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COMBINED FARMING-INDUSTRIAL EMPLOYMENT IN THE NAVAL STORES
SUBREGION OF GEORGIA AND ALABAMA

Preliminary Report

November 1936

J-5

Permission to publish this bulletin for administrative use was granted by the Works Progress Administration. The material contained herein is the outcome of a survey of relief problems in areas in which part-time farming is of major importance in the life of the community. The study was initiated by the Division of Research, Statistics, and Finance of the Federal Emergency Relief Administration and completed by the Division of Social Research of the Works Progress Administration.

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INTRODUCTION

For a long time many people in various parts of the country have made their living through a combination of farming with employment in industry. During the past five years the term part-time farming has come into general use in describing this way of making a living or in describing only the farming side of the combination. Other terms such as subsistence homesteads, garden cities, and rural-industrial communities have likewise been used. At various times it has been proposed that these combinations be given public encouragement as a means of improving the living conditions and increasing the security of many more families. These proposals are varied in character but in general may be classified into three major groups:

1. Provision of garden plots for industrial workers in order that produce from these plots may supplement their income from industrial employment, and aid in tiding them over seasons of unemployment.
2. Establishment of new communities of families, each to be provided with a small acreage on which to raise a considerable portion of its food, with the expectation that industries would locate in such communities and provide a certain amount of supplementary cash income from non-farm employment.
3. Settlement of families on small farms near communities in which industrial establishments already exist, where they may produce a considerable portion of their food and may also obtain some employment in the industries.

In view of the scarcity of factual information available for use in formulating public policy with respect to such proposals, the Research Section, Division of Research, Statistics, and Finance of the Federal Emergency Relief Administration, in cooperation with the Land Policy Section, Division of Program Planning of the Agricultural Adjustment Administration, has undertaken a study of this question.^{1/} Such public programs as have actually been undertaken have been chiefly of the second type, but they are too new to allow an adequate appraisal of incomes and living in the resulting communities. In this investigation attention is directed toward families that have already made combinations such as might result from the first and third types. Following popular usage the heads of these families will be referred to as part-time farmers, meaning that they spend part of their time operating a farm and part of their time at some employment away from this farm. Their farms will be referred to as part-time farms and their activities on them will be called part-time farming.

^{1/} Since the study was undertaken the former agency has become the Division of Social Research, Works Progress Administration, and the latter has become the Land Use Planning Section, Land Utilization Division, Resettlement Administration. The study has been continued by these agencies.

The principal objectives of this study are:

1. To describe existing types of combined farming-industrial employment.
2. To appraise the benefits and disadvantages of these existing types.
3. To determine the possibilities for further development of desirable farming-industrial combinations; in particular, to appraise the extent to which these combinations might be utilized in a rehabilitation program.

In order to reach these main objectives, answers were sought to the following questions:

1. What land, buildings, and equipment do existing part-time farming units have?
2. What are the labor requirements and cash expenses of these farms?
3. What do these farms produce for home use and for sale?
4. What industrial employment is, or may become, available for combination with farming?
5. What are the labor requirements and wage scales of these industries?
6. What living conditions are associated with these farming-industrial combinations, and how do the part-time farmers compare in this respect with other groups at the same occupational levels?
7. What are the characteristics of persons and families adaptable to a combination of farming with industrial employment?

It is evident that answers to such questions must be given by regions over which relatively homogeneous conditions prevail. Accordingly, it was decided to undertake this study first in one such region so that the experience thus gained could be utilized in further studies in other regions. The region selected was the Eastern Cotton Belt. Two factors governed its choice: (1) it is an area in which the need for a sound rural rehabilitation program is both urgent and widespread, and (2) industrialization has been comparatively recent and part-time farming has not yet been developed as extensively as in some of the older industrial regions. The study has been limited to the three states, South Carolina, Georgia, and Alabama, which comprise most of the eastern end of the Cotton Belt.^{1/}

In this investigation secondary sources of information were first explored. The Bureau of the Census cooperated in making special tabulations of Census of Agriculture and Census of Manufactures data. A field study was undertaken during the summer of 1935 to provide the additional factual

^{1/} In cases where important types of farming areas within these states extend into adjacent states data are presented for the whole area.

information needed in the analysis. This included a schedule study of a sample of part-time farm families and of a sample of non-farming industrial employees. It also included an inspection of the areas in which enumeration was done and of industrial establishments, as well as interviews with employers, public officials, and other informed persons.

Examination of industrial employment in this region indicates the necessity for dividing it into subregions, in each of which a different type of industry predominates. For the purposes of this study, industrial employment is taken to mean any gainful pursuit other than agriculture. Industry, thus defined, has been divided into two groups, for convenience called "productive industries" and "service industries". Productive industries include those classified in the 1930 Census of Population under forestry and fishing, extraction of minerals, and manufacturing and mechanical. Service industries include transportation, communication, trade, public service, professional service, and domestic and personal service. The 1930 Census of Population was used as a basis for delimitation of the subregions. The first step was to rank the productive industries of each county according to the number of persons occupied in each. The important industries in each county were then marked on a map, and the boundaries of the subregions were drawn by inspection. These boundaries, shown in Figure 1, do not indicate any sharp break in condition, but they roughly mark out those areas in which types of industry are sufficiently different to warrant separate study.

This is one of a series of bulletins reporting the results of the study. It deals with combined farming-industrial employment in Coffee County, Georgia, in the Naval Stores Subregion only. Other bulletins treat the Cotton Textile Subregion^{1/}, Charleston County, South Carolina (Atlantic Coast Subregion)^{2/}, and the Coal and Iron^{3/}, and Lumber Subregions.^{4/}

Because the population of the Naval Stores area is predominantly white, this report deals only with whites.

Criteria for Selecting Families. Coffee County is primarily agricultural with a relatively small amount of industrial employment. Only 22 farms, or 1 percent of all farms in the county, were classified as part-time by the 1930 Census of Agriculture.^{5/} There were, however, 168 farms which reported 75 days or more of outside employment for the operator.^{6/} This latter group included in addition to those classified as part-time many more on which the operator either worked away from the farm less than 150 days or produced more than \$750 worth of farm products.

1/ W.P.A. Research Bulletins, J-1 and J-2.

2/ Ibid., J-3

3/ Ibid., J-4

4/ Ibid., J-6

5/ Part-time farms included all farms whose operators worked 150 days or more in 1929 at jobs not connected with the farm, or reported an occupation other than farmer, provided the value of products of the farm did not exceed \$750. This presupposes the Census definition of a farm as comprising at least three acres unless it produces \$250 worth of farm products or more.

6/ Special tabulation of Census data.

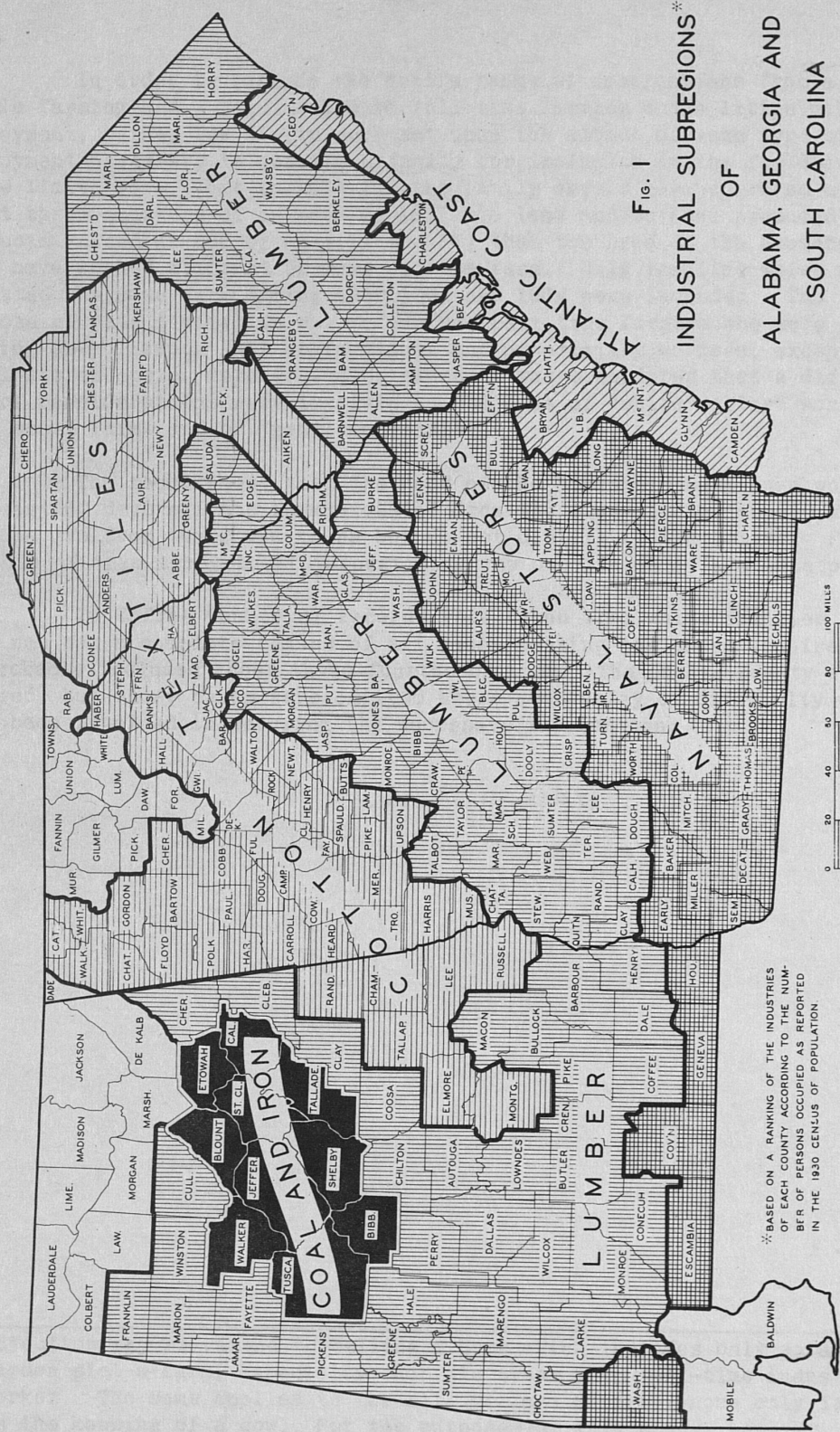


Fig. 1
 INDUSTRIAL SUBREGIONS*
 OF
 ALABAMA, GEORGIA AND
 SOUTH CAROLINA

*BASED ON A RANKING OF THE INDUSTRIES
 OF EACH COUNTY ACCORDING TO THE NUM-
 BER OF PERSONS OCCUPIED AS REPORTED
 IN THE 1930 CENSUS OF POPULATION

SUMMARY

Two distinct types of part-time farmers were found in Coffee County: (1) commercial farmers who worked part-time in the turpentine forests, and (2) town or village workers who had taken up gardening and other small-scale farming activities as a means of supplementing industrial earnings. These two types included approximately three-fourths of all part-time farmers enumerated.

Naval stores (turpentine and rosin) production is suited to combination with farming because the turpentine forests are located near farm land and the work of gathering gum from which turpentine is distilled is similar to agricultural labor. There has been a considerable increase during the last five years in the number of farmers undertaking part-time work in the forests as a means of supplementing reduced farm incomes.

Thirty-seven commercial farmers who did turpentine work were enumerated. They worked about eight days a month from April to October, and generally a little less in winter, in the turpentine forests. The earnings from this work were usually from 8 to 12 cents per hour and added about \$100 on the average to their annual income. Income from this source was not as great as the average income received by the farmers from the sale of their farm products, but since it was made in time that would not have been spent in further farm production, it represented a gain in income. Commercial part-time farmers averaged about nine hours a day on their farms through spring and summer. Additional work was done by hired labor, as well as by members of the family.

These commercial farmers who worked part-time in the turpentine woods operated typical one- or two-mule tobacco and cotton farms, averaging 41 acres of crop land. While these crops furnished most of the cash income, considerable livestock was kept and most of the feed was grown. The livestock made a substantial contribution to the family food supply and in addition, livestock products were traded with the local merchants for other supplies. In addition to cash income, a representative commercial farm in the open country was estimated to have contributed \$380 worth of foodstuffs and fuel to the family living. Cash farm receipts for 1934 averaged \$583 for owners and cash renters, and cash farm expenses, including rent and taxes, \$240. For share-croppers the comparable figures were \$244 in receipts, and \$85 in cash expenses.

There is some possibility for the further development of naval stores employment as a source of supplementary income for farmers. The extent of this development and the value and stability of a combination of farming activities and naval stores work will depend in part upon a reform in present forest practices, which at present are forcing returns from the pine forests at the expense of their future productivity. Shifts in the industry can be expected because of the working out of trees in certain areas, and the maturing of the second-growth trees in others. Management of pine forests for sustained yield and an improvement in turpentine processing methods will likewise benefit not only the naval stores industry, but also the farmers in Coffee County who work

part-time in it. The future of the industry will also depend upon an expansion of markets through the development of new uses for turpentine and rosin products. Likewise the future course of prices for farm products and for naval stores will be important factors in determining the extent to which farmers will continue to be attracted by turpentine work. No general increase of the whole industry beyond pre-depression high levels appears likely at present.

Despite the recent increase in the amount of turpentine work done by farmers, the industry is still carried on chiefly by full-time workers. These workers live in the open country near the stills, and while land is usually available nearby which might be used for farming, a very small garden represents the extent of their average farming activities. The extremely low wages and inadequate diets characteristic of these workers indicate that it would be highly desirable for them to produce more farm products for their own use.

The town and village part-time farmers were regular employees in the railroad shops, or they carried on the various service industries of their towns. Their small farming activities added a substantial net amount to their living without interfering with their industrial employment, their principal source of income. These part-time farmers usually had only an acre or two of land which they used for gardening, and in only a few cases did they have any livestock. At a cash expense averaging \$25, and with about three hours of family labor per day throughout the summer, the 34 families of this type in the sample studied were able to provide themselves with fresh vegetables throughout the summer, as well as some to store for winter use. The value of the food for home consumption produced by a somewhat better than average part-time farm of this type was estimated at \$160. Their wage earnings averaged about \$540 in 1934, and total family cash incomes averaged \$621.

One advantage of part-time farming was the improvement in the quality of the average family's diet through home grown farm products. In this region pellagra, tuberculosis, and malnutrition of school children are serious problems, and milk, fresh fruits, and vegetables are important preventatives of these diseases and ailments. The incomes of most town industrial workers were found to be insufficient for purchasing a varied diet, and unless the workers produce these foods themselves, the health of their families is likely to suffer.

The considerable extra work involved in part-time farming was not a serious obstacle to most non-commercial part-time farmers, nor to the commercial part-time farmers, whose turpentine activities were so arranged as to give them adequate time for farming.

I. GENERAL FEATURES OF COFFEE COUNTY, GEORGIA

The naval stores 1/ producing area, located mainly in southeastern Georgia, northern Florida, and the southern tier of counties in Alabama, is distinctly rural and sparsely populated, with its population primarily dependent on the farms and forests. The towns and small cities of the region serve mainly as trading and transportation centers. A portion of this area, lying in the states of Georgia and Alabama, has been designated for purposes of this study as the Naval Stores Subregion (Figure 1). Coffee County, centrally located in the Georgia portion of this subregion, was chosen as representative of the entire area, and the field study was conducted in that county.

The topography of Coffee County is level to gently rolling. The soils are sandy and sandy loams with clay subsoils.2/ Rainfall is adequate for most crops, but considerable areas are swampy and poorly drained. Twenty-four percent of the land area of Coffee County was crop land in 1934 and most of the remainder was forest and woodland.3/ Over half of this forest and woodland was in farms, that is, was owned or rented by farmers. The original pine forests of the county were cut over some years ago and have become restocked with second growth longleaf and slash pines, which are now being worked for turpentine and rosin.

Agriculturally, Coffee County represents the flue-cured tobacco growing area of Georgia and Florida (Figure 2), which is more limited in extent than is the Naval Stores Subregion. The county is located near the center of this agricultural area, and in 1929 was the leading tobacco producing county in it. That year, 45 percent of the farm income of the county was from the sale of tobacco and 23 percent from the sale of cotton.4/

The population of Coffee County, 19,739 in 1930,5/ was entirely rural with the exception of the 4,206 persons living in the city of Douglas. This city is centrally located, and there were three small outlying villages with populations of 830, 651, and 66, respectively, in 1930.6/ Making allowances for two changes in county boundaries 7/ the population of the county has approximately trebled since 1890.

Although 27 percent of the population of the county were Negroes, only 15 percent of the farm operators were Negroes. Of the 2,090 farms in the county reported by the 1935 Census of Agriculture, 772 were operated by white

1/ The chemical products of the pine tree, specifically turpentine and rosin, are known as "naval stores", probably because in the past they included tar and pitch which were used in wooden ships.

2/ No soil survey has been made of Coffee County, but the Bureau of Soils of the U. S. Department of Agriculture has made surveys in three adjacent counties, Jeff Davis, Ben Hill, and Ware, where soil conditions are quite similar.

3/ U. S. Census of Agriculture, 1935, Georgia Statistics by Counties.

