case of method of payment dictated four separate but parallel regression lines for each method of payment of wages. The difference at any vertical intercept was \$10.26 in perquisites per month. Workers paid by the hour were expected to receive less in perquisites than workers who were in turn paid by the day, week, or month.

Perquisites

Perquisites furnished by employers included non-cash benefits such as housing, utilities, and transportation, as well as cash incentives and bonuses. Most farmers viewed housing and other non-cash benefits as being essential for retention of qualified agricultural labor. The most common non-cash benefits furnished were housing, electricity, and water. Incentive plans and bonuses were considered rewards for quality work by laborers and a means of increasing production. Value of perquisites in this analysis was assigned by the farm operator. Employee estimates may have been different. A previous farm labor study showed that operators place a slightly higher value on perquisites (6).

A Southern Extension Farm Management Publication in 1969, concerning incentive payments for farm employees, reported that farmers using incentive payments as a part of the perquisites package were frequently disappointed with the results intended (8). Apparently many farmers did not understand the principal of a good incentive plan and some farmers had used incentives as a substitute for reasonable wages, working conditions, and living arrangements.⁶

Method of payment, race, and residence of workers, which were coded variables in the equations, were important determinants of the level of perquisites. Workers paid by the hour ordinarily were paid the least amount in perquisites while workers paid monthly who tend to have a more permanent employment relationship received more perquisite compensation through bonuses and profit sharing arrangements.

Race was a significant determinant of level of perquisites in four equations, with white workers receiving the higher level. Most of the difference was a consequence of white workers receiving better quality living facilities. Housing was usually newer and better equipped. White workers also received more bonuses and incentives.

⁶ An incentive plan was defined as a payment, made in cash or goods, paid immediately or deferred, with the following ingredients: payment to be above and beyond the normal basic wage and privileges, employee knows beforehand the extent and limit of the payment, and the employee knows that job performance may influence the size of payment. A bonus or gift is not considered an incentive payment. For further information on application of incentive payments see Incentive Payments for Farm Employees, Southern Extension Farm Management Publication No. 13, 1969 (8).

In all cases residence was highly significant as housing comprised a large share of total perquisites. Increase in cash wage per hour was associated with reduced perquisites in three cases. Farmers covered by the Minimum Wage Law paid relatively less in perquisites and more in cash wages, while workers receiving less than the minimum wage were paid a large proportion of total income in non-cash benefits.

COMPARABLE FINDINGS

In a Delaware study of full-time hired labor in 1968, Knorr and Elterich related similar factors to wages and got results comparable to this analysis (4). Significant determinants of workers' wages were found to include distance of the farm from industrial employment, worker education, investment per hour of labor, and number of workers on the farm. Education, investment, and number of workers were positively related to wages while distance from industrial employment opportunities was a negative relationship. A larger proportion of the variation in wages was explained in this study than in the Delaware study. In most equations over 50 percent of the wage variation was explained. The most successful equation was the perquisite model for white workers in which 87 percent of wage variation was explained. In the Delaware study the most successful equation explained only 36 percent of wage variation.

FARMERS' OBSERVATIONS AND ADVICE ABOUT HIRED LABOR

Most farm operators perceived the remaining quantity and quality of labor as serious problems affecting their family operations as well as other farmers in the community. Generally, labor was difficult to find and if present workers left the farm many farmers claimed they did not know where to find replacement workers. Farmers observed that the better quality labor was gone, and the few good workers who remained apparently preferred farm life. Young people, especially Negro youth, which was the majority of the potential labor force, were leaving the area. Those young workers who remained, both white and non-white, wanted more pay but frequently did not perform well on the job according to farmers interviewed.

Government programs which provided assistance to low-income rural people including some farm workers were credited by about a fifth of the farmers interviewed as reducing the labor force.

Although most Black Belt farmers said labor was hard to find, some said that an adequate supply of labor was available in their local area.

In resolving of their own labor problems, a large proportion of farmers said that it was necessary to increase the size of their farming operation and larger equipment should be used to improve labor productivity. Farmers admitted that greater skills were needed by workers who would operate expensive farm equipment. Some suggested more education was needed by labor; however, farmers recognized that potential workers, receiving additional education or vocational skills, would probably leave the area to find non-farm employment. Some farmers claimed they would reduce the size of their farming operation so as to depend primarily on family labor. Several stated that a solution to their labor problems would be to help their neighbors, share equipment, as well as to depend on custom work. Some were considering changing to farm enterprises that would require less intensive labor.

Six farmers noted that rising production costs, which have occurred over a good many years with steady or declining farm prices, had put them in a cost-price squeeze. Under this situation they believed they could not expand or pay adequate farm wage rates. At the time of the study in 1971, the parity ratio was the lowest in many years (14).

