U. S. DEPARTMENT OF AGRICULTURE

BUREAU OF SOILS

IN COOPERATION WITH MISSISSIPPI GEOLOGICAL SURVEY

SOIL SURVEY OF PERRY COUNTY, MISSISSIPPI

BY

E. MALCOLM JONES, MISSISSIPPI GEOLOGICAL SURVEY, IN CHARGE, AND J. A. KERR, S. B. COLE, AND E. P. LOWE, U. S. DEPARTMENT OF AGRICULTURE

[Advance Sheets—Field Operations of the Bureau of Soils, 1922]

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON
1928

U. S. DEPARTMENT OF AGRICULTURE

BUREAU OF SOILS

IN COOPERATION WITH MISSISSIPPI GEOLOGICAL SURVEY

SOIL SURVEY OF PERRY COUNTY, MISSISSIPPI

BY

E. MALCOLM JONES, MISSISSIPPI GEOLOGICAL SURVEY, IN CHARGE, AND J. A. KERR, S. B. COLE, AND E. P. LOWE, U. S. DEPARTMENT OF AGRICULTURE

[Advance Sheets—Field Operations of the Bureau of Soils, 1922]

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON
1928

[PUBLIC RESOLUTION—No. 9]

JOINT RESOLUTION Amending public resolution numbered eight, Fifty-sixth Congress, second session, approved February twenty-third, nineteen hundred and one, "providing for the printing annually of the report on field operations of the Division of Soils, Department of Agriculture"

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That public resolution numbered eight, Fifty-sixth Congress, second session, approved February twenty-third, nineteen hundred and one, be amended by striking out all after the resolving clause and inserting in lieu thereof the following:

That there shall be printed ten thousand five hundred copies of the report on field operations of the Division of Soils, Department of Agriculture, of which one thousand five hundred copies shall be for the use of the Senate, three thousand copies for the use of the House of Representatives, and six thousand copies for the use of the Department of Agriculture: *Provided*, That in addition to the number of copies above provided for there shall be printed, as soon as the manuscript can be prepared, with the necessary maps and illustrations to accompany it, a report on each area surveyed, in the form of advance sheets, bound in paper covers, of which five hundred copies shall be for the use of each Senator from the State, two thousand copies for the use of each Representative for the congressional district or districts in which the survey is made, and one thousand copies for the use of the Department of Agriculture.

Approved, March 14, 1904.

[On July 1, 1901, the Division of Soils was reorganized as the Bureau of Soils]

CONTENTS

ILLUSTRATIONS

MAP

Soil map, Perry County, Miss.

SOIL SURVEY OF PERRY COUNTY, MISSISSIPPI

By E. MALCOLM JONES, Mississippi Geological Survey, in Charge, and J. A. KERR, S. B. COLE, and E. P. LOWE, U. S. Department of Agriculture

COUNTY SURVEYED

Perry County is in the southeastern part of the State of Mississippi. The southern boundary is about 36 miles north of the Gulf at Biloxi and Gulfport. It is rectangular in shape, extending 36 miles north and south and 18 miles east and west, and has an area of 644 square miles, or 412,160 acres.

The county lies in the rolling coastal plain above the flatwoods. The uplands are gently rolling, the range in elevation between the higher parts and the valleys of the larger streams being about 200 feet. All parts of the county have been so completely dissected by a widely branching series of drainage ways that no extensive areas of smooth undissected upland are left.

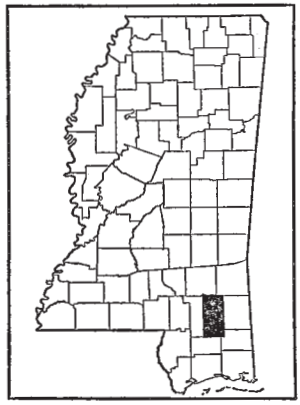


FIG. 53.—Sketch map showing location of Perry County, Miss.

All of the larger streams have formed wide, well-defined valleys. The valley slopes are dissected by numerous small branching watercourses, ranging from perennial streams originating in springs or seeps, whose beds have been cut to a fairly low gradient, to shallow draws or mere drainage ways not marked by channels. Generally these slopes are well suited for farming. Terraces for checking erosion are necessary, mainly on the sloping areas. Many areas on the broad and smoother uplands do not require terracing. In some localities, mainly where the underlying formations are of plastic clay, or where the valley slopes of large streams are short, rough surface features have developed. The only extensive areas of such character are in the drainage basin of Whisky Creek, in the southeastern part of the county, with some areas on the short slopes on the southwestern side of Leaf River and Black Creek. The larger streams of the county flow through broad alluvial plains, which include wide first bottoms, subject to overflow, and stream benches or terraces. The average width of the Leaf River plain in the county is about 4 miles; that of Black Creek about 2 miles; and most of the large creeks flowing south to Leaf River are bordered by plains less than a mile in width.