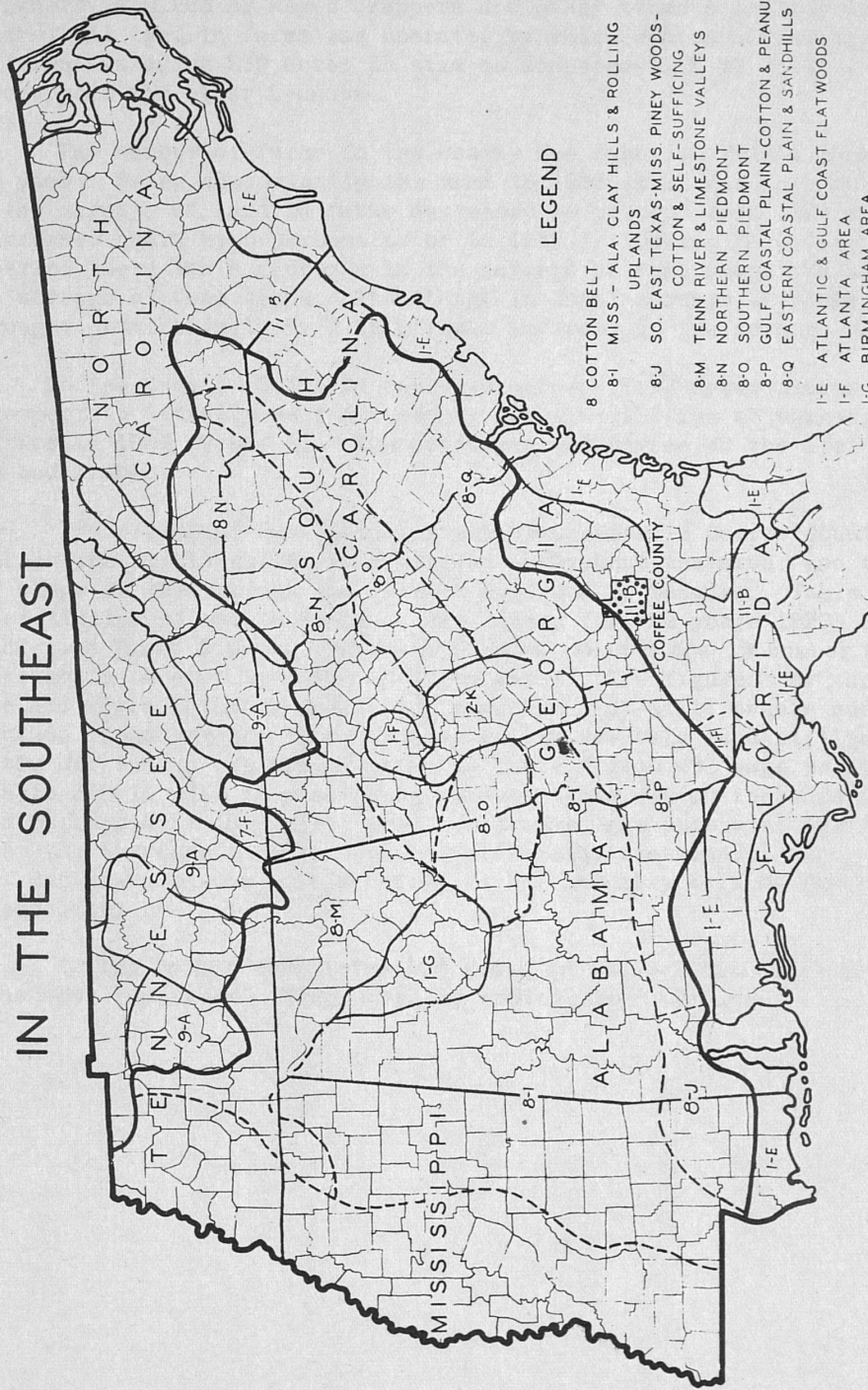
4/ *Ibid.*

5/ U. S. Census of Population, 1930.

6/ *Ibid.*, State Bulletin for Georgia.

7/ In 1905 and 1919 parts of Coffee County were set off to form new counties.

REGIONALIZED TYPES OF FARMING IN THE SOUTHEAST



LEGEND

- 8 COTTON BELT
- 8-I MISS - ALA. CLAY HILLS & ROLLING UPLANDS
- 8-J SO. EAST TEXAS-MISS. PINEY WOODS - COTTON & SELF-SUFFICING
- 8-M TENN RIVER & LIMESTONE VALLEYS
- 8-N NORTHERN PIEDMONT
- 8-O SOUTHERN PIEDMONT
- 8-P GULF COASTAL PLAIN-COTTON & PEANUTS
- 8-Q EASTERN COASTAL PLAIN & SANDHILLS
- 1-E ATLANTIC & GULF COAST FLATWOODS
- 1-F ATLANTA AREA
- 1-G BIRMINGHAM AREA
- 2-K GEORGIA PEACH AREA
- 7-F TENN-SHENANDOAH-CUMBERLAND LIMESTONE VALLEYS
- 9-A SO. APPALACHIAN REGION
- 11-B FLUE CURED TOBACCO AREA
- 11-F CIGAR TYPES OF TOBACCO AREA

THIS MAP SHOWS THE LOCATION OF THE EASTERN COTTON BELT SUBDIVIDED BY TYPE-OF-FARMING AREAS. THE GEORGIA PEACH AREA, AND THE ATLANTA AND BIRMINGHAM AREAS, LIE WITHIN THIS REGION TWO OTHER IMPORTANT AREAS ARE INCLUDED IN SOUTH CAROLINA, GEORGIA AND ALABAMA. THEY ARE THE FLUE CURED TOBACCO AREA AND THE ATLANTIC AND GULF COAST FLATWOODS AREA.

SOURCE: U. S. DEPARTMENT OF AGRICULTURE

DIVISION OF SOCIAL RESEARCH - W. P. A.
AF 1124

owners and managers, 1,014 by white croppers and other tenants, 41 by Negro owners, and 263 by Negro croppers and other tenants. Sixty-five percent of all land in farms was operated by white owners and managers, their farms averaging 239 acres in size as compared with 82 acres for the white croppers and other tenants.

The number of farms in the county has remained fairly constant for 15 years, being approximately the same in 1935 as it was in 1920. However, the acreage of land in farms decreased 10 percent from 1920 to 1930, but increased again by 6 percent prior to 1935.^{1/} During this last five-year period there was a decrease in the acreage of cash crops and an increase in the acreage of feed crops. The change in total acreage in farms, however, was brought about chiefly by a 25 percent increase in the acreage of woodland.

Coffee County is fairly representative of the Naval Stores Subregion with respect to industry as indicated by the distribution of workers by industries in 1930 (Table 1). The principal industries of the area are naval stores and lumber.

The principal manufacturing establishments in Coffee County are the turpentine stills which are scattered throughout the area, and the repair shops of the Georgia and Florida Railroad at Douglas. Table 2 gives statistics of manufactures in the county for the years 1929, 1931, and 1933, and Table 3 shows changes that have taken place in number of establishments in each industry in these years. The figures for the turpentine and rosin industry cover only operations of still owners and do not include those engaged in producing raw gum for sale to distillers. Hence the decline in employment shown in Table 2 from 493 wage earners in 1929 to 329 in 1933 is misleading because there was an increase in raw gum purchases in the latter year. Increased gum purchases are indicated by the increase in total cost of materials, containers, etc., in the face of declining prices. This change in the industry will be further discussed later.

In the "other manufacturing" group in Table 2 the railroad shops are the most important. They normally employ about 125 men.

^{1/} U. S. Census of Agriculture, 1930 and 1935.

Table 1. Distribution of Persons, 10 Years Old and Over, Gainfully Occupied in 1930, by Industry

| Industry | Naval Stores Subregion | | Coffee County Georgia | |
|-----------------------------------|------------------------|---------|-----------------------|---------|
| | Number | Percent | Number | Percent |
| Total Population | 887,018 | | 19,739 | |
| Total Gainfully Employed | 321,044 | 100.0 | 7,126 | 100.0 |
| Agriculture | 191,267 | 59.6 | 4,287 | 60.2 |
| Service industries | 76,273 | 23.7 | 1,619 | 22.7 |
| Productive industries | 53,504 | 16.7 | 1,220 | 17.1 |
| <hr/> | | | | |
| Total Productive Industries | 53,504 | 100.0 | 1,220 | 100.0 |
| Forestry and fishing | 3,237 | 6.1 | 53 | 4.3 |
| Extraction of minerals | 406 | 0.7 | 2 | 0.2 |
| Building | 4,803 | 9.0 | 88 | 7.2 |
| Chemical and allied | 1,143 | 2.1 | 9 | 0.7 |
| Clay, glass, and stone | 195 | 0.4 | 1 | 0.1 |
| Clothing | 805 | 1.5 | 4 | 0.3 |
| Food and allied | 2,523 | 4.7 | 25 | 2.1 |
| Auto factories and repair shops | 1,442 | 2.7 | 31 | 2.5 |
| Iron and steel | 2,431 | 4.5 | 102 | 8.4 |
| Saw and planing mills | 9,537 | 17.8 | 182 | 14.9 |
| Other wood and furniture | 1,164 | 2.2 | 100 | 8.2 |
| Paper, printing, and allied | 443 | 0.8 | 5 | 0.4 |
| Cotton mills | 2,230 | 4.2 | 1 | 0.1 |
| Other textiles | 164 | 0.3 | - | - |
| Independent hand trades | 1,470 | 2.8 | 28 | 2.3 |
| Other manufacturing ^{a/} | 21,511 | 40.2 | 589 | 48.3 |

Source: U. S. Census of Population, 1930.

^{a/} "Other manufacturing" includes workers in turpentine farms and distilleries.

TABLE 2. STATISTICS OF MANUFACTURES—COFFEE COUNTY, GEORGIA

| INDUSTRY OR GROUP | YEAR | NUMBER OF PLANTS | NUMBER PROPRIETORS SUPERINTENDENTS CLERKS | NUMBER OF WAGE EARNERS | | | SALARIES | WAGES | COST OF MATERIALS CONTAINERS FUEL & POWER | VALUE OF PRODUCTS |
|----------------------|------|------------------|---|------------------------|---------|-----|----------|-----------|---|-------------------|
| | | | | AVERAGE | MAXIMUM | | | | | |
| | | | | | MINIMUM | | | | | |
| TOTAL | 1929 | 40 | 66 | 810 | 856 | 700 | \$59,203 | \$412,303 | \$1,164,896 | |
| | 1931 | 39 | - | 681 | 695 | 557 | - | 251,154 | 613,231 | |
| | 1933 | 29 | 49 | 533 | 560 | 509 | 25,990 | 175,967 | 636,880 | |
| LUMBER AND TIMBER | 1929 | 8 | 7 | 105 | 144 | 64 | 12,400 | 62,834 | 248,273 | |
| | 1931 | 8 | - | 73 | 81 | 64 | - | 19,975 | 81,350 | |
| | 1933 | 3 | 5 | 48 | 50 | 46 | 2,200 | 13,350 | 79,017 | |
| TURPENTINE AND ROSIN | 1929 | 22 | 36 | 493 | 495 | 485 | 17,960 | 171,693 | 440,751 | |
| | 1931 | 24 | - | 450 | 456 | 444 | - | 112,316 | 231,245 | |
| | 1933 | 21 | 33 | 329 | 347 | 341 | 8,000 | 68,652 | 294,983 | |
| OTHER MANUFACTURING | 1929 | 10 | 21 | 212 | 229 | 141 | 28,843 | 177,776 | 475,872 | |
| | 1931 | 7 | - | 158 | 172 | 143 | - | 118,863 | 300,636 | |
| | 1933 | 5 | 11 | 156 | 163 | 148 | 15,790 | 93,965 | 262,880 | |

SOURCE: SPECIAL TABULATIONS OF THE U.S. CENSUS OF MANUFACTURES.

TABLE 3. CHANGE IN MANUFACTURING ESTABLISHMENTS 1929 TO 1933 IN COFFEE COUNTY, GEORGIA

| GROUP | INDUSTRY | 1929 | | | 1931 | | | 1933 | | |
|--|----------|------------------|-----------------------|----------------|------------------|-----------------------|------------------|-----------------------|------------------|-----------------|
| | | NUMBER REPORTING | IDLE OR UNDER \$5,000 | NEW SINCE 1929 | NUMBER REPORTING | IDLE OR UNDER \$5,000 | NUMBER REPORTING | IDLE OR UNDER \$5,000 | NUMBER REPORTING | OUT OF BUSINESS |
| | | | | | | | | | | |
| TOTAL | | 40 | 3 | 2 | 39 | 3 | 29 | 9 | 4 | |
| LUMBER AND TIMBER | | 8 | - | - | 8 | - | 3 | 3 | 2 | |
| TURPENTINE AND ROSIN | | 22 | - | 2 | 24 | - | 21 | 2 | 1 | |
| BEVERAGES | | 2 | - | - | 2 | - | 1 | - | 1 | |
| BAKERY PRODUCTS | | 1 | - | - | 1 | - | 1 | - | - | |
| BUTTER | | 1 | - | - | 1 | - | 1 | - | - | |
| ICE (MANUFACTURED) | | 1 | - | - | 1 | - | 1 | - | - | |
| PRINTING & PUBLISHING (NEWSPAPERS & PERIODICALS) | | 2 | - | - | 2 | - | - | 2 | - | |
| FERTILIZERS | | 1 | - | - | 1 | - | - | 1 | - | |
| FOUNDRY AND MACHINE SHOP PRODUCTS | | 1 | - | - | 1 | - | - | 1 | - | |
| STEAM RAILROAD REPAIR SHOPS | | 1 | - | - | 1 | - | 1 | - | - | |

SOURCE: SPECIAL TABULATIONS OF THE U.S. CENSUS OF MANUFACTURES.

II. THE GUM NAVAL STORES INDUSTRY

The following description of the naval stores industry is presented to provide basic information for an appraisal of the advantages of a combination of farming with employment in the naval stores industry. The possibilities for future development of this combination depend to a considerable extent on the probable future trend of employment in the industry; hence the sections dealing with the past trend of production, prices, uses of the product, competing materials, problems of the industry, and production methods and organization, have been included as bearing on the outlook for employment.

The Industry. There are two principal types of turpentine and rosin: "gum turpentine" and "gum rosin", and "wood turpentine" and "wood rosin." Gum naval stores are obtained by distilling the oleoresin (gum) exuded from the pine tree when it is wounded. Wood naval stores are obtained by destructive distillation or steam and solvent extraction from the resinous stumps and other wood left in the forest after cutting the virgin pine stands. Small amounts of by-products, known as sulphate turpentine and liquid rosin, are obtained from the sulphate process of paper making. In recent years the gum distillation process has produced approximately 85 percent of the country's turpentine and nearly 80 percent of the rosin output.^{1/} Unless otherwise stated the following discussion will be devoted exclusively to gum naval stores.

Location of the Industry. Naval stores are produced in quantity in this country by only two species of pines, longleaf, and slash. Slash pine, which is more favored because it gives relatively higher yields and its gum is more liquid, grows in the Coastal Plain from the southern corner of South Carolina to the Mississippi River.

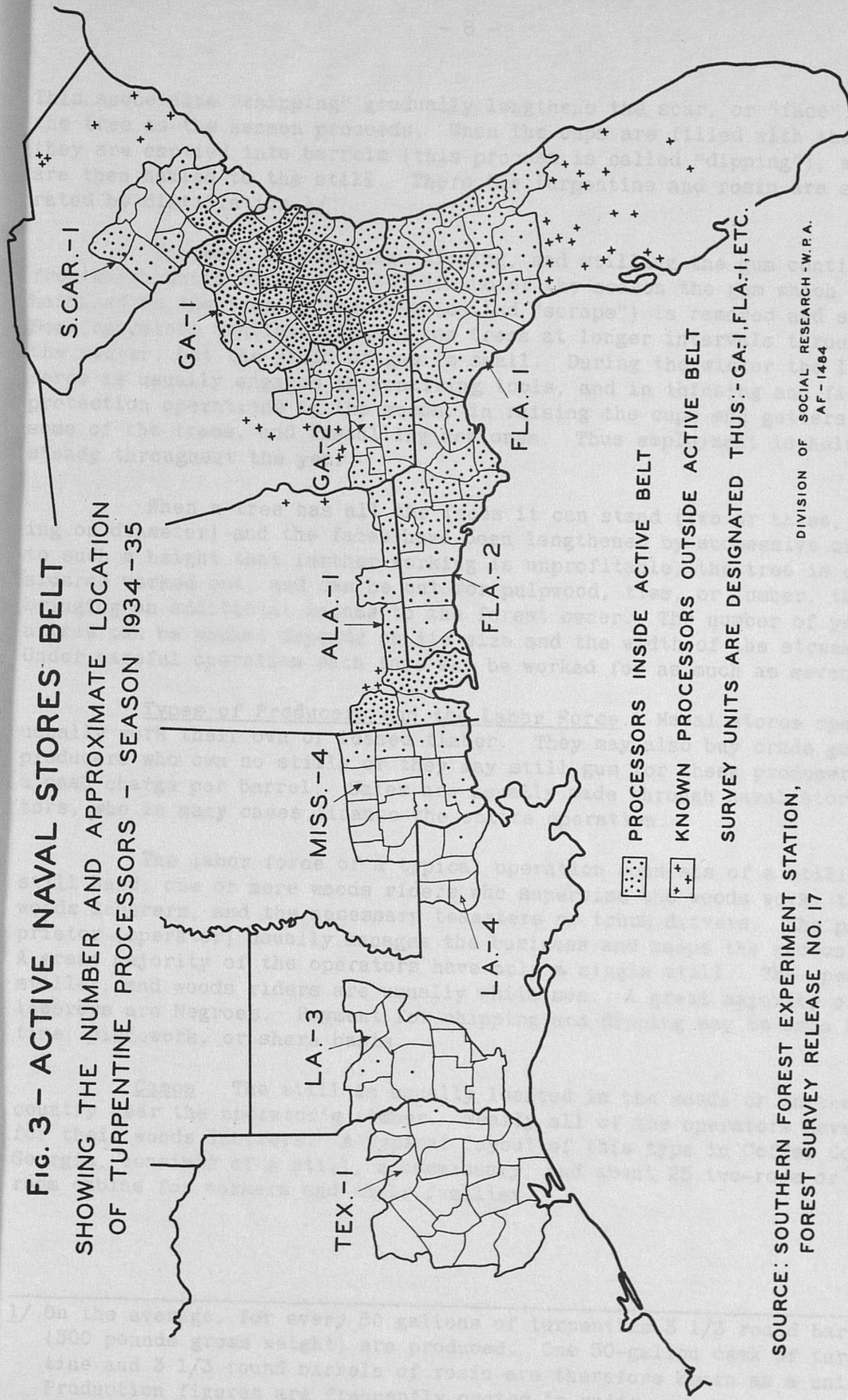
Present distribution of the industry is indicated in Figure 3, which shows the number of processors (gum distillers) by counties as determined by the Southern Forest Survey in 1934. The total number of processors in the active belt was 1,110. The area of greatest concentration is in the survey's Georgia Unit #1,^{2/} which produced about 45 percent of the country's output of gum naval stores in the 1933-34 season.