In a more positive vein, a few farmers recognized the need to improve management, to improve working conditions for hired labor, to pay workers according to productivity, provide fringe benefits, and to be more competitive with non-farm employment.

Farmers were solicited for advice in securing and managing a satisfactory labor force. Most farmers gave a number of responses to the question. The need to pay a fair and competitive wage was recognized by the majority of farmers. Farmers frequently stated they would increase pay to hold present workers if necessary. It was generally believed that housing on the farm should be provided; however, a few farmers stated that the provision of housing was not essential to maintain farm labor. Other perquisites such as bonuses, a garden, and other housing conveniences were helpful in keeping workers and their families satisfied. In cases where labor and their families lived on the farm it was important to consider the needs of a worker's family. Farmers stated that workers had left their employment when the worker's wife or

family was unhappy with the living or working conditions.⁷

Respect for the laborer as an individual and fair treatment in dealing with labor were the most commonly mentioned recommendations. The farm operators should do those things for labor as he has promised. Several farmers stated, "You must do as you say with workers." The statement has broad meaning that includes not only provision of satisfactory working conditions, an honest relationship between the employer and employee; but also the employer should keep his word in providing regular work, time off, and other benefits as promised.

The farmer should endeavor to create a feeling of achievement by labor. Many workers have the ability or potential to share in decision-making and can be given added responsibility. The worker should know that the employer depends on him and that he is an important person in the business. Employees should be kept informed about the farming operation, future farming plans, and anticipated economic conditions that affect the farm and his employment situation. It was generally observed that the employer should set a good example in work and personal habits for farm workers.

CONCLUSIONS

Out migration of workers from Black Belt counties has caused a drain of quality farm labor. Mobile workers left the farm to seek industrial employment in expectation of increasing income and living standards. Apparently a large proportion of the remaining workers are immobile because of age, work alternatives, and other reasons. Farm employment, in spite of relatively low wages, may be the best employment alternative for many of the remaining workers. Structure of the farm labor force has significant implications involving workers, farm operators, and the general welfare of this agricultural region. Since characteristics of farm labor in other areas of Alabama and other southern states are similar to the study area, findings and implications in this study may be relevant to these areas.

Education was found to be a major determinant of wage rates.

⁷ Guidelines for managing hired labor were reported by the Southern Extension Farm Management Committee in the publication, Labor Management on the Farm, Southern Extension Farm Management Publication No. 12, 1969 (7). Guidelines stated paralleled findings of this study. For further information on specific points suggested, see Publication No. 12.

Since the average level of education was low, improvements in education of workers and potential farm laborers would benefit employees, as well as employers. Education of farm workers should include vocational and mechanical training, especially for those entering the work force for the first time. The primary labor problem appeared to be a lack of competent workers, not a lack of laborers. With the growing complexity of farming, increasing machinery cost, and continuing substitution of capital for labor, an operator cannot afford to entrust expensive investments to unskilled employees. In some cases it may be practical to provide on-job training for workers. Programs for teaching mechanical vocational arts in high schools and trade schools in the region may help to alleviate the quality problem of the farm labor force.

According to the statistical models used in this study, if non-white educational levels were increased to the average education of whites, their monthly total wage would increase by \$20 to an average of slightly over \$300 per month. This still would be well below wages paid white workers since the net effect of additional education for non-whites was considerably less than for whites. If educational levels were increased, the coefficient of education would likely increase for both races and also the difference in wages by race would be reduced. However, unless agricultural wages become more competitive with industry, these better educated and more competent workers will continue to be drawn to better paying industrial opportunities.

As farmers paid higher cash wages, the value of extra benefits received by workers decreased. Many operators seemed to be able to provide non-cash perquisites such as housing, water, and vegetables easier than they could pay a high cash wage.

Increased acreage of row crops appeared to be the trend in farming in the area. Although all enterprises studied had been increasing since 1961, cotton and soybeans were added as an enterprise or were increased more frequently than beef. Future need for soybean labor is uncertain as the economic position of the crop in the Black Belt has yet to stabilize. If row crop acreage continues to increase, the demand for skilled labor to operate field equipment will increase substantially.

Quality of housing furnished non-white workers was considerably lower than that provided white employees. Although the quality of housing was often inadequate, improvements have been made. More improvements will be required to retain younger,

more educated, and, consequently, more mobile workers regardless of race. However, attempts should be made to narrow the difference in quality of housing between races.