Method of Production. The production of gum naval stores is a relatively simple and crude process. In advance of the operating season, which begins in March, the first streak is cut in the trees to be turpented, and the cups and gutters for collecting the gum are hung. To maintain the flow of gum, fresh streaks must be cut periodically, usually once each week.

^{1/} U. S. Department of Agriculture Annual Naval Stores Report, 1934-35.

^{2/} This concentration was due mainly to the presence here of second-growth timber, which was of a size and age to attract the industry when the last of the large stands of old-growth pine were worked out in Mississippi, Louisiana, and Texas.

Fig. 3 - ACTIVE NAVAL STORES BELT
 SHOWING THE NUMBER AND APPROXIMATE LOCATION
 OF TURPENTINE PROCESSORS - SEASON 1934-35



SOURCE: SOUTHERN FOREST EXPERIMENT STATION,
 FOREST SURVEY RELEASE NO. 17

DIVISION OF SOCIAL RESEARCH - W.P.A.
 AF - 1484

This successive "chipping" gradually lengthens the scar, or "face", on the tree as the season proceeds. When the cups are filled with the gum, they are emptied into barrels (this process is called "dipping"), which are then hauled to the still. There the turpentine and rosin are separated by distillation.^{1/}

The work of chipping, dipping, and stilling the gum continues from March until November. At the end of the season the gum which has hardened on the face of the tree (called "scrape") is removed and stilled. Some operators continue to chip the trees at longer intervals throughout the winter, but the yield of gum is small. During the winter the labor force is usually engaged in repairing tools, and in thinning and fire-protection operations in the woods, in raising the cups and gutters on some of the trees, and installing new ones. Thus employment is held fairly steady throughout the year.

When a tree has all the faces it can stand (two or three, depending on diameter) and the faces have been lengthened by successive chipping to such a height that further working is unprofitable, the tree is considered worked out, and can be cut for pulpwood, ties, or lumber, thus bringing an additional income to the forest owner. The number of years a tree can be worked depends on its size and the width of the streaks cut. Under careful operation each face may be worked for as much as seven years.

Types of Producers and the Labor Force. Naval stores operators usually work their own or leased timber. They may also buy crude gum from producers who own no stills or they may still gum for these producers for a cash charge per barrel. Sales are usually made through naval stores factors, who in many cases finance the entire operation.

The labor force of a typical operation consists of a stiller, a still hand, one or more woods riders who supervise the woods work, the woods laborers, and the necessary teamsters or truck drivers. The proprietor (operator) usually manages the business and keeps the accounts. A great majority of the operators have only a single still. The operator, stiller, and woods riders are usually white men. A great majority of the laborers are Negroes. Payment for chipping and dipping may be made on a time, piecework, or share basis.

Camps. The still is usually located in the woods or in the open country near the operator's timber. Nearly all of the operators have camps for their woods laborers. A typical layout of this type in Coffee County, Georgia, consists of a still, a commissary, and about 25 two-room or three-room cabins for workers and their families.

^{1/} On the average, for every 50 gallons of turpentine $3 \frac{1}{3}$ round barrels (500 pounds gross weight) are produced. One 50-gallon cask of turpentine and $3 \frac{1}{3}$ round barrels of rosin are therefore known as a unit. Production figures are frequently quoted in units.

Trend of Production. The country's output of gum naval stores showed a declining trend from 1912 to 1918, then an increase to a peak in 1927, and a decrease during the depression, as is shown in Figures 4 and 5.1/ Production of wood naval stores increased sharply in the early 1920's.

The declining production of gum turpentine and rosin from 1912 to 1918 coincided with a drop in exports, which was due to the war, and also with the period in which the old growth timber was being worked out. The post-war rise in output was roughly paralleled by rising exports. In fact, from 1910 to 1930, the amount of gum and wood naval stores available for domestic consumption (production less exports) has shown in general a level trend.

Competing Materials. Gum and wood naval stores have in general the same uses. The principal use for turpentine is in the manufacture of paint and varnish. Some is also consumed in making shoe polish and other products, but a very large proportion of the turpentine is sold over the counter by retailers to ultimate consumers.

Competing with turpentine are petroleum distillates, known as mineral thinners, which are used as thinners for paint and as solvents for varnish because they are much cheaper than turpentine. At present about 10 gallons of these mineral thinners are used by the paint and varnish industry to every gallon of turpentine.

Rosin is used principally in the manufacture of varnish, lacquers and laundry soap, and for paper sizing. The principal competitors of rosin are synthetic resins used in varnish and lacquer making. At present there is no evidence of a trend toward the further displacement of turpentine and rosin. On the other hand, new uses for turpentine and rosin may also be developed.2/

Problems of the Industry. The future of the industry is largely dependent upon the adoption of better forest practices, improved methods of handling and marketing, and the expansion of markets through development of new uses for turpentine and rosin.

Reform in forest practices is needed. The Forest Service, as a result of years of research, has worked out the principles to be followed to obtain the maximum return from the pine forests while maintaining their productivity. However, for various reasons approved methods are not

1/ The gum turpentine production figures indicated by the chart for the years 1932 and 1933 are considerably lower than the estimates given in the Department of Agriculture Annual Naval Stores Report, 1934-35, p.2. However, the figures used are sufficiently accurate to indicate the general production trends, which is the purpose of introducing them here. See also, Some Facts Respecting Prices and Income in the Naval Stores Industry, by E. W. Braun, and N. L. Gold, U. S. Department of Agriculture, p. 14.

2/ Research in this field has been undertaken by the U. S. Department of Agriculture, but it is too early to indicate results.

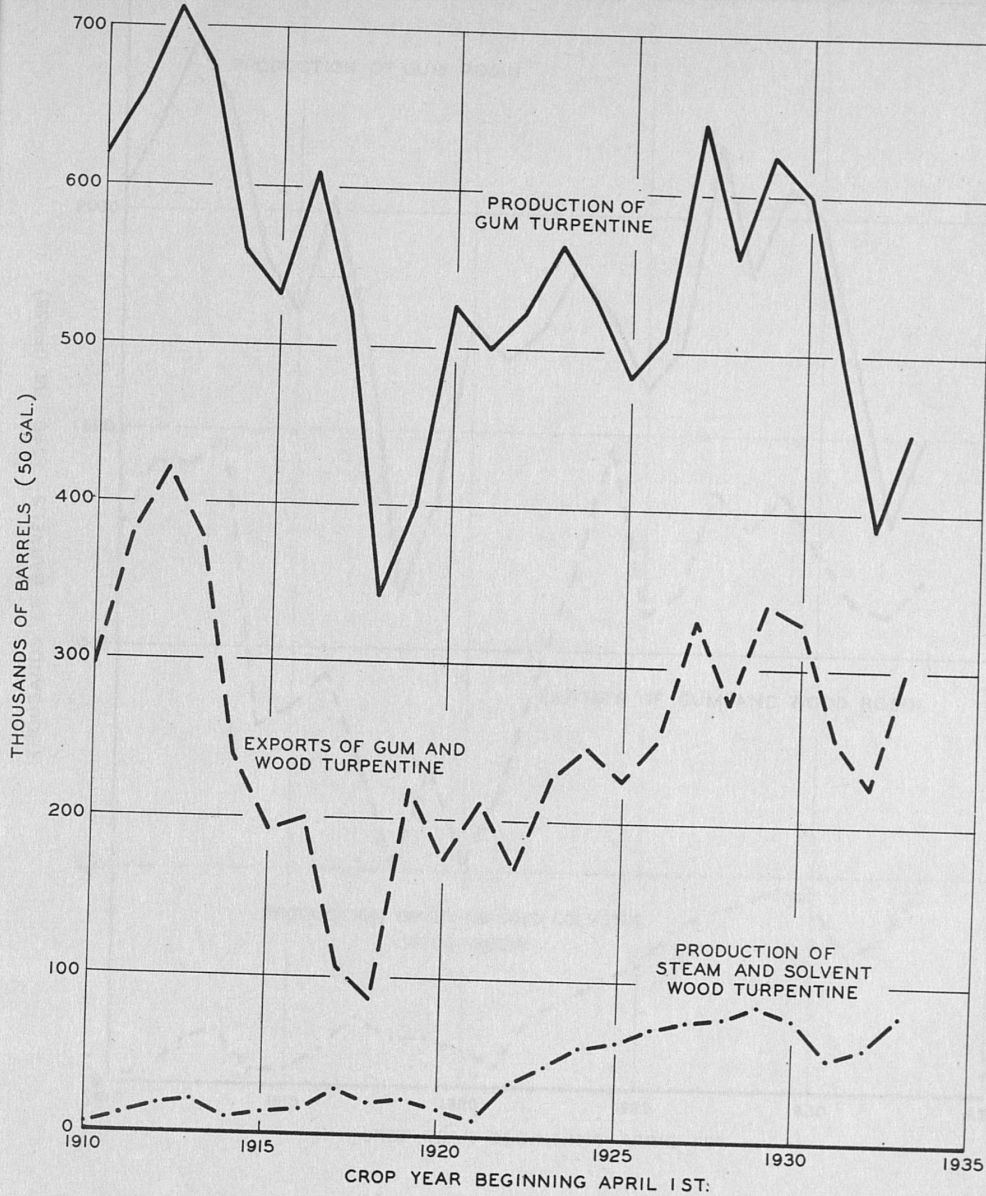


FIG. 4 - U. S. PRODUCTION AND EXPORTS
OF TURPENTINE

SOURCE: PRODUCTION AND EXPORTS FROM THE SAVANNAH
NAVAL STORES REVIEW AND JOURNAL OF TRADE,
APRIL 7, 1934, P. 11 AND APRIL 14, 1934, P. 8.

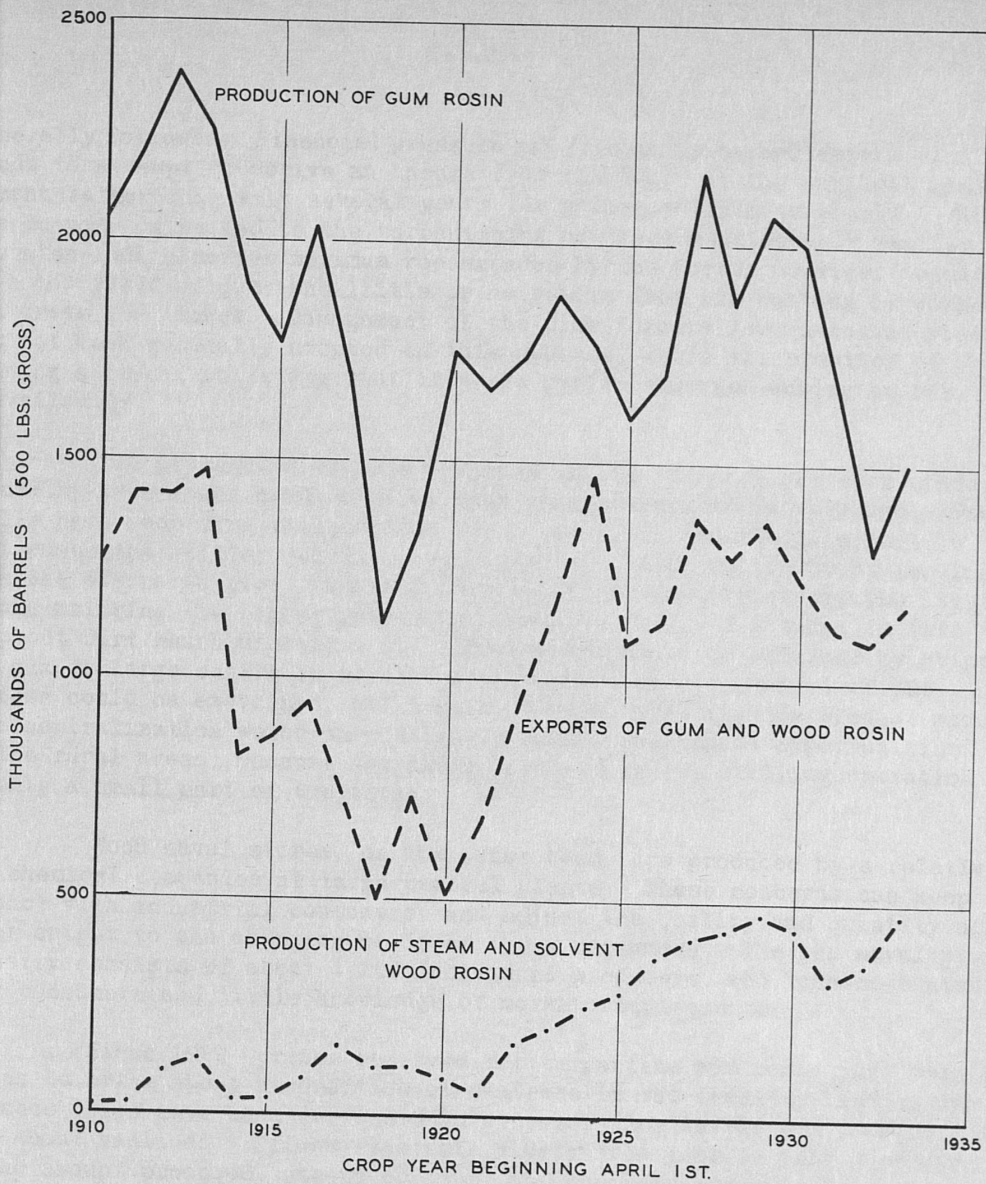


Fig. 5—U. S. PRODUCTION AND EXPORTS OF ROSIN

SOURCE: SAVANNAH NAVAL STORES REVIEW AND JOURNAL OF TRADE, APRIL 7, 1934, P. 11, AND APRIL 14, 1934, P. 8.

generally followed. Financial pressure has frequently caused owners of timberlands to attempt to derive an income from the trees at the earliest possible moment rather than wait several years for a larger ultimate return. This has in many cases led to the turpentineing of trees considerably smaller than the nine-inch diameter minimum recommended by the Forest Service, resulting in a low yield of gum, and little or no return from the cutting of worked-out trees for timber. Management of the pine forests for sustained yields has not been generally adopted in this country, where the practice of leasing a tract, obtaining what it would yield, and then moving on has prevailed.^{1/}

The processing methods followed in the industry are very crude, resulting in a lower grade product than could otherwise be obtained. Some stills have recording thermometers for controlling the stilling, but in most cases the stiller regulates his fires according to the sound issuing from the discharge pipe. Rosin grades are determined by color, the lighter colors bringing the higher price, but frequently little attempt is made to keep out dirt which discolors it. Improvement might be obtained by shipping the gum to large centrally located stills where better control of the process could be exercised, and a more uniform, higher-grade product made. This centralization would only slightly reduce employment opportunities in the rural areas, because the labor involved in the stilling operation is only a small part of the total.

Wood naval stores, on the other hand, are produced by a relatively few chemical companies at large central plants. These concerns can keep in contact with industrial consumers, and adjust the quality and quantity of their output to the changing needs of these consumers. The gum naval stores industry consists of about 1,200 individual producers, who have no contact with consumers and little knowledge of market requirements.

Since 1929, prices received for turpentine and rosin have been so low as to bring about a condition of distress in the industry, and in consequence wages have been depressed to extremely low levels and profits have about vanished. Prices fluctuate widely from year to year depending on the amount produced, stocks on hand, and business activity.^{2/}

This condition of distress has led to efforts to obtain better prices through marketing associations or agreements, but they have not met with much success. In 1931, Congress passed a bill which declared gum turpentine and gum rosin to be agricultural commodities, and as such entitled to the benefits of any farm relief legislation. A co-operative marketing association was then formed, and an attempt made to maintain prices by withholding part of the supply from the market. This effort collapsed after three months, prices dropped to new lows, and the association had large stocks left on its hands.^{3/}

^{1/} U. S. Department of Agriculture, Miscellaneous Publication No. 209, A Naval Stores Handbook, p.36.