Although the Fair Labor Standards Amendments of 1966 were aimed at improving the worker's status, it appeared that farm workers covered by the law may not have benefited greatly. Total pay including perquisites of non-whites under the jurisdiction of this law was approximately the same as total pay of non-white laborers not covered by the law. The wage law also, possibly in some cases, resulted in elimination of workers whose marginal productivity was below the required standard wage rate. However, the law probably upgraded worker pay by forcing non-covered farmers to pay a wage competitive with farmers who paid minimum wages.

A continuing problem in this region in retaining agricultural labor in the future will be the disparity of industrial and agricultural wages. Unless wages of the two sectors are equated, migration of both non-white and white laborers from the area will continue.

Employee-employer relationships appeared to be becoming more impersonal as more workers were being paid by the hour. In the future, this relationship probably will become more like labor-management relationships in industry, and workers will not be expected to work an unspecified number of hours. This changing relationship has implications concerning the residence of labor in the future. Probably a growing percentage of workers will live off the farm, which will further increase the mobility of the agricultural labor force.

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APPENDIX

Regression Analysis

In the analysis of factors affecting wage levels the following variables were included:

<i>Factor</i>	<i>Unit of measurement</i>
Age of worker	years
Education of worker	years
Operator's age	years
Miles of farm from Montgomery	miles
Machinery investment	thousand dollars
Total capital investment per farm, excluding land	thousand dollars
Total acreage owned and rented	acres
Total full-time workers, all workers including operator and family full-time workers	number
Enterprise	soybean, cotton, beef
Method of payment	hourly, daily, weekly, monthly
Race of worker	white, non-white
Residence of worker	on-farm, off-farm

In each table, regression analyses are presented showing the effects of variables significant at the 10 percent level or more on the three wage measures. Factors considered that were not significant at the 10 percent level are deleted from the summary tables. Regression analyses were determined for all workers in the study, for workers by enterprise, race, and residence.

In the analyses of factors affecting the hourly cash wage of all workers as shown in Appendix Table 1, four independent factors were found to significantly affect hourly cash wage of the 209 workers. In this equation education of worker and machinery investment on the farm were found to be highly significant. For each additional year of education a worker's hourly cash wage was increased by 6.06 cents; each additional \$1,000 in machinery investment on the farm was found to affect the level of hourly cash wage, however, in a negative way. The greater the distance of the farm from Montgomery, the lower the cash wage. Likewise, increased acreage was associated with reduced wages paid

workers. For each additional mile the farm was from Montgomery the average hourly cash wage declined by .201 cent; each additional acre on the farm was associated with a .003 cent decline in hourly cash wage. These four variables explained 50 percent of the variation in hourly cash wages. Effects of other variables not listed here such as age of worker, total investment on the farm, operator's age, and total workers on the farm were not significant in the equation and did not significantly increase the explanation in variation of hourly cash wages.

The A value shown in each table is the value of the wage measurement when all independent variables considered in that particular model are zero.

APPENDIX TABLE 1. REGRESSION EQUATIONS OF SELECTED FACTORS ON HOURLY CASH WAGES PAID FULL-TIME HIRED WORKERS ON 60 BLACK BELT FARMS, ALABAMA, 1971

Model	A value ¹	Education of worker	Miles from Montgomery	Machinery investment	Total investment	Operators age	Total acreage	Total workers	R ^{2 2}	Observations in the equation
<i>Cents</i>										
All workers.....	76.361	6.060***	-.201*	.254***			-.003**		.50	209
Enterprise:										
Soybean.....	6.137	7.231***				1.550**			.46	73
Cotton.....	48.180	7.231***		.250**					.59	74
Beef.....	91.370	3.586***	-.344**		.049**				.54	62
Race:										
Non-white.....	68.533	1.652***			.034**		-.003***	4.984***	.51	178
White.....	40.500	22.945***	-.905*		-.104 ³		-3.878 ³		.63	31
Residence:										
On-farm.....	63.783	5.146***			.076***				.49	147
Off-farm.....	76.635	7.982***							.44	62

* The variable is significant at the .10 level; ** significant at the .05 level; and *** significant at the .01 level.

¹ The A value is the Y intercept or the value of hourly cash wages when all variables considered are zero.

² R² is the coefficient of multiple determination. It is the percentage of variation in wages explained by variables considered.

³ These variables were not significant at the .10 level, however, their inclusion in the model added considerably to R² and resulted in the miles from Montgomery variable becoming significant.

APPENDIX TABLE 2. REGRESSION EQUATIONS OF SELECTED FACTORS ON TOTAL MONTHLY WAGES PAID FULL-TIME HIRED WORKERS ON 60 BLACK BELT FARMS, ALABAMA, 1971

Model	A value ¹	Age of worker	Education of worker	Miles from Montgomery	Machinery investment	Total investment	Operators age	Total acreage	Total workers	R ² ²	Observations in the equation
<i>Dollars</i>											
All workers...	99.988	1.246**	16.539**		.537***	.159***		-.009***		.54	209
Enterprise:											
Soybean...	36.591		13.833***			.247*	3.259**			.49	73
Cotton.....	140.338		19.534***		1.174***				9.742**	.62	74
Beef.....	322.559		11.899***			.191***	-3.142***			.63	62
Race:											
Non-white	158.781	.828**	5.940***		.294**	-.089**		-.010***	6.153***	.53	178
White.....	52.607		44.240***							.58	31
Residence:											
On-farm...	142.194		13.724***		.421**	.183***				.54	147
Off-farm...	170.710	2.347**	17.475***	-.844*	.654*			-.029***		.59	62

* The variable is significant at the .10 level; ** significant at the .05 level; and *** significant at the .01 level.

¹ The A value is the Y intercept or the value of total monthly wages when all variables considered are zero.

² R² is the coefficient of multiple determination. It is the percentage of variation in total monthly wages explained by variables considered.

APPENDIX TABLE 3. REGRESSION EQUATIONS OF SELECTED FACTORS ON MONTHLY PERQUISITES PAID FULL-TIME HIRED WORKERS ON 60 BLACK BELT FARMS, ALABAMA, 1971

Model	A value ¹	Miles from Montgomery	Ma- chinery invest- ment	Total invest- ment	Opera- tors age	Total acreage	Cash wage per hour	Method of payment ³	Race ³	Resi- dence of worker ³	R ² ²	Observations in the equation
<i>Dollars</i>												
All workers	157.865			.029*	-.695***		-.101**	10.257***	-40.131***	-41.840***	.65	209
Enterprise:												
Soybean	86.486		-.143*			.003*		16.607***	-22.088**	-41.520***	.71	73
Cotton	12.630			.146***				12.447***		-36.045***	.64	74
Beef	265.649	.259*			-1.530***				-73.977**	-45.059***	.74	62
Race:												
Non-white	52.664						-.123**	9.906***		-29.673***	.58	178
White	271.804		-.492**		-3.138***	.010***				-97.041***	.87	31
Residence:												
On-farm	211.509				-.922***			13.00***	-67.779***		.67	147
Off-farm	28.567		-.126**				-.083*	7.851***			.46	62

* The variable is significant at the .10 level; ** significant at the .05 level; and *** significant at the .01 level.

¹ The A value is the Y intercept or the value of perquisites when all variables considered are zero.

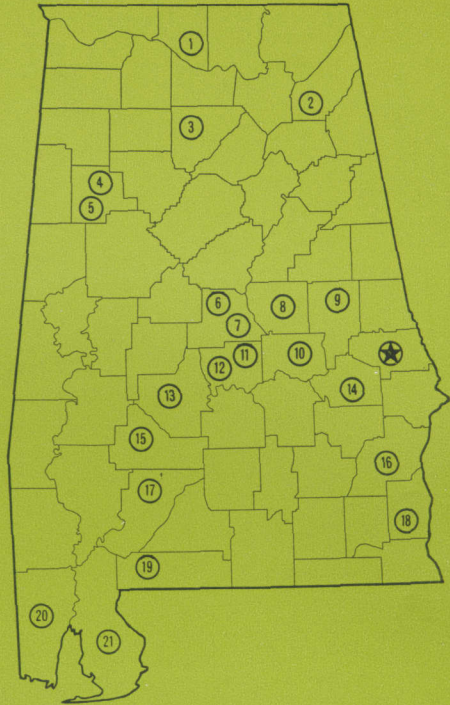
² R² is the coefficient of multiple determination. It is the percentage of variation in perquisites explained by variables considered.

³ Method of payment, race, and residence were entered in the perquisites models as coded variables.

Alabama's Agricultural Experiment Station System

AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, live-stock, forestry, and horticultural producers in each region in Alabama. Every citizen of the State has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Thorsby Foundation Seed Stocks Farm, Thorsby.
7. Chilton Area Horticulture Substation, Clanton.
8. Forestry Unit, Coosa County.
9. Piedmont Substation, Camp Hill.
10. Plant Breeding Unit, Tallassee.
11. Forestry Unit, Autauga County.
12. Prattville Experiment Field, Prattville.
13. Black Belt Substation, Marion Junction.
14. Tuskegee Experiment Field, Tuskegee.
15. Lower Coastal Plain Substation, Camden.
16. Forestry Unit, Barbour County.
17. Monroeville Experiment Field, Monroeville.
18. Wiregrass Substation, Headland.
19. Brewton Experiment Field, Brewton.
20. Ornamental Horticulture Field Station, Spring Hill.
21. Gulf Coast Substation, Fairhope.