^{2/} E. W. Braun and N. L. Gold, op. cit.

^{3/} Gamble's International Naval Stores Year Book for 1932-33, pp. 2-3.

The Outlook for Employment. It does not appear that any marked change is likely to take place in the next few years in the general level of activity of the industry other than the recovery that can be expected if and when world trade revives. Of course, technical progress may bring about changes in demand for turpentine and rosin which may be either harmful or beneficial to the industry, or improved practices within the industry itself may enable it to extend its markets, but such changes usually develop slowly.

The amount of timber available for gum production is sufficient for present requirements, and the amount of second growth coming to maturity appears to be sufficient to allow an expansion of the naval stores industry to two or three times its present size within the next 20 years.^{1/} The industry may decline temporarily in certain areas where the maturing stock of trees is insufficient to replace the ones that are worked out, but this will probably be offset by increases in other areas, thus causing a shift in the geographical distribution of the industry. Such shifts can be avoided by sustained yield management where the condition of the forests is favorable.

^{1/} Letter from I. F. Eldredge, Director, Southern Forest Survey.

III. FARMING ACTIVITIES

Industry and farming activities are closely related in the Naval Stores Subregion, chiefly because of the proximity of the turpentine forests to the farm land, and because the work of gathering gum from which turpentine is distilled is similar to agricultural labor. In recent years many farmers have turned to gum production as a means of supplementing their reduced farm incomes. They worked part-time in the turpentine industry either as wage hands of turpentine producers, or as independent operators of small areas, usually their own land. The latter usually sold their gum to a stiller, or had it processed and sold the turpentine and rosin.

In 1934, the Southern Forest Survey found 8,460 of these small turpentine producers in Georgia Survey Unit #1 (Figure 3).^{1/} There were 1,150 of them in the Alabama Unit #1, but very few in Florida. In the belt surveyed there were 11,250 turpentine producers of this class, whose production in the 1933-34 season was about 19 percent of the total production of all classes of producers in this area.

Types of Part-Time Farmers. Thirty-seven farmers who worked part-time in the turpentine industry and who operated cotton and tobacco farms quite similar to those operated by full-time farmers throughout the county were included in the sample studied for this survey.^{2/} They will be spoken of as commercial part-time farmers.

An entirely different type of part-time farmer in this subregion was the full-time worker in miscellaneous (non-turpentine) jobs (Table 4) who had taken up small-scale farming activities as a means of supplementing industrial earnings. Thirty-four of these industrial workers were studied. These workers lived in Douglas or in the villages of Broxton, Ambrose, and Nichols, and their farming activities were limited chiefly to vegetable growing. They will be spoken of as non-commercial part-time farmers.

The remaining 26 Coffee County cases were a heterogeneous group as to size of farming enterprises, type and amount of industrial employment, and sources of cash income. No group of sufficient size to justify separate treatment was found.^{3/}

In the subsequent discussion, attention will be directed chiefly to the two largest groups, namely: the commercial farmers working part-time

^{1/} Statistics on Gum Naval Stores Production, Southern Forest Experiment Station, Forest Survey Release No. 17.

^{2/} For criteria used in selecting families, see p. iii.

^{3/} Seven worked part-time in the turpentine industry, but had only small non-commercial farms. Their low earnings from farming and industrial employment combined were supplemented by incomes from life insurance policies, bootlegging, rental from real estate, employment in CCC camps, and public relief. There were six farm laborers who operated small farms for themselves. There were 13 town workers with farms with one or more commercial enterprises but they were generally smaller in size than the commercial farms operated by the 37 part-time turpentine workers.

in the turpentine industry, and the industrial workers in the towns with non-commercial farms. Data for the remaining cases will be included in some of the tables, but will be referred to in the discussion only when of particular significance.

Size of Farms. The part-time farms of the town workers were usually not much more than family garden plots and the largest included only six acres of crop land. Those of the commercial farming group, who had part-time employment in the turpentine industry, ranged in size from 16 to 74 acres of crop land. The remaining part-time farms were much more variable in size, as is shown in Table 5.

Principal Enterprises. Production for home use was important on all of these part-time farms. Four chief types of food were produced: vegetables, dairy products, poultry products, and pork. Table 6 shows in detail the numbers producing the various combinations of these four products. Nearly two-thirds of the commercial group produced all four, while on the other hand about the same proportion of the non-commercial group produced only vegetables (Table 6).

While gardens were common to both commercial and non-commercial groups, and were about the same size for each, cows, hogs, and poultry were generally found only on the commercial farms (Figure 6). As an additional enterprise, nearly all of the non-commercial group and about two-thirds of the commercial group cut their own firewood. These various enterprises will now be discussed separately.

Gardens: All but two of the entire group of part-time farmers had gardens varying in size from one-fourth acre to two acres.^{1/} There is considerable variation in the contribution that a garden of a given size may make to the family living. This depends upon the number of different vegetables grown, the yields, and the manner in which the various crops are planned seasonally. In southern Georgia, the winters are mild, but cold periods of a few days duration are of common occurrence. Freezing weather is rare. Vegetables, particularly the more hardy types may be grown almost continuously if temporary protection is given them during periods of cold weather. The average frost-free growing season is about nine months.^{2/}

The length of the garden season on the farms studied, as measured by the time during which three or more fresh vegetables were available, ranged from one to 12 months. Most frequently it was three to five months. Several of the best gardens supplied cabbages, turnips, and collards from October through March. From one garden, in addition to these winter vegetables, carrots, onions, and radishes were supplied during the early spring months and pumpkins in the late fall, with a much greater variety available during the summer. These facts suggest that most of the gardens could be made to contribute more by the planting of early and late crops.

^{1/} Three gardens were completely washed out by heavy rains and hence produced nothing.

^{2/} Percy O. Wood, et. al., Soil Survey of Jeff Davis County, Georgia, Bureau of Soils, U.S. Department of Agriculture, pp. 7 - 9, 1914.

Table 4. Distribution of Part-Time Farmers by Industry, 1934

| Industry | Number of Farmers | | |
|---|---|---|---------------|
| | Commercial Farmer- Turpentine Worker | Non-Commercial Farmer- Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| Agriculture | - | - | 6 |
| Forestry (woodcutting) | - | 1 | - |
| Manufacturing and Mechanical | | | |
| Building and construction | - | 3 | 1 |
| Bakeries | - | 1 | - |
| Railroad shops | - | 11 | 2 |
| Saw mills | - | 1 | 5 |
| Automobile repair shops | - | 1 | 1 |
| Electric light and power plants | - | 1 | - |
| Turpentine and rosin | 37 | - | 7 |
| Transportation and Communication | | | |
| Construction and maintenance of streets | - | 2 | - |
| Steam railroads | - | 2 | 1 |
| Other transportation and communication | - | 4 | 1 |
| Wholesale and Retail Trade | - | 6 | 1 |
| Recreation and Amusement (golf course) | - | - | 1 |
| Personal Service (laundry) | - | 1 | - |

Table 5. Distribution of Part-Time Farms by Acres of Crop Land, 1934

| Acres of Crop Land | Number of Farms | | |
|----------------------------|---|---|---------------|
| | Commercial Farmer- Turpentine Worker | Non-Commercial Farmer- Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| 1 | - | 25 | 10 |
| 2 | - | 6 | 1 |
| 3 - 4 | - | 2 | 1 |
| 5 - 9 | - | 1 | 2 |
| 10 - 19 | 1 | - | 2 |
| 20 - 29 | 9 | - | 6 |
| 30 - 49 | 17 | - | 3 |
| 50 - 74 | 10 | - | 1 |
| Average acres of crop land | 41.3 | 1.5 | 14.8 |

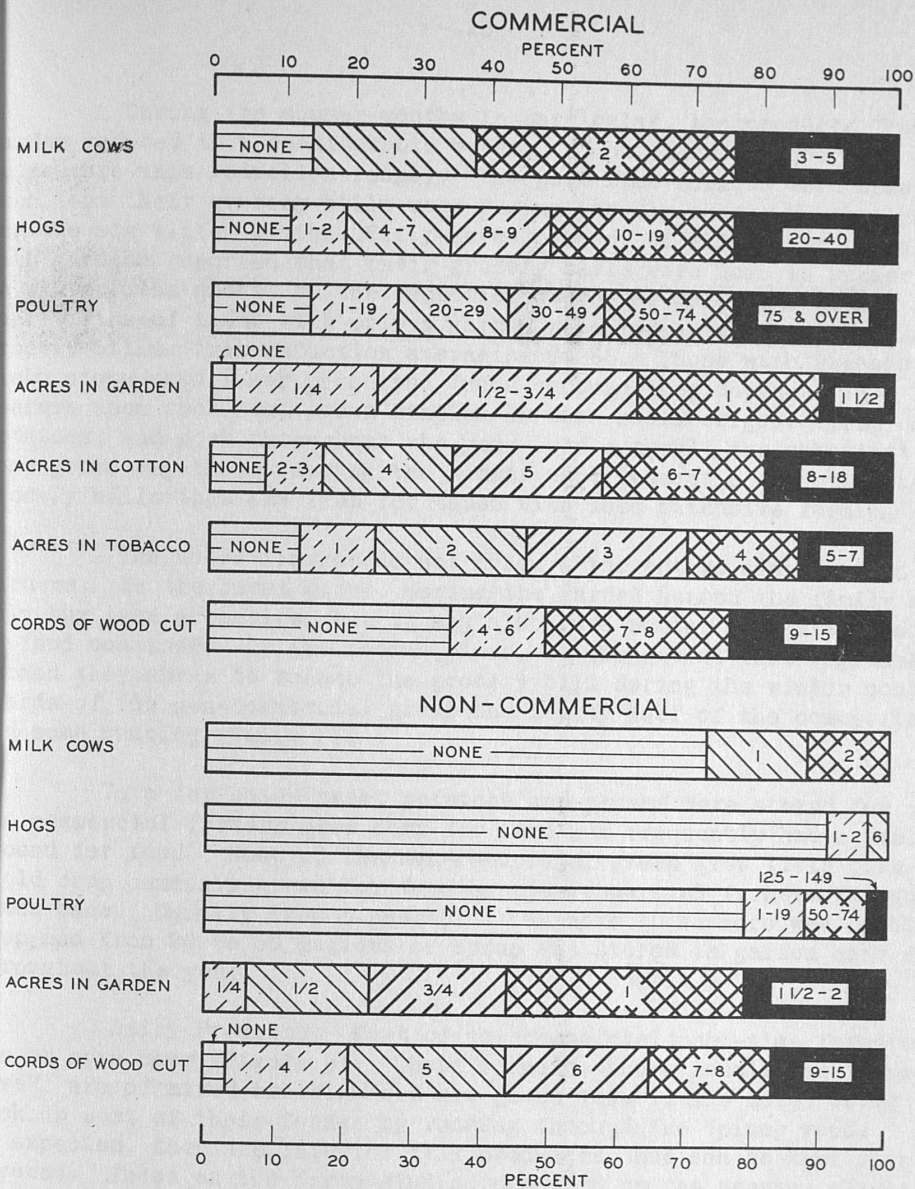


Fig. 6—PERCENTAGE DISTRIBUTION OF 37 COMMERCIAL AND 34 NON-COMMERCIAL PART-TIME FARMS BY SIZE OF PRINCIPAL ENTERPRISES, COFFEE COUNTY, GEORGIA, 1934

THIS CHART SHOWS THAT A GARDEN AND THE CUTTING OF FIREWOOD WERE THE IMPORTANT ENTERPRISES ON NON-COMMERCIAL FARMS WHILE THE COMMERCIAL FARMS HAD LIVESTOCK, COTTON AND TOBACCO IN ADDITION.

During the summer months in particular, the products from the garden reduced to a considerable extent the purchase of food. In order to measure this reduction roughly, the part-time farmers were asked how much less their grocery bills were during the six summer months than during the six winter months. Fifty-seven percent of all part-time farmers with gardens reported that their grocery bills were less in summer than in winter, the amount of the reduction averaging \$3.71 per month. About four-fifths of those with only a garden reported a reduction in their grocery bills, this reduction averaging \$4.66. Those with livestock and field crops used fewer purchased foods because they depended in a large measure upon such home grown staples as corn meal, sorghum syrup, sweet potatoes, and pork throughout the year. As a result the substitution of home grown vegetables during the summer made less of a reduction in their grocery bills than was true for those with less extensive farming operations.

The above figures do not measure the entire contribution of the gardens. In the first place, during the garden season the family may not only buy less groceries, but it may also fare better in quality and variety of food consumed. In the second place, to the extent that vegetables are canned they serve to reduce the grocery bill during the winter months. Two-thirds of the non-commercial group and nearly half of the commercial group did some canning (Table 7).

In a few cases sweet potatoes and pecans were stored for winter use. The commercial farmers grew corn for feed and frequently had a small quantity ground for food. None of the non-commercial group grew field corn. Another field crop commonly grown for food by the commercial farmers was sugarcane or kiana cane. Usually from a quarter of an acre to an acre was devoted to this crop and from 20 to 50 gallons of syrup was stored in gallon cans for use throughout the year.

Dairy Products: Most of the commercial part-time farmers had one or more cows (Figure 6). These animals, known locally as "piney woods cows", are of mixed breeding and are given very little care, being left to pick up most of their forage by roaming through the "piney woods." As might be expected, they are inferior milk producers, but can be kept with little expense. Those on the farms studied produced on the average slightly over 1,000 quarts of milk for the year. Families with more than one cow usually had fresh milk throughout the year and those with one cow had it for all but two or three months.

Most of the cows were found on the commercial farms, but nine of the non-commercial group had one or two. Most of the families who kept cows made butter. The quantities made and used varied widely as shown in Table 8. Only six part-time farmers sold dairy products.

Poultry Products: All but five of the commercial group, but only seven of the non-commercial group, kept poultry. Flocks were quite variable in size (Figure 6). The poultry was given very little attention and egg production was low. Thirteen families sold eggs. The quantity of home produced eggs consumed averaged about two and one-half dozen eggs a week for the commercial group (Table 9).

Table 6. Distribution of Part-Time Farms by Variety of Food Produced for Home Use, 1934

| Products | Number of Farms | | |
|---|-------------------------------------|---|------------|
| | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| Vegetables only | 1 | 20 | 3 |
| Vegetables and dairy products only | - | 6 | - |
| Vegetables and poultry products only | - | 4 | 6 |
| Vegetables, dairy products, and poultry products only | 3 | 2 | 5 |
| Vegetables, poultry products, and pork only | 4 | - | 2 |
| Vegetables, dairy products, and pork only | 3 | - | 2 |
| All four products | 22 | 1 | 6 |
| Other combinations | 4 | 1 | 2 |

Table 7. Distribution of Part-Time Farm Families by Quantities of Fruits and Vegetables Canned, 1934

| Quarts Canned | Number of Families | | |
|---------------------------------|-------------------------------------|---|------------|
| | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| None | 20 | 11 | 11 |
| 20 - 49 | 3 | 2 | 5 |
| 50 - 99 | 5 | 10 | 6 |
| 100 - 149 | 6 | 5 | 2 |
| 150 - 199 | 1 | 4 | 2 |
| 200 and over | 2 | 2 | - |
| Average for those doing canning | 112 qts. | 111 qts. | 78 qts |

Table 8. Distribution of Part-Time Farm Families by Quantity of Home Produced Butter Consumed, 1934

| Pounds of Butter Consumed | Number of Families | | |
|------------------------------------|-------------------------------------|---|------------|
| | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| None | 10 | 26 | 15 |
| 1 - 24 | 2 | 1 | - |
| 25 - 49 | 3 | 1 | 1 |
| 50 - 74 | 2 | 2 | 4 |
| 75 - 99 | 3 | - | 1 |
| 100 - 149 | 5 | 3 | 3 |
| 150 - 199 | 3 | 1 | 2 |
| 200 and over | 9 | - | - |
| Average for those consuming butter | 191 lbs. | 86 lbs. | 100 lbs. |

Table 9. Distribution of Part-Time Farm Families by Quantity of Home Produced Eggs Consumed, 1934

| Dozens of Eggs Consumed | Number of Families | | |
|----------------------------------|-------------------------------------|---|------------|
| | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| None | 11 | 29 | 11 |
| 1 - 9 | 7 | 3 | 3 |
| 10 - 19 | 2 | 1 | 4 |
| 20 - 29 | 2 | 1 | 2 |
| 30 - 49 | 3 | - | 3 |
| 50 - 74 | 3 | - | 1 |
| 75 - 149 | 1 | - | 1 |
| 150 and over | 8 | - | 1 |
| Average for those consuming eggs | 124 doz. | 11 doz. | 43 doz. |

In addition to eggs most of the families with poultry flocks consumed chicken as well and in three cases small quantities were sold. The amount consumed was small, however, being about one chicken a month on the average (Table 10).

Pork: Thirty-three of the commercial farmers, but only three of the non-commercial group, kept hogs. Four-fifths of the commercial farmers had four or more. Pork production for all commercial farmers who had hogs averaged 1,384 pounds. In only two cases was pork sold directly for cash. Most of it was salted and stored on the farm. It is customary in this region to take salt pork to the local store-keeper from time to time to exchange for other supplies. Because of the difficulties involved no attempt was made in the present study to determine just how much is used at home and how much is traded. Most of the families, however, had several hundred pounds of salt pork to eat during the year, pork being one of the principal articles in their diets. While the pork traded for supplies has not been figured in the cash income, it amounts, in effect, to a small increase in the family purchasing power. In a few cases share-croppers turned over half of their pork to the landlord as rent, but usually a share of the pork was not included in the rental agreement.

Feed Crops: Practically all of the feed used was home grown. Since the non-commercial part-time farms were small and had very little livestock, the growing of feed crops was almost entirely limited to the commercial group. All of this group grew corn, the average per farm being 24 acres, and the average production 228 bushels. This was nearly all fed to the livestock, since only a small proportion was needed for food. Only six commercial part-time farmers sold corn. Peanuts, cowpeas, velvet beans, and soy beans were the crops usually grown for roughage. Frequently these were planted with corn and sometimes with or following tobacco. Sometimes they were cured and stored as hay for winter use and sometimes the livestock was turned into the lot to feed off the crop.

Fuel: Most of the commercial but only two of the non-commercial part-time farms included woodland. However, since this is largely a wooded region all could readily cut their own firewood. Twenty-four commercial families cut an average of nine cords, and 33 non-commercial families an average of six cords.

Cash Receipts and Cash Expenses. Only four of the farmers in the non-commercial group sold any farm products, and the maximum amount sold was \$51. For this group cash farm expenses, exclusive of rent and taxes, varied from \$6 to \$59 and averaged \$25.

All the commercial part-time farmers grew cotton or tobacco, and nearly four-fifths of them grew both. Cotton acreages varied from two to 18, and tobacco acreages from one to six and one-half. Most of the remaining land was given over to the production of feed crops. The average value of the tobacco crop on these farms was slightly more than double the average value of the cotton crops.

On the owned and cash rented commercial farms, cash receipts ranged from \$116 to \$1,668 and averaged \$583. Cash farm expenses, including rent and taxes, ranged from \$87 to \$460 and averaged \$240. In only three cases

were expenses greater than receipts.

The 13 share-croppers operated farms similar in size to those of owners and cash tenants. The standard practice was for the landlord to furnish work stock and equipment and to get half of the crop. The value of the landlord's share averaged \$281. The croppers averaged \$244 of cash receipts from their share. The difference was accounted for by the fact that croppers did not sell their portion of certain feed and food products, which were shared with the landlord.

Since the landlord supplied land, work stock and equipment, the share-croppers' cash expenses averaged only \$85. Their net farm cash income therefore averaged \$159 or slightly less than half the net farm income of the owners and cash renters. Farm products, principally pork and corn, which were traded directly for supplies have not been included in these calculations.

Value and Tenure of Part-Time Farms. In view of the usual difficulties in arriving at significant real estate values, the very simple procedure was adopted of recording the rental charge if the property was rented; or, if owned by the operator, of recording his estimate of what he could rent it for. The resulting rental values were capitalized at 5 percent to give a figure to serve as a rough index of value. This method has a disadvantage, when used in comparing tenants and owners, since the value is determined somewhat differently for the two groups. It could not be used in the case of share-croppers since the value of the crop share was really a payment for the use of work stock and equipment as well as for the use of land and buildings.

The value of farms in the open country was greater than that of homes in town since the farms included not only dwellings but also other buildings and farm land. In both cases the real estate of owners was of considerably greater value than that of renters (Table 11).

Only three of the non-commercial group had any implements and machinery other than small hand tools. These three each had a plow representing an original investment of \$6.50. None of this group had work stock. Only a few had livestock and their gardening required an almost negligible investment in addition to the usual investment in a home. Since most of them rented their homes, their indebtedness consisted of chattel mortgages not exceeding \$400 in any case.

The commercial owners and tenants had an investment in implements and machinery of from \$25 to \$200, averaging \$115. Typically, this included three to five one-horse plows, a two-horse steel beam plow, a fertilizer distributor, a harrow, and a wagon. Occasionally tobacco transplanters and stalk cutters were also included.

Eight of the commercial farm owners had mortgages on their farms. These ranged from \$500 to \$1,900. About three-fourths of the commercial part-time farmers had chattel mortgages of varying amounts, the maximum being \$450. This usually represented claims on furniture, mules, and automobiles. The indebtedness had increased substantially since 1929.

With two exceptions the share-croppers had work stock and machinery furnished by their landlords. The investment was chiefly in the livestock

Table 10. Distribution of Part-Time Farm Families by Quantities of Home Produced Poultry Consumed, 1934

| Pounds of Dressed Poultry Consumed | Number of Families | | |
|-------------------------------------|-------------------------------------|---|------------|
| | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | All Others |
| Total | 37 | 34 | 26 |
| None | 8 | 28 | 8 |
| 10 - 19 | 3 | 1 | 1 |
| 20 - 29 | 11 | 1 | 2 |
| 30 - 49 | 5 | - | 5 |
| 50 - 74 | 7 | 2 | 7 |
| 75 - 99 | 1 | 1 | - |
| 100 - 149 | 2 | 1 | 3 |
| Average for those consuming poultry | 44 lbs. | 62 lbs. | 59 lbs |

Table 11. Distribution of Part-Time Farms by Rental Value Capitalized at Five Percent

| Capitalized Value of Real Estate | Number of Farms | | | |
|----------------------------------|-------------------------------------|-----------|---|---------|
| | Commercial Farmer-Turpentine Worker | | Non-Commercial Farmer-Industrial Worker | |
| | Owner | Tenant a/ | Owner | Tenant |
| Total | 16 | 8 | 4 | 30 |
| Under \$1,000 | - | - | - | 5 |
| \$1,000 - 1,999 | 1 | 5 | 1 | 16 |
| 2,000 - 2,999 | 10 | 2 | 2 | 4 |
| 3,000 - 3,999 | 2 | 1 | 1 | 5 |
| 4,000 - 4,999 | 2 | - | - | - |
| 5,000 - 5,999 | 1 | - | - | - |
| Average | \$3,000 | \$2,000 | \$2,500 | \$1,800 |

a/ Exclusive of share-croppers.

which was kept for home food production. Fourteen of the owners and tenants kept one mule, and seven kept two. The other three borrowed or hired work stock.

Labor on Part-Time Farms and Its Relation to Working Hours in Industry

While the busy season on farms coincides in a general way with that in the turpentine industry, a fairly satisfactory basis for combining the two has been worked out. The commercial part-time farmers who worked as chippers and dippers in the turpentine forests, usually were allotted slightly over one-third as many trees as were included in a unit for a full-time worker. The work on these trees required about eight 12-hour days a month from April through October, and somewhat less through the winter. There was some flexibility in the time for performing this eight days of work each month; hence each farmer could work out an adjustment between farming and turpentine work which suited his particular situation.

As shown in Table 12 the commercial part-time farmers averaged nearly nine hours of work a day on their farms through the spring and summer. In addition to the usual amount of family labor, most of them had some of their work done by hired labor, the amount varying with the scale of their operations.

Among the group of non-commercial farmers, those working in the railroad shops in Douglas has their working day curtailed to six hours in 1934. Most of the other town workers had an 8-hour day. Since their farm usually consisted of an acre or less of garden, they all had time to do this farm work. It required about two hours per day during the summer and could be done at the end of the regular working day. Little work was done by other family members.

Table 12. Average Numbers of Hours per Day Worked on Farms by Heads and Other Members by Seasons, 1934

| Season | Average Hours Per Day | | | | | | | |
|---------------------|-------------------------------------|---|-------------------------------------|---|-------------------------------------|---|-------------------------------------|---|
| | All Members | | Head | | Other Members | | | |
| | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker | Commercial Farmer-Turpentine Worker | Non-Commercial Farmer-Industrial Worker |
| Total Cases | 37 | 34 | 37 | 34 | 37 | 37 | 34 | 34 |
| April - June | 14.8 | 2.8 | 8.5 | 1.9 | 6.3 | 6.3 | 0.9 | 0.9 |
| July - August | 16.9 | 2.5 | 8.9 | 1.9 | 8.0 | 8.0 | 0.6 | 0.6 |
| September - October | 12.3 | 1.8 | 7.3 | 1.6 | 5.0 | 5.0 | 0.2 | 0.2 |
| November - March | 7.8 | 1.5 | 5.6 | 1.4 | 2.2 | 2.2 | 0.1 | 0.1 |

IV. EMPLOYMENT AND EARNINGS

Incomes of industrial workers in this area are generally low. In the naval stores industry the laborers are very poorly paid, wages tending to be roughly on the same level as for agricultural laborers. This is probably because the work is similar to agricultural labor. Earnings of workers in the railroad shops and other enterprises in Douglas are higher than those of the turpentine laborers, but lower than those of similar white workers in the other subregions studied.

The Industrial Group. For comparative purposes, a sample of 49 non-farming industrial workers engaged in gum naval stores production was included in the study. Only those families were included which had raised less than \$50 worth of farm or garden products in 1934; and which had a male head physically capable of working at a full-time job during 1934, who was employed at least 50 days each during 1933 and 1934 in certain clerical and kindred occupations or in skilled, semi-skilled, or unskilled occupations. 1/ 2/

Industry and Occupation. The non-commercial part-time farmers were employed in a variety of industries (Table 4). The largest single group consisted of skilled and semi-skilled workers in the car and railroad shops (Table 13). There was one proprietor of a meat market. The clerical group included a salesman in a retail grocery store, a telephone operator for a railroad, a tank wagon salesman for an oil company, and a route salesman for a laundry. Two carpenters, a brick mason, and an auto mechanic comprised the skilled group. Semi-skilled workers included five truck drivers, two railway flagmen, a baker, and an attendant in an electric light plant.

Most of the work in the turpentine industry is unskilled labor in the woods. All of the commercial part-time farmers in this industry were woods laborers, except two who were woods riders (supervisors). About two-thirds of the non-farming industrial group were laborers, and the remaining third included two woods riders and a semi-skilled group of stillers, still hands, and truck drivers. 3/

Industrial Earnings of Heads of Households. The off-farm employment of the commercial part-time farmers was distinctly secondary to their farm work, the source of the major part of their cash incomes. They worked only part-time at turpentine, averaging 83 days employment in 1934,

1/ The occupational classification used follows Dr. Alba M. Edwards' "social economic groups." See Journal of the American Statistical Association, pp. 377-387, December 1933.

2/ Fifty-four schedules were taken of Negro turpentine workers as a part of this study. They did no farming, but lived in camps where houses were furnished, rent free, by their employers. Their rates of pay and annual earnings were about the same as those of the unskilled white workers.

3/ See p.8, "The Labor Force."

for which they received an average of \$95 (Tables 14 and 15). The full-time turpentine workers had, on the average, 221 days of work and received \$260 in annual earnings. Hourly earnings were from 8 to 12 cents for the laborers and somewhat more for the others (Table 16). This industry never had an N.R.A. code.

Employees in the naval stores industry are frequently furnished with houses, rent free. Forty-three of the 49 non-farming workers paid no rent. Although this represents an addition to real income, it is usually not taken into account in setting wage or piece work rates, all employees being on the same basis whether living in a rent-free house or not.

The non-commercial part-time farmers carried on small scale farming operations in their spare time. Their average annual earnings from industrial employment were over \$500, or considerably higher than average annual earnings of workers in naval stores employment. Workers in railroad shops had a six-hour day during 1934, but their annual earnings were about the same as workers in other non-naval stores industries, the shorter day being offset by higher hourly rates of pay.

Total Family Cash Income. A major part of the cash income of the commercial part-time farmers came from the sale of farm products. The net cash farm income (receipts less cash expenses, including rent and taxes) in 1934 averaged \$333 for owners, \$360 for tenants, and \$159 for croppers. There was a small amount of cash earned by the labor of members of the family other than the head, 14 members earning an average of \$55. There were also a few cases of income from other sources, such as Agricultural Adjustment Act payments and turpentine leases.

Total family cash incomes from all sources averaged \$545 for owners, \$453 for tenants, and \$267 for share-croppers, omitting earnings from bootlegging in three cases. The value of farm products consumed by the family or traded for other goods is not included in these income figures.

Cash incomes of the non-commercial part-time farm families averaged \$621 in 1934, the principal item being the earnings of the head. Outside labor of 10 other members contributed an average of \$147 per worker, and there was a small amount of income from other sources. The farm contributed food to the family, but no cash income except in four cases.

This family income is not comparable with the figures given for the commercial part-time farmers because rent and taxes have been figured as farm expenses for the commercial group.

Total cash incomes of the non-farming turpentine workers' families averaged \$290. There were 23 working members other than the head and they earned an average of \$63 during the year.

Table 13. Occupation of Part-Time Farmers and Non-Farming Industrial Workers, 1934

| Occupation | Part Time Farmers | | | Non-Farming Industrial Workers |
|-----------------------------|-------------------|------------------------------|--------------------------|--------------------------------|
| | Commer- cial | Non-Commercial | | |
| | | Car and Railroad Shops | Other Indus- tries | |
| Total | 37 | 11 | 23 | 49 |
| Proprietary | - | - | 1 | - |
| Clerical | - | - | 4 | - |
| Foremen and Skilled Workers | 2 | 4 | 4 | 2 |
| Semi-skilled | - | 7 | 9 | 15 |
| Unskilled | 35 | - | 5 | 32 |

Table 14. Annual Earnings from Industrial Employment of Part-Time Farmers and Non-Farming Industrial Workers, 1934

| Annual Earnings | Part-Time Farmers | | | Non-Farming Industrial Workers |
|------------------|-------------------|------------------------------|--------------------------|--------------------------------|
| | Commer- cial | Non-Commercial | | |
| | | Car and Railroad Shops | Other Indus- tries | |
| Total | 37 | 11 | 23 | 49 |
| \$ 1 - 99 | 26 | - | - | 3 |
| 100 - 249 | 11 | - | 6 | 32 |
| 250 - 499 | - | 5 | 7 | 9 |
| 500 - 749 | - | 4 | 4 | 3 |
| 750 - 999 | - | 2 | 4 | 2 |
| 1,000 - 1,249 | - | - | 2 | - |
| Average earnings | \$95 | \$542 | \$537 | \$260 |

Table 15. Number of Days Heads of Part-Time Farm and Non-Farming Industrial Families Were Employed in 1934

| Number of Days Worked in 1934 | Part Time Farmers | | | Non-Farming Industrial Workers |
|-------------------------------|-------------------|------------------------------|--------------------------|--------------------------------|
| | Commer- cial | Non Commercial | | |
| | | Car and Railroad Shops | Other Indus- tries | |
| Total | 37 | 11 | 23 | 49 |
| 1 - 49 days | 2 | - | - | - |
| 50 - 99 days | 31 | - | - | 1 |
| 100 - 149 days | 2 | - | 3 | 6 |
| 150 - 199 days | 2 | 1 | 6 | 10 |
| 200 - 249 days | - | 9 | 4 | 16 |
| 250 - 299 days | - | 1 | 1 | 10 |
| 300 - 349 days | - | - | 6 | 6 |
| 350 and over | - | - | 3 | - |
| Average days worked | 83 | 239 | 242 | 221 |

Table 16. Hourly Rates of Pay of Part-Time Farmers and Non-Farming Industrial Workers, 1934

| Hourly Rates of Pay | Part Time Farmers | | | Non-Farming Industrial Workers |
|------------------------|-------------------|------------------------------|--------------------------|--------------------------------|
| | Commer- cial | Non-Commercial | | |
| | | Car and Railroad Shops | Other Indus- tries | |
| Total | 37 | 11 | 23 | 49 |
| Less than 10 cents | 14 | - | 1 | 24 |
| 10 - 19 cents | 19 | - | 6 | 19 |
| 20 - 29 cents | 2 | 2 | 6 | 4 |
| 30 - 39 cents | 1 | 4 | 6 | 1 |
| 40 - 49 cents | - | 2 | 3 | - |
| 50 - 59 cents | - | 3 | 1 | - |
| 60 - 69 cents | - | - | - | - |
| 70 - 79 cents | 1 | - | - | 1 |
| Average cents per hour | 13 | 38 | 27 | 12 |

Relief. Only two commercial and four non-commercial part-time farmers and five non-farming turpentine workers reported receiving public relief during 1934. The amounts of relief received ranged from \$3 to \$75, and averaged \$23. The small number of cases reporting relief is partly due to the fact that nearly all workers who qualified as part-time farmers in the Coffee County sample had steady employment throughout the year. When those families whose heads had worked less than 50 days off the farm during 1934 were automatically excluded from the category of part-time farmer, this excluded most of the cases receiving relief.

Variation in Earnings in the Naval Stores Industry. Earnings of workers in the naval stores industry, while very low in 1934, are likely to improve as the industry and agriculture in the region recover. An idea of the increase in wages in this industry that might be expected with such recovery can be obtained from a consideration of past levels of earnings. No wage studies are available, but the ratio of wages to the average number of wage earners as reported by the Census of Manufactures can be used as an index. This ratio, the "Census average wage", does not truly represent average actual earnings, but where there has been no substantial change from year to year in the relative amount of part-time work by the wage earners included in the Census figures, the average wage is a fair index of changes in full-time earnings^{1/} (Table 17).

In the naval stores industry there has been some increase in part-time work in recent years, but a large number of these part-time workers are not included in the Census figures, for reasons discussed in Part I. Hence it is possible that the index numbers for 1931 and 1933 are somewhat too low.

In 1929 wages in the naval stores business were generally \$1.50 to \$1.75 for a 10-hour day.^{2/} In Coffee County in 1934 laborers' wages ranged from 8 to 12 cents per hour, or approximately 60 percent of the 1929 rate. This is a rough check of the 1933 index number of 56 (Table 17) based on 100 for 1929, as it is probable that there was not much change in rates between 1933 and 1934.

^{1/} For a discussion of the Census average wage, see Earnings of Factory Workers 1899 to 1927 by Paul F. Brissenden, Census Monograph X.

^{2/} E. A. Ziegler and A. R. Spillers, Financial Aspects of Growing Slash and Longleaf Pine in Appling County, Georgia, U. S. Forest Service, Southern Forest Experiment Station, pamphlet, p.49, May 1934.

Table 17. Index of Full-Time Wage Earnings in the Gum Turpentine and Rosin Industry, 1919 to 1933

| Year | Total Wages | Average Number of Wage Earners | Average Wages per Wage Earner | Index |
|------|--------------|--------------------------------|-------------------------------|-------|
| 1919 | \$16,972,881 | 28,067 | \$605 | 162 |
| 1921 | 9,512,177 | 27,422 | 347 | 93 |
| 1923 | 15,448,590 | 34,328 | 450 | 120 |
| 1925 | 15,090,076 | 29,413 | 513 | 137 |
| 1927 | 16,953,054 | 37,913 | 447 | 120 |
| 1929 | 15,036,175 | 40,157 | 374 | 100 |
| 1931 | 7,280,389 | 28,257 | 258 | 69 |
| 1933 | 5,501,000 | 26,285 | 209 | 56 |

Source: U. S. Census of Manufactures.

V. LIVING CONDITIONS AND ORGANIZED SOCIAL LIFE

Turpentine orchards and stills are scattered throughout the rural areas. Hence commercial part-time farmers who worked in the turpentine industry and non-farming workers in the industry lived in the open country and experienced the same lack of conveniences and of organized social life as full-time farmers. Non-commercial part-time farmers, most of whom lived in Douglas, had a more varied social life and their dwellings were in much better condition than those of the commercial part-time farmers or of the non-farming turpentine workers. These frequently had such conveniences as running water and electric lights, but only a few had bathrooms.

Housing. Dwellings of commercial part-time farmers were typical of farm dwellings in general in this area. The walls of the houses were usually constructed of rough boards with narrow vertical strips nailed over the cracks between them. They were unpainted, unplastered, and most were in a bad state of repair. They usually contained four, five, or six rooms and were without such modern conveniences as running water and electric lights. Many had no glass windows and where these were found, panes were frequently missing. Dwellings of owners and cash tenants were somewhat larger on the average than were those of the sharecroppers.

The dwellings of the non-commercial part-time farmers were typical of those in small towns and villages. Their houses had substantial foundations, weather boarding on the walls, and were plastered inside and painted outside. The average size was 4.9 rooms. Of the 27 families living in Douglas, 17 had running water, 5 had bathrooms, and 11 had electric lights. Seven families lived in villages, and of these none had running water and only one had electric lights.

As previously mentioned, the houses of the non-farming turpentine workers were usually furnished rent free by their employer. They were smaller than the farm houses, averaging 3.6 rooms as compared with 5.0 rooms for those of the commercial part-time farmers (Table 18). None had electric lights and only one in the sample studied had running water. A number of these houses were fairly new.

Automobiles, Radios, and Telephones. Only a few families reported having any of these facilities. The only family reported as having a telephone was in the non-commercial part-time farm group. Five non-commercial and three commercial part-time farm families and one non-farming household had radios. Automobiles were owned by 10 non-farming turpentine workers and by five commercial and six non-commercial part-time farmers. This lack of communication facilities tended to intensify the isolation of the turpentine workers in scattered communities or on farms.

Home Ownership. Sixteen of the commercial part-time farmers owned their homes, as compared with only four of the non-commercial part-time farmers and none of the non-farming workers in the turpentine industry. Home ownership was rather a disadvantage for turpentine workers

because this prevented them moving about and because employers usually furnished houses rent free.

Education. Children of non-farming workers in the turpentine industry were retarded about two years in school on the average.^{1/} This is indicative of inadequate school facilities in some of the rural areas and the low cultural and economic level of this group. Children 7-16 years of age in the commercial part-time farm households who had the advantage of better schools were retarded less than one year, while those in the non-commercial part-time farm group had made approximately normal progress.

Commercial part-time farmers and non-farming turpentine workers had completed less than five grades in school, on the average, as compared with seven for the non-commercial part-time farmers (Table 19).

Social Participation. Very few social organizations were found in the rural areas of Coffee County because the people required to support them were widely scattered and had low incomes. Monthly church services, and sometimes Sunday schools, were the only organized activities in which commercial part-time farm families participated (Table 20).

In Douglas, where most of the non-commercial part-time farmers lived, there were parent-teacher associations, athletic teams, labor unions and fraternal orders in addition to the usual church organizations.

Participation in social organizations of the families enumerated in Coffee County was much lower than that of families in the other areas studied.^{2/} The average number of meetings of all social organizations attended per person in 1934 was 19 for the non-commercial part-time farm group, 14 for non-farming households, and only 4 for the commercial part-time farm families. A considerable number of the households did not participate at all in organized social life. This included 15 commercial and 7 non-commercial part-time farm households, and 14 non-farming families.

^{1/} For definition of normal attainment in school, see Appendix B.

^{2/} W.P.A. Research Bulletins, J-2, J-3, J-4, and J-6.

Table 18. Average Number of Rooms in Dwelling of Part-Time Farm and Non-Farming Industrial Families, 1934

| Size of Family | Part-Time Farmers | | | | Non-Farming Industrial Workers | |
|----------------|-------------------|--------------------------------------|-----------------|--------------------------------------|--------------------------------|--------------------------------------|
| | Commercial | | Non-Commercial | | Number of Cases | Average Number of Rooms per Dwelling |
| | Number of Cases | Average Number of Rooms per Dwelling | Number of Cases | Average Number of Rooms per Dwelling | | |
| All Families | 37 | 5.0 | 34 | 4.9 | 49 | 3.6 |
| 1 - 3 persons | 11 | 5.2 | 8 | 4.5 | 22 | 4.2 |
| 4 - 5 persons | 14 | 5.4 | 14 | 4.9 | 19 | 3.6 |
| 6 - 9 persons | 12 | 4.3 | 12 | 5.2 | 8 | 3.5 |

Table 19. Education of Heads of Part-Time Farm and Non-Farming Industrial Families, 1934

| Number of Grades Completed in School | Part Time Farmers | | Non-Farming Industrial Workers |
|--------------------------------------|-------------------|----------------|--------------------------------|
| | Commercial | Non-Commercial | |
| Total | 37 | 34 | 49 |
| None | 4 | - | 5 |
| 1 - 4 grades | 12 | 5 | 19 |
| 5 - 6 grades | 7 | 10 | 14 |
| 7 grades | 2 | 4 | 7 |
| 1 - 3 years high school | 10 | 9 | 4 |
| High School | - | 3 | - |
| 1 - 3 years college | - | 2 | - |
| Unknown | 2 | 1 | - |
| Average grades completed | 4.9 | 7.1 | 4.3 |

Table 20. Availability of Specified Social Organizations and Participation of Part-Time Farm and Non-Farming Industrial Families in These Organizations, 1934

| Organization | Part Time Farm Families | | | | Non-Farming Industrial Families | |
|-----------------------------|---|---|---|---|---|---|
| | Commercial | | Non-Commercial | | Number of Families to Which Organization Is Available | Number of Families with One or More Members Participating |
| | Number of Families to Which Organization Is Available | Number of Families with One or More Members Participating | Number of Families to Which Organization Is Available | Number of Families with One or More Members Participating | | |
| Total | 37 | | 34 | 49 | 35 | |
| Church | 37 | 21 | 34 | 43 | 35 | |
| Adult church organization | - | - | 28 | 3 | 1 | |
| Young people's organization | - | - | 27 | 8 | 3 | |
| Sunday school | 1 | - | 31 | 23 | 11 | |
| Athletic team | - | - | 31 | 7 | 1 | |
| Fraternal order | - | - | 28 | 1 | - | |
| Labor union | - | - | 14 | - | - | |
| Parent-teacher association | 9 | - | 34 | 4 | - | |
| Other women's organization | - | - | - | 2 | - | |

VI. APPRAISAL OF COMBINED FARMING-INDUSTRIAL EMPLOYMENT

It is the purpose of this section to present those considerations, favorable and unfavorable, which are pertinent to an appraisal of combined farming-industrial employment, and to discuss the possibilities for its further development. Since the attempt here is to study the value of the combination of two types of employment, the discussion will be directed chiefly to answering the question: What net addition does the supplementary occupation make to the living afforded by the basic activity?

As described in the preceding sections, there are two distinctly different types of part-time farmers in Coffee County: the farmer who is also employed in turpentine, and the town or village worker who operates a small non-commercial part-time farm. Entirely different considerations are involved in the two cases. Hence, in answering the above question, the two will be discussed separately. The commercial part-time farmers have the same surroundings and about the same farming activities as other farmers of the area, and no attempt will be made to appraise those features of their situation which are common to all farmers.

The Combination of Farming and Employment in the Naval Stores Industry. Because the farm lands and pine forests of the South lie side by side, and turpentine work can be easily fitted into farm operations, the naval stores industry is well suited to combination with farming. This is done in Coffee County in several ways, of which the following are the most important:

- (1) By regular naval stores employees carrying on small farm enterprises for producing their own food and perhaps a small amount of farm produce for sale.
- (2) By operators of commercial farms working part-time in the forests for cash wages.
- (3) By division of labor on a family basis, some members operating the farm while others work in the forests or at the stills for cash wages.
- (4) By farmers collecting gum from their own trees, and selling it to stillers, or having the stillers process it for them and selling the turpentine and rosin.

Only the first two combinations are considered in this study.

Very few cases of regular or full-time naval stores employees who did enough farming to qualify as part-time farmers under the definitions used here were found. Nearly half of the group of non-farming turpentine workers did cultivate small gardens, however. The extremely low level of wages and

the inadequate diet characteristic of these workers, both white and Negro, indicate that it would be highly desirable for them to raise as much of their own food as possible. There is plenty of land to be had near the places in which they work and most of the farm work can be done by other members of the family. Some farm experience is desirable for the operation of even a small part-time farm, especially one on which there is livestock. A farm background is the rule rather than the exception among turpentine workers.

The commercial part-time farmers who worked part-time in the naval stores industry added about \$100 on the average to their farm incomes during 1934 by this outside employment. This work is laborious and poorly paid, and yielded many of these farmers a smaller rate of return for time spent at it than did their own farm work. But as this off-farm work utilized time that was not needed to increase farm production, the small return from it represents a net gain in income.

During the past five years, there has been a marked increase in the number of farmers undertaking part-time work in the turpentine industry. This has been due largely to two facts. First, the returns from farming have been depressed relatively more than those in the turpentine industry. Second, the Agricultural Adjustment Program, by curtailing the acreage of cotton, tobacco, and peanuts, the principal cash crops, limited the opportunities in farming and thus made available to many farmers the time necessary for this new activity. The future course of prices for farm products and for naval stores will be important factors in determining the extent to which farmers continue to be attracted by turpentine work.

The value of this combination of farming and naval stores work could be increased by improved forest practices and the solution of other problems of the industry mentioned in Part II. In addition, there are some interesting possibilities in the working out of a sustained yield system of forest management in connection with farming. If, as at present, farming were relied upon as the chief source of income, small forest units might be operated without producing an income every year. Problems of desirable units of forest ownership, whether in small tracts operated by farmers as one of their farming enterprises, or in larger units upon which farmers might work for wages, have not been considered in this report.

Part-Time Farming of Urban Industrial Workers. The small farms of the urban non-commercial part-time farmers made a substantial net contribution to the family living. In the typical case described in Appendix A, the value of the home-produced food consumed by the family was estimated at \$160, which was above the level for most of the non-commercial group. This part-time farmer had an exceptionally good garden, but no livestock other than a flock of chickens.

To an extent difficult of measurement, these home-grown products improve the quality of the diet over what it might otherwise be. Most incomes of these town workers are not great enough to purchase a varied diet, and unless they produce these foods themselves, the health of the family is likely to suffer. In this region pellagra, tuberculosis, and malnutrition of school children are serious problems. Milk and fresh fruits and vegetables are

important in preventing these diseases and disorders.

While considerable extra work is involved in operating a small farm in addition to full-time industrial work, this was not a serious matter to most of the non-commercial part-time farmers. The usual length of the working day during 1934 was six hours for the railroad shop workers and eight hours for most of the others. Thus they could care for a small farm enterprise without interfering with their industrial employment.

These non-commercial part-time farmers usually lived in the towns where they worked; hence there was no expense or time wasted in commuting.

APPENDICES

Appendix A

CASE STUDIES OF PART-TIME FARMERS

Case Studies of Part-Time Farmers

A description chiefly in statistical terms of the group of part-time farmers included in the study may not accurately describe any one family in the group or convey a concrete picture of all of the activities of the people under consideration. To meet this difficulty, detailed descriptions of two families, representing the two most common types of part-time farming found in the county, are given here.

A Commercial Part-Time Farmer - Turpentine Worker. The first part-time farmer to be described is typical of the group of commercial farmers who have employment in the turpentine industry, with respect to outside employment and home food production. However, since a farm owner has been selected, the case is in certain respects not representative of the tenants and share-croppers. This farmer had in 1934 a commercial farm business slightly larger than the average for the group, and since he was not in debt, his economic status was a little above average for farm owners.

The farmer in question was 36 years old, with a wife and four children ranging from 4 to 14 years. He had been farming continuously since he was 16 years of age, but took up turpentine only three years ago.

His 150-acre farm was located in the open country seven miles from town. It included 95 acres of woodland and 55 acres of crop land. The woodland was leased to a turpentine operator for three years for \$200. The cash crops in 1934 were six acres of cotton and three acres of tobacco. The three and one-half bales of cotton and 2,600 pounds of tobacco produced sold for \$200 and \$490, respectively. In addition 23 acres of corn, 6 acres of peanuts, and 2½ acres of peavine hay were grown for feed. Enough feed was produced, together with the pasturage which the woodland supplied, to carry all of the livestock. In addition to 2 mules the livestock included 2 cows, 7 head of young cattle, 25 hogs, 25 chickens, and a flock of 30 goats.

Like most other farmers in the county this man had recently been increasing his livestock because of low prices and the curtailment programs for cash crops. Consequently most of the livestock was young and did not add to the income during 1934. The two cows were of the "piney woods" variety and had to pick up most of their feed in the woods. However, they produced about 2,200 quarts of milk during the year. About four quarts per day were used fresh, and from the remainder was made about one and one-half pounds of butter a week. Thus the family had milk and butter throughout the year.

Twelve hogs were butchered in December and their total dressed weight was 2,900 pounds. About 100 pounds of meat were used fresh and 2,300 pounds were salt-cured and stored. In addition 500 pounds of lard were stored.

The family used about 700 pounds of pork and lard during the year, and exchanged the remainder for other supplies. This surplus pork production added the equivalent of approximately \$125 to the family income.

The poultry flock was given no attention and produced only five dozen eggs during the whole year. Five 4 pound fowls were eaten. The flock of goats foraged in the woods. Twenty-one kids were sold for \$16.

In addition to the livestock products, about an acre of garden crops was grown for home use. The garden had a fair variety of vegetables including Irish potatoes, sweet potatoes, tomatoes, okra, peas, snap beans, lima beans, cabbages, peppers, squash, cucumbers, onions, collards, and cantaloupes. Since it was a summer garden, most of the vegetables were available only during May, June, and July. Collards and cabbages were used earlier and sweet potatoes later in the season. Sixty quarts of tomatoes, 22 quarts of peas, 10 quarts of snap beans, and 16 quarts of cabbage, a total of 108 quarts, were canned. In addition, 26 gallons of syrup, produced from a quarter acre of sugar cane, were stored for use during the year.

The cash value of the contribution of this farm to the family living can hardly be determined with precision. The quantity of the various vegetables could not be estimated with accuracy since they were taken from the garden from day to day as desired. When a product was available it was probably used by the family in much larger quantities than if it had been purchased. This household of six could more fully utilize a given quantity of products than could a smaller family, since there would be less wasted surpluses.

Recognizing the difficulties involved, it still seems worthwhile to estimate the value of the contribution of this farm to the family living. The prices used approximate prevailing local farm prices. In this way an estimate of the value of the contribution to the family living of a farm with a combination of enterprises frequently found in the area may be indicated.

| | | |
|----------------------------|-------|-------|
| 1,460 qts. milk | @ 10¢ | \$146 |
| 80 lbs. butter | @ 25¢ | 20 |
| 300 qts. buttermilk | @ 3¢ | 9 |
| Fresh vegetables | | 50 |
| 26 gal. sugar syrup | @ 50¢ | 13 |
| 108 qts. canned vegetables | @ 25¢ | 27 |
| 20 lbs. poultry | @ 25¢ | 5 |
| 5 doz. eggs | @ 0¢ | 1 |
| 700 lbs. pork and lard | @ 10¢ | 70 |
| 8 cords of wood | @ \$5 | 40 |

Total value of products used - \$381

In addition to the contribution to family living, the value of products sold or traded was estimated at \$835.

This farmer worked from daylight to dark on his place from March through September with the exception of about two days a week when he worked off the farm in the turpentine woods.

He cured tobacco, an operation which requires almost continuous tending of the fires for four or five days at a time. Hence for a part of the time he worked longer hours than the 14-hour day that was customary. His wife and the two older boys, aged 14 and 10, worked 10 hours a day on the farm during June, July, and August, helping in the cotton chopping and tobacco and cotton harvesting. The only labor hired was for harvesting hay and tobacco.

Wages paid hired labor totalled \$35. The chief expense item was \$115 for fertilizer and total cash expenses were \$192.

The off-the-farm job consisted of dipping gum about eight 10-hour days a month throughout 1934. There were no certain days that the operator had to work, but he was assigned a definite task to perform each month. He received 10 cents an hour, and his total earnings from this work were \$92. It is rather unusual for a farmer owning timberland, as this one did, to work out in preference to working his own trees.

The three oldest children went to a country school two miles away. The family lived in a crudely constructed six-room house, unpainted and unplastered. They had a radio but no electric lights, running water, telephone, or automobile.

A Non-Commercial Part-Time Farmer. The part-time farmer to be described was outstanding among the industrial workers in Douglas in his success in gardening and poultry keeping. He was a young man of 28 with two small children. He had done some gardening ever since his marriage five years earlier, and when his earnings were reduced, he had expanded his acreage of vegetables and added a flock of chickens.

This man was an apprentice machinist in the railroad shop. He received 42 cents an hour in 1934, but since he worked only 6-hour days per week, his total earnings were only \$464. Thus his earnings were even lower than they had been five years earlier when he was just getting started at this same job.

The home was located at the edge of town about a mile from the railroad shop. A comfortable seven-room house with running water and electric lights, together with four acres of land, was rented for \$60 a year. Two acres of corn and two acres of a large variety of vegetables were planted. The various crops were planted in rotation so that several fresh vegetables were available throughout the year. In addition, 52 quarts of vegetables were canned, and 15 bushels of sweet potatoes, a supply of pumpkins, 10 bushels of corn, and 18 gallons of cane syrup were stored for home consumption, and vegetables worth \$50 were sold.

A flock of 60 hens was kept. During the year birds were culled from the flock from time to time and dressed for home use. In this way 80 pounds of chicken and the 25 dozen eggs produced were available for family use. The poultry was fed on home grown corn and no feed was purchased. Six cords of firewood were cut on a nearby farm.

The value of the home food and fuel production may be estimated as follows:

| | | |
|---------------------------|-------|-----------|
| 80 lbs. poultry | @ 25¢ | \$20 |
| 25 doz. eggs | @ 20¢ | 5 |
| Fresh vegetables | | 60 |
| 15 bu. sweet potatoes | @ \$1 | 15 |
| 18 gal. cane syrup | @ 50¢ | 9 |
| 10 bu. corn | @ 80¢ | 8 |
| 52 qts. canned vegetables | @ 25¢ | 13 |
| 6 cords wood | @ \$5 | <u>30</u> |
| Total value | | \$160 |

The only cash expenses were \$10 for hired labor and \$16 for seed and fertilizer. The head of the family had ample time to take care of the garden and the chickens with only 24 hours of outside work a week.

It is evident that by means of his farming activities this man has raised the level of living of his family considerably above what it would have been were he entirely dependent on his rather low industrial earnings. He has the reputation of being the hardest working man in town. He has had several agricultural courses in the local branch of the state college, and is at the present time taking a correspondence course in mechanical engineering. His chief outside interest is the local baseball team of which he is player-manager. He is also quite active in community affairs, attending lodge and labor union meetings regularly, and Sunday school and church once or twice a month.

Age Grade Schedule

The following age grade schedule was taken as normal in the computation of the educational index.^{1/}

| Age in Years | Last Grade Completed in School |
|--------------|-----------------------------------|
| 7 | 1 |
| 8 | 2 |
| 9 | 3 |
| 10 | 4 |
| 11 | 5 |
| 12 | 6 |
| 13 | 7 |
| 14 | 8 |
| 15 | 9 |
| 16 | 10 |

^{1/} All children 7 to 16 years of age were included whether in school or not.

APPENDIX C

SCHEDULES

FEDERAL EMERGENCY RELIEF ADMINISTRATION
 HARRY L. HOPKINS, ADMINISTRATOR
 DIVISION OF RESEARCH, STATISTICS, AND FINANCE
 CORRINGTON GILL, DIRECTOR

ENUMERATORS RECORD NO. _____

STATE _____

COUNTY _____

TOWNSHIP OR DISTRICT _____

DATE TAKEN _____

ENUMERATOR _____

PART-TIME FARM SCHEDULE

| LINE NUMBER | NAME OF EACH MEMBER OF HOUSEHOLD | RELATION TO HEAD | AGE | LAST GRADE IN SCHOOL COMPLETED IN SCHOOL DURING LAST SCHOOL YEAR | STATE OF BIRTH (COUNTRY IF OTHER THAN U.S.) | COLOR OR RACE | AVERAGE NUMBER OF HOURS PER DAY WORKED ON THE FARM IN EACH MONTH IN 1934 (EXCLUDE HOUSEWORK) | | | | | | | | | | | | NUMBER OF DAYS INCAPACITATED FOR WORK IN 1934 | ANY PERMANENT PHYSICAL HANDICAP SPECIFY | MILES TO PLACE OF USUAL EMPLOYMENT | MEANS OF TRANSPORTATION | TIME REQUIRED FOR ROUND TRIP | FREQUENCY OF MAKING TRIP |
|-------------|----------------------------------|------------------|-----|--|---|---------------|--|---|---|---|---|---|---|---|---|----|----|----|---|---|------------------------------------|-------------------------|------------------------------|--------------------------|
| | | | | | | | J F M A M J J A S O N D | | | | | | | | | | | | | | | | | |
| | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | |
| A | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | | | | | 9 | 10 | 11 | 12 | 13 | 14 | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | |

B EMPLOYMENT OF HEAD OF HOUSEHOLD OFF THIS FARM 1934:

| | NAME OF FIRM AND/OR PLACE WHERE WORK IS USUALLY DONE | SPECIFIC OCCUPATION | TYPE OF BUSINESS OR INDUSTRY | NUMBER OF FULL DAYS EMPLOYED IN: | | | | | | | | | | | | TOTAL AVERAGE HOURS PER DAY WORKED | AVERAGE HOURLY RATE OF PAY | TOTAL EARNED FROM THIS EMPLOYMENT 1934 |
|---|--|---------------------|------------------------------|----------------------------------|---|---|---|---|---|---|---|---|----|----|----|------------------------------------|----------------------------|--|
| | | | | J F M A M J J A S O N D | | | | | | | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | |
| 1 | 1 | 2 | 3 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |

C PRINCIPAL EMPLOYMENT OF HEAD OF HOUSE OFF THE FARM IN 1929: OCCUPATION _____; TYPE OF BUSINESS OR INDUSTRY _____; AMOUNT EARNED IN 1929 FROM THIS EMPLOYMENT _____.

D EMPLOYMENT OF OTHER MEMBERS OF THE HOUSEHOLD OFF THIS FARM IN 1934:

| "A" SECTION LINE NUMBER OF THE PERSON | SPECIFIC OCCUPATION | TYPE OF BUSINESS OR INDUSTRY | TOTAL EARNED IN THIS EMPLOYMENT 1934 |
|---------------------------------------|---------------------|------------------------------|--------------------------------------|
| 1 | 2 | 3 | 4 |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

E INCOME FROM ANY SOURCE OTHER THAN FARM OR EMPLOYMENT INDICATED IN B AND D 1934:

| "A" SECTION LINE NUMBER OF THE PERSON | SOURCE | AMOUNT IN 1934 |
|---------------------------------------|--------|----------------|
| 1 | 2 | 3 |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

| LINE NO. | CROPS AND LIVESTOCK PRODUCTS 1934 | PRODUCTIVE UNITS | CROPS HARVESTED AND LIVE STOCK PRODUCTS | CHECK MONTHS IN WHICH CONSUMED FRESH | | | | | | | | | | | | QUARTS CANNED | QUANTITY STORED, DRIED OR CURED | QUANTITY SOLD | RECEIPTS |
|----------|-----------------------------------|------------------|---|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---------------|---------------------------------|---------------|----------|
| | | | | J F M A M J J A S O N D | | | | | | | | | | | | | | | |
| | | | | J | F | M | A | M | J | J | A | S | O | N | D | | | | |
| 1 | A. GARDEN | A. | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | | |
| 2 | IRISH POTATOES | | X | | | | | | | | | | | | | X | | | |
| 3 | SWEET POTATOES | | X | | | | | | | | | | | | | X | | | |
| 4 | TOMATOES | | X | | | | | | | | | | | | | | X | | |
| 5 | OKRA | | X | | | | | | | | | | | | | | | | |
| 6 | PEAS | | X | | | | | | | | | | | | | | | | |
| 7 | SNAP BEANS | | X | | | | | | | | | | | | | | X | | |
| 8 | LIMA BEANS | | X | | | | | | | | | | | | | | | | |
| 9 | CABBAGE | | X | | | | | | | | | | | | | X | X | | |
| 10 | LETTUCE | | X | | | | | | | | | | | | | X | X | | |
| 11 | PEPPERS | | X | | | | | | | | | | | | | X | | | |
| 12 | SQUASH | | X | | | | | | | | | | | | | | | | |
| 13 | CUCUMBERS | | X | | | | | | | | | | | | | | X | | |
| 14 | ASPARAGUS | | X | | | | | | | | | | | | | | X | | |
| 15 | RHUBARB | | X | | | | | | | | | | | | | | X | | |
| 16 | BEETS | | X | | | | | | | | | | | | | | | | |
| 17 | CARROTS | | X | | | | | | | | | | | | | | | | |
| 18 | ONIONS | | X | | | | | | | | | | | | | | | | |
| 19 | RADISHES | | X | | | | | | | | | | | | | X | X | | |
| 20 | TURNIPS | | X | | | | | | | | | | | | | X | | | |
| 21 | COLLARDS | | X | | | | | | | | | | | | | | X | | |
| 22 | WATERMELONS | | X | | | | | | | | | | | | | X | X | | |
| 23 | CANTALOUPE | | X | | | | | | | | | | | | | X | X | | |
| 24 | OTHER | | X | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | |
| 27 | B. FRUITS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | | |
| 28 | APPLES | BU. | | | | | | | | | | | | | | | | | |
| 29 | PEACHES | | | | | | | | | | | | | | | | | | |
| 30 | BERRIES | QT. | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | |
| 32 | OTHER | | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | | | |
| 34 | C. DAIRY PRODUCTS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 35 | MILK | QT. | | | | | | | | | | | | | | X | X | | |
| 36 | BUTTER | LB. | | | | | | | | | | | | | | X | | | |
| 37 | CHEESE | LB. | | | | | | | | | | | | | | X | | | |
| 38 | OTHER | | | | | | | | | | | | | | | X | | | |
| 39 | | | | | | | | | | | | | | | | X | | | |
| 40 | D. POULTRY | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 41 | MEAT | LB. | | | | | | | | | | | | | | X | X | | |
| 42 | EGGS | DZ. | | | | | | | | | | | | | | X | | | |
| 43 | E. LIVESTOCK PROD. | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 44 | PORK | LB. | | | | | | | | | | | | | | | | | |
| 45 | VEAL | LB. | | | | | | | | | | | | | | | | | |
| 46 | OTHER | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | | |
| 48 | F. FIELD CROPS | X | X | FED | | | | | | | | | | | | X | X | X | X |
| 49 | CORN | A. BU. | | | | | | | | | | | | | | X | | | |
| 50 | COTTON | BALES | | X | | | | | | | | | | | | X | X | | |
| 51 | TOBACCO | LB | | X | | | | | | | | | | | | X | X | | |
| 52 | PEANUTS | LB | | | | | | | | | | | | | | X | | | |
| 53 | OTHER ANN. LEGUMES | LB | | | | | | | | | | | | | | X | | | |
| 54 | HAY | TON | | | | | | | | | | | | | | X | | | |
| 55 | SORGHUM | GAL | | | | | | | | | | | | | | X | | | |
| 56 | SUGARCANE | GAL | | | | | | | | | | | | | | X | | | |
| 57 | OTHER | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | | |
| 61 | G. FUEL | X | CDS OR TONS | X | | | | | | | | | | | | X | X | | |
| 62 | | X | | X | | | | | | | | | | | | | | | |
| 63 | H. MISCELLANEOUS | X | X | X | | | | | | | | | | | | | | | |
| 64 | HONEY | X | LB | X | | | | | | | | | | | | | | | |
| 65 | OTHER | X | | | | | | | | | | | | | | | | | |
| 66 | | | | | | | | | | | | | | | | | | | |
| 67 | | | | | | | | | | | | | | | | | | | |
| 68 | | | | | | | | | | | | | | | | | | | |
| 69 | | | | | | | | | | | | | | | | | | | |

| | | | | |
|-----------------------|-----------|--|------|------|
| H. FARM LAND OPERATED | | | 1934 | 1929 |
| 1 | CROP LAND | | 1 | 2 |
| 2 | PASTURE | | A | A |
| 3 | WOOD LAND | | | |
| 4 | OTHER | | | |
| 5 | TOTAL | | | |

| | | | | |
|-----------|--------------|--|------|------|
| I. TENURE | | | 1934 | 1929 |
| 1 | ACRES OWNED | | 1 | 2 |
| 2 | ACRES RENTED | | | |

3 IF PLACE IS OWNED WHAT WOULD IT RENT FOR NOW _____

| | | | | |
|----------------------|------------------|--|------|------|
| J. LIVESTOCK: JAN. 1 | | | 1934 | 1929 |
| 1 | HORSES AND MULES | | 1 | 2 |
| 2 | MILK CATTLE | | | |
| 3 | OTHER CATTLE | | | |
| 4 | SWINE | | | |
| 5 | POULTRY | | | |
| 6 | OTHER (SPECIFY) | | | |

| | | |
|------------------|---------------------|------|
| K. FARM EXPENSES | | 1934 |
| 1 | HIRE LABOR | |
| 2 | FEED | |
| 3 | FERTILIZER | |
| 4 | LIVESTOCK PURCHASED | |
| 5 | SUPPLIES | |
| 6 | MACHINERY REPAIRS | |
| 7 | INSURANCE | |
| 8 | TAXES | |
| 9 | RENT | |
| 10 | OTHER | |
| 11 | TOTAL | |

L. DESCRIPTION OF WAY DAY, WEEK, MONTH OR YEAR IS DIVIDED BETWEEN FARM WORK AND OTHER EMPLOYMENT

G. 1 WAS GROCERY BILL LESS MAY-OCTOBER THAN DURING WINTER MONTHS? _____
 IF SO HOW MUCH PER MONTH? _____
 2 APPARENT STANDARD OF LIVING: 1 2 3 4 5

M. IMPORTANT IMPLEMENTS OR MACHINERY 1934

| | KIND OF MACH. OR IMPL. | SIZE | AGE | COST NEW |
|---|------------------------|------|-----|----------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

N.

- 1 NUMBER OF YEARS HEAD OF HOUSE HAS BEEN ON THIS FARM _____.
- 2 NUMBER YEARS HEAD HAS BEEN A PART-TIME FARMER SINCE 1928 _____.
- 3 CHECK RESIDENCE OF HEAD OF HOUSE ON OCT. 1ST, 1929: OPEN COUNTRY _____;
VILLAGE _____; TOWN _____; CITY _____.
- 4 NUMBER OF CHANGES IN RESIDENCE MADE BY HEAD OF HOUSE SINCE OCT. 1ST, 1929 _____.
- 5 NUMBER OF YEARS HEAD OF HOUSE HAS LIVED ON A FARM SINCE HE WAS SIXTEEN YEARS OF AGE _____.

- O.
- 1 KINDS OF WORK PERFORMED ON FARM IN 1934 (EXCLUSIVE OF HOUSEWORK): BY WIFE _____;
BY OLDER CHILDREN _____; BY YOUNGER CHILDREN _____.
 - 2 KINDS OF WORK PERFORMED ON FARM IN 1929 (EXCLUSIVE OF HOUSEWORK): BY WIFE _____;
BY OLDER CHILDREN _____; BY YOUNGER CHILDREN _____.
 - 3 NUMBER OF ACRES IN GARDEN IN 1929 _____.

P.

- 1 DWELLING: TYPE OF CONSTRUCTION _____; DIMENSIONS _____; NUMBER OF STORIES _____; YEAR CONSTRUCTED _____;
NUMBER OF ROOMS _____; RUNNING WATER _____; BATHROOM WITH RUNNING WATER _____; ELECTRIC LIGHTS _____;
CONDITION OF DWELLING _____.
- 2 OTHER CONVENIENCES: TELEPHONE _____; RADIO _____; AUTOMOBILE (YEAR AND MAKE) _____.
- 3 OTHER BUILDINGS (CHECK THOSE PRESENT): BARN _____; GARAGE _____; POULTRY HOUSE _____; OTHER (SPECIFY) _____.
- 4 TYPE OF ROAD ON WHICH THIS FARM IS LOCATED: CONCRETE _____; HARD SURFACED _____; GRADED _____; DIRT _____.
- 5 HOW FAR IS THIS FARM FROM A HARD SURFACED ROAD _____.

Q. INDICATE BY "A" SECTION LINE NUMBER THE FREQUENCY OF ATTENDANCE OF EACH PERSON IN THE HOUSEHOLD AT THOSE ORGANIZATIONS LISTED BELOW WHICH EXIST IN THE COMMUNITY (INFORMATION AS OF 1934):

| SOCIAL ORGANIZATION | DID ORGANIZATION EXIST IN COMMUNITY IN 1934 | NUMBER MONTHS ACTIVE IN 1934 | TIMES PER MONTH MEETS WHEN ACTIVE | ATTENDANCE IN 1934 | | | | | | | | | |
|---------------------------------|---|------------------------------|-----------------------------------|--------------------|--------------------------|----------------|-----------------|-----------------------|------------------------------|---------------------|---|---|----|
| | | | | No ATTENDANCE | LESS THAN ONCE PER MONTH | ONCE PER MONTH | TWICE PER MONTH | THREE TIMES PER MONTH | FOUR OR MORE TIMES PER MONTH | HELD OFFICE IN 1934 | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 CHURCH | | | | | | | | | | | | | |
| 2 ADULT CHURCH ORGANIZATION | | | | | | | | | | | | | |
| 3 YOUNG PEOPLES ORGANIZATION | | | | | | | | | | | | | |
| 4 SUNDAY SCHOOL | | | | | | | | | | | | | |
| 5 SCHOOL CLUB | | | | | | | | | | | | | |
| 6 ATHLETIC TEAM | | | | | | | | | | | | | |
| 7 FRATERNAL ORDER | | | | | | | | | | | | | |
| 8 LABOR UNION | | | | | | | | | | | | | |
| 9 TRADE OR BUSINESS ASSOCIATION | | | | | | | | | | | | | |
| 10 LIBRARY | | | | | | | | | | | | | |
| 11 P.T.A. | | | | | | | | | | | | | |
| 12 BOY SCOUTS | | | | | | | | | | | | | |
| 13 GIRL SCOUTS | | | | | | | | | | | | | |
| 14 COOPERATIVES | | | | | | | | | | | | | |
| 15 OTHER WOMENS ORGANIZATIONS | | | | | | | | | | | | | |
| 16 4-H CLUB | | | | | | | | | | | | | |
| 17 SPECIAL INTEREST GROUP | | | | | | | | | | | | | |
| 18 OTHER | | | | | | | | | | | | | |

R.

- 1 AMOUNT OF INDEBTEDNESS JAN. 1ST, 1935: REAL ESTATE MORTGAGE _____; CHATTEL MORTGAGE _____.
- 2 AMOUNT OF INDEBTEDNESS JAN. 1ST, 1930: REAL ESTATE MORTGAGE _____; CHATTEL MORTGAGE _____.

S. AMOUNT IN DOLLARS OF RELIEF AND AID RECEIVED BY THIS HOUSEHOLD:

| | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 |
|---|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 PUBLIC (GOVERNMENTAL) RELIEF | | | | | | | |
| 2 PRIVATE (EXCLUSIVE OF HELP FROM RELATIVES) RELIEF | | | | | | | |
| 3 HELP FROM RELATIVES | | | | | | | |

STATE _____
 COUNTY _____
 TOWNSHIP OR DISTRICT _____
 STREET AND HOUSE NUMBER _____

FEDERAL EMERGENCY RELIEF ADMINISTRATION
 HARRY L. HOPKINS, ADMINISTRATOR
 DIVISION OF RESEARCH, STATISTICS AND FINANCE
 CORRINGTON GILL, DIRECTOR

ENUMERATOR'S RECORD No. _____
 DATE TAKEN _____
 ENUMERATOR _____

FULL-TIME INDUSTRIAL SCHEDULE

| LINE NUMBER | NAME OF EACH MEMBER OF THE HOUSEHOLD | RELATION TO THE HEAD | AGE | LAST GRADE IN SCHOOL COMPLETED IN SCHOOL DURING LAST SCHOOL YEAR | STATE OF BIRTH (COUNTRY IF OTHER THAN U. S.) | COLOR OR RACE | NUMBER OF DAYS INCAPACITATED FOR WORK IN 1934 | ANY PERMANENT PHYSICAL HANDICAP (SPECIFY) | MILES TO PLACE OF USUAL EMPLOYMENT | MEANS OF TRANSPORTATION | TIME REQUIRED FOR ROUND TRIP | FREQUENCY OF MAKING TRIP | |
|-------------|--------------------------------------|----------------------|-----|--|--|---------------|---|---|------------------------------------|-------------------------|------------------------------|--------------------------|----|
| A | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |

B. EMPLOYMENT OF HEAD OF HOUSEHOLD IN 1934

| NAME OF FIRM AND/OR PLACE WHERE WORK IS DONE | SPECIFIC OCCUPATION | TYPE OF BUSINESS OR INDUSTRY | NUMBER FULL DAYS EMPLOYED IN: | | | | | | | | | | | | TOTAL | AVERAGE HOURS PER DAY WORKED | AVERAGE HOURLY RATE OF PAY | TOTAL EARNED FROM THIS EMPLOYMENT IN 1934 |
|--|---------------------|------------------------------|-------------------------------|---|---|---|---|---|---|---|---|---|---|---|-------|------------------------------|----------------------------|---|
| | | | J | F | M | A | M | J | J | A | S | O | N | D | | | | |
| 1 | 2 | 3 | 4 | | | | | | | | | | | | 5 | 6 | 7 | 8 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

C. PRINCIPAL EMPLOYMENT OF HEAD OF HOUSE IN 1929: OCCUPATION _____, TYPE OF BUSINESS OR INDUSTRY _____
 AMOUNT EARNED IN 1929 FROM THIS EMPLOYMENT _____. Total cash income of head from all sources in 1929 _____. Total cash income of all others in household from all sources in 1929 _____.

D. EMPLOYMENT OF OTHER MEMBERS OF THE HOUSEHOLD IN 1934

| "A" SECTION LINE NUMBER OF THE PERSON | SPECIFIC OCCUPATION | TYPE OF BUSINESS OR INDUSTRY | TOTAL EARNED IN THIS EMPLOYMENT IN 1934 |
|---------------------------------------|---------------------|------------------------------|---|
| 1 | 2 | 3 | 4 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

E. INCOME FROM ANY SOURCE OTHER THAN EMPLOYMENT INDICATED IN B AND D IN 1934

| "A" SECTION LINE NUMBER OF THE PERSON | SOURCE | AMOUNT IN 1934 |
|---------------------------------------|--------|----------------|
| 1 | 2 | 3 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

F. 1 DID THE HEAD OF THIS HOUSEHOLD DO ANY GARDENING OR FARMING IN 1934 _____; 1929 _____.

2 NUMBER OF YEARS HEAD OF HOUSE HAS LIVED ON A FARM SINCE HE WAS SIXTEEN YEARS OF AGE _____.

- G.
- 1 HOW LONG HAS HEAD OF HOUSE LIVED IN THIS COMMUNITY _____.
 - 2 NUMBER OF DIFFERENT COMMUNITIES HEAD HAS LIVED IN SINCE OCT. 1ST, 1929 _____.
 - 3 CHECK RESIDENCE OF HEAD OF HOUSE ON OCT. 1ST, 1929: OPEN COUNTRY _____; VILLAGE _____; TOWN _____; CITY _____.
 - 4 CHECK TENURE OF THIS HOME: OWNED _____; RENTED _____; OWNED BY EMPLOYER _____.
 - 5 IF HOME IS RENTED, WHAT IS ANNUAL RENTAL _____.
 - 6 IF HOME IS OWNED, WHAT WOULD IT RENT FOR (ANNUAL RENT) _____.
 - 7 DESCRIPTION OF DWELLING: TYPE _____; TYPE OF CONSTRUCTION _____; NUMBER STORIES _____; NUMBER ROOMS _____; RUNNING WATER _____; BATHROOM WITH RUNNING WATER _____; ELECTRIC LIGHTS _____; CONDITION _____.
 - 8 OTHER CONVENIENCES: TELEPHONE _____; RADIO _____; AUTOMOBILE (YEAR AND MAKE) _____.
 - 9 TYPE OF STREET OR ROAD ON WHICH DWELLING IS LOCATED: CONCRETE _____; OTHER HARD SURFACE _____; GRADED _____; DIRT _____.

H. INDICATE BY "A" SECTION LINE NUMBER THE FREQUENCY OF ATTENDANCE OF EACH PERSON IN THIS HOUSEHOLD AT THOSE ORGANIZATIONS LISTED BELOW WHICH EXIST IN THE COMMUNITY (INFORMATION AS OF 1934)

| SOCIAL ORGANIZATION | DID ORGANIZATION EXIST IN THE COMMUNITY IN 1934 | | ATTENDANCE IN 1934 | | | | | | | HELD OFFICE IN 1934 | | | |
|------------------------------|---|-----------------------------------|--------------------|--------------------------|----------------|-----------------|-----------------------|----------------------|---|---------------------|---|---|---|
| | NUMBER MONTHS ACTIVE IN 1934 | TIMES PER MONTH MEETS WHEN ACTIVE | NO ATTENDANCE | LESS THAN ONCE PER MONTH | ONCE PER MONTH | TWICE PER MONTH | THREE TIMES PER MONTH | FOUR TIMES PER MONTH | | | | | |
| | | | | | | | | | 1 | | 2 | 3 | 4 |
| 1 CHURCH | | | | | | | | | | | | | |
| 2 ADULT CHURCH ORGANIZATION | | | | | | | | | | | | | |
| 3 YOUNG PEOPLES ORGANIZATION | | | | | | | | | | | | | |
| 4 SUNDAY SCHOOL | | | | | | | | | | | | | |
| 5 SCHOOL CLUBS | | | | | | | | | | | | | |
| 6 ATHLETIC TEAMS | | | | | | | | | | | | | |
| 7 FRATERNAL ORDERS | | | | | | | | | | | | | |
| 8 LABOR UNIONS | | | | | | | | | | | | | |
| 9 TRADE OR BUSINESS ASSOC. | | | | | | | | | | | | | |
| 10 LIBRARY | | | | | | | | | | | | | |
| 11 P.T.A. | | | | | | | | | | | | | |
| 12 BOY SCOUTS | | | | | | | | | | | | | |
| 13 GIRL SCOUTS | | | | | | | | | | | | | |
| 14 4-H CLUB | | | | | | | | | | | | | |
| 15 COOPERATIVES | | | | | | | | | | | | | |
| 16 OTHER WOMEN'S ORGANIZ. | | | | | | | | | | | | | |
| 17 SPECIAL INTEREST GROUPS | | | | | | | | | | | | | |
| 18 OTHER | | | | | | | | | | | | | |

- I.
- 1 AMOUNT OF INDEBTEDNESS, JAN. 1ST, 1935: REAL ESTATE MORTGAGE _____; CHATTEL MORTGAGE _____.
 - 2 AMOUNT OF INDEBTEDNESS, JAN. 1ST, 1930: REAL ESTATE MORTGAGE _____; CHATTEL MORTGAGE _____.

J. AMOUNT IN DOLLARS OF RELIEF AND AID RECEIVED BY THIS HOUSEHOLD

| | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 |
|---|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 PUBLIC RELIEF (GOVERNMENTAL) | | | | | | | |
| 2 PRIVATE RELIEF (EXCLUSIVE OF HELP FROM RELATIVES) | | | | | | | |
| 3 HELP FROM RELATIVES | | | | | | | |

K. APPARENT STANDARD OF LIVING: 1 2 3 4 5

1. THE FOLLOWING HAS BEEN USED IN THIS COMMUNITY: _____
 2. NUMBER OF DISTRICTS/COMMUNITIES HERE HAS BEEN LIVED IN SINCE OCT. 1952: _____
 3. NAME OF DISTRICT/COMMUNITY: _____
 4. NAME OF DISTRICT/COMMUNITY: _____
 5. NAME OF DISTRICT/COMMUNITY: _____
 6. NAME OF DISTRICT/COMMUNITY: _____
 7. NAME OF DISTRICT/COMMUNITY: _____
 8. NAME OF DISTRICT/COMMUNITY: _____
 9. NAME OF DISTRICT/COMMUNITY: _____
 10. NAME OF DISTRICT/COMMUNITY: _____

LISTED BELOW WHICH EXIST IN THE COMMUNITY (REGISTRATION AS OF 1952)
 INDICATE BY "X" SECTION LINE NUMBER THE PRESENCE OF EACH PERSON IN THIS ORGANIZATION

| SECTION LINE NUMBER | NAME OF ORGANIZATION | ATTENDANCE IN 1952 | | | | | | | | | |
|---------------------|----------------------|--------------------|---|---|---|---|---|---|---|---|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | ... | | | | | | | | | | |
| 2 | ... | | | | | | | | | | |
| 3 | ... | | | | | | | | | | |
| 4 | ... | | | | | | | | | | |
| 5 | ... | | | | | | | | | | |
| 6 | ... | | | | | | | | | | |
| 7 | ... | | | | | | | | | | |
| 8 | ... | | | | | | | | | | |
| 9 | ... | | | | | | | | | | |
| 10 | ... | | | | | | | | | | |
| 11 | ... | | | | | | | | | | |
| 12 | ... | | | | | | | | | | |
| 13 | ... | | | | | | | | | | |
| 14 | ... | | | | | | | | | | |
| 15 | ... | | | | | | | | | | |
| 16 | ... | | | | | | | | | | |
| 17 | ... | | | | | | | | | | |
| 18 | ... | | | | | | | | | | |
| 19 | ... | | | | | | | | | | |
| 20 | ... | | | | | | | | | | |
| 21 | ... | | | | | | | | | | |
| 22 | ... | | | | | | | | | | |
| 23 | ... | | | | | | | | | | |
| 24 | ... | | | | | | | | | | |
| 25 | ... | | | | | | | | | | |
| 26 | ... | | | | | | | | | | |
| 27 | ... | | | | | | | | | | |
| 28 | ... | | | | | | | | | | |
| 29 | ... | | | | | | | | | | |
| 30 | ... | | | | | | | | | | |
| 31 | ... | | | | | | | | | | |
| 32 | ... | | | | | | | | | | |
| 33 | ... | | | | | | | | | | |
| 34 | ... | | | | | | | | | | |
| 35 | ... | | | | | | | | | | |
| 36 | ... | | | | | | | | | | |
| 37 | ... | | | | | | | | | | |
| 38 | ... | | | | | | | | | | |
| 39 | ... | | | | | | | | | | |
| 40 | ... | | | | | | | | | | |
| 41 | ... | | | | | | | | | | |
| 42 | ... | | | | | | | | | | |
| 43 | ... | | | | | | | | | | |
| 44 | ... | | | | | | | | | | |
| 45 | ... | | | | | | | | | | |
| 46 | ... | | | | | | | | | | |
| 47 | ... | | | | | | | | | | |
| 48 | ... | | | | | | | | | | |
| 49 | ... | | | | | | | | | | |
| 50 | ... | | | | | | | | | | |

1. NAME OF DISTRICT/COMMUNITY: _____
 2. NAME OF DISTRICT/COMMUNITY: _____
 3. NAME OF DISTRICT/COMMUNITY: _____

| SECTION LINE NUMBER | NAME OF ORGANIZATION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------------|----------------------|---|---|---|---|---|---|---|---|---|----|
| 1 | ... | | | | | | | | | | |
| 2 | ... | | | | | | | | | | |
| 3 | ... | | | | | | | | | | |
| 4 | ... | | | | | | | | | | |
| 5 | ... | | | | | | | | | | |
| 6 | ... | | | | | | | | | | |
| 7 | ... | | | | | | | | | | |
| 8 | ... | | | | | | | | | | |
| 9 | ... | | | | | | | | | | |
| 10 | ... | | | | | | | | | | |
| 11 | ... | | | | | | | | | | |
| 12 | ... | | | | | | | | | | |
| 13 | ... | | | | | | | | | | |
| 14 | ... | | | | | | | | | | |
| 15 | ... | | | | | | | | | | |
| 16 | ... | | | | | | | | | | |
| 17 | ... | | | | | | | | | | |
| 18 | ... | | | | | | | | | | |
| 19 | ... | | | | | | | | | | |
| 20 | ... | | | | | | | | | | |
| 21 | ... | | | | | | | | | | |
| 22 | ... | | | | | | | | | | |
| 23 | ... | | | | | | | | | | |
| 24 | ... | | | | | | | | | | |
| 25 | ... | | | | | | | | | | |
| 26 | ... | | | | | | | | | | |
| 27 | ... | | | | | | | | | | |
| 28 | ... | | | | | | | | | | |
| 29 | ... | | | | | | | | | | |
| 30 | ... | | | | | | | | | | |
| 31 | ... | | | | | | | | | | |
| 32 | ... | | | | | | | | | | |
| 33 | ... | | | | | | | | | | |
| 34 | ... | | | | | | | | | | |
| 35 | ... | | | | | | | | | | |
| 36 | ... | | | | | | | | | | |
| 37 | ... | | | | | | | | | | |
| 38 | ... | | | | | | | | | | |
| 39 | ... | | | | | | | | | | |
| 40 | ... | | | | | | | | | | |
| 41 | ... | | | | | | | | | | |
| 42 | ... | | | | | | | | | | |
| 43 | ... | | | | | | | | | | |
| 44 | ... | | | | | | | | | | |
| 45 | ... | | | | | | | | | | |
| 46 | ... | | | | | | | | | | |
| 47 | ... | | | | | | | | | | |
| 48 | ... | | | | | | | | | | |
| 49 | ... | | | | | | | | | | |
| 50 | ... | | | | | | | | | | |

1. NAME OF DISTRICT/COMMUNITY: _____
 2. NAME OF DISTRICT/COMMUNITY: _____
 3. NAME OF DISTRICT/COMMUNITY: _____