Terraces flank the deeper part of the river valleys and rise toward the uplands in a series of steps, the highest of these grading in places almost imperceptibly into the upland. All the important drainage ways which cross the terraces have cut valleys into them.

Perry County was organized in 1806, then including Forrest County, but the latter was separated in 1908. No records of population or production before 1870 are available, but undoubtedly the population was very small and distributed on isolated farms and in small settlements along the streams. The early settlers came from Georgia and the Carolinas and there evidently has been but little immigration since, the population in 1920 numbering 8,987, all classed as rural. Lack of transportation facilities and markets influenced settlers to seek the more productive Delta land. A few families owned slaves, the section being mostly given over to small plantations requiring few slaves, and at the present time negroes are not numerous in the country districts.

Until a few decades ago there was little export or import of commodities, the farmers living largely on the products of their own lands and herds. Since Leaf River is not navigable, lumber could not be marketed to advantage, though some pine has been rafted down to Pascagoula. Little cotton was produced. Yearly trips to the coast by wagon were customary for many years.

Timberland was so abundant and of so little value at the time the first settlers arrived that the residents did not acquire titles to large tracts of land, and, it is stated, they failed in many cases to obtain legal title to their farms for generations. About 1870, large holdings of timberland were acquired by lumber companies and held in reserve until 1904, when the Gulf, Mobile & Northern Railroad was constructed through the county and a number of large sawmills built. Since then, the forest has been cut over rapidly, leaving much cut-over, uncultivated land, and within a few years practically all the virgin forest will have been cut. A considerable part of the population is employed by lumber companies, and towns have been built near the larger mills. According to the census of 1920, Richton, in the north central part of the county, had a population of 1,363, and New Augusta, the county seat, located in the central part of the county, a population of 418.

The Gulf, Mobile & Northern Railroad crosses the northeastern part of the county. The Bonhomie & Hattiesburg Southern Railroad, formerly a branch line of the Gulf, Mobile & Northern, extends east from Hattiesburg in Forrest County, connecting with the Gulf, Mobile & Northern at Beaumont.

The main roads of the county do not follow section lines, because they were laid out on the best grades, as the most direct courses between towns, usually along the stream terraces or on the main divides. Some of the through roads have been surfaced with gravel obtained from local deposits. Where traffic is not heavy, graded dirt roads remain in excellent condition throughout the year. At present the towns and lumber camps are local markets for truck crops. Mobile, 82 miles from Richton by rail, is the principal outside market.

CLIMATE

The climate of Perry County is temperate, being somewhat modified by the nearness of the Gulf. This is especially noticeable in midsummer, when the prevailing south winds are not especially warm as might be expected, but often agreeably cool. The mean temperature in summer is about 81° F. However, maximum tem-

peratures of 100° or more occur from May to October. The mean winter temperature is about 51°. Temperatures below zero are exceptional and of short duration. Ordinarily, the winter days are rather sunny and pleasant, even when the ground freezes to a depth of half an inch or more in the night. Winter oats, rye, vetch, bur clover, and other winter cover crops, grow throughout the winter. Sheep and cattle commonly range through the winter without shelter.

Spring comes early. Pears, plums, and peaches usually bloom early in February. The average date of the last killing frost in the spring at Hattiesburg, Forrest County, is March 15, and that of the first in the fall, November 8. This gives a normal frost-free season of 237 days, sufficient for the growing of two crops.

The average annual rainfall is 56.67 inches at Hattiesburg and 61.96 inches at Leakesville, Greene County. This is uniformly distributed throughout the year, though precipitation is rather lighter in October and November. Although the total amount of rainfall is large, much of it comes in heavy thundershowers accompanied by considerable run-off, so that during the growing season there are occasional short periods of deficient rainfall. Snow seldom falls, and remains on the ground for a very short time only. There is no Weather Bureau station in Perry County, but the accompanying tables, from the records of the station at Hattiesburg, located only a few miles west of the county line, near Leaf River, and those from the station at Leakesville, a similar distance east of the county, show the approximate conditions in Perry County.

Normal monthly, seasonal, and annual temperature and precipitation at Hattiesburg, Forrest County

[Elevation, 189 feet]

Month	Temperature			Precipitation			
	Mean	Absolute maximum	Absolute minimum	Mean	Total amount for the driest year (1924)	Total amount for the wettest year (1919)	Snow, average depth
	°F.	°F.	°F.	*Inches*	*Inches*	*Inches*	*Inches*
December	50.9	85	13	4.96	8.49	4.81	Trace.
January	49.9	84	11	5.16	7.39	7.25	0.1
February	51.9	86	−1	5.26	6.10	8.35	.6
Winter	50.9	86	−1	15.38	21.98	20.41	.7
March	60.1	91	23	5.26	3.35	7.44	.1
April	65.6	93	31	5.12	1.93	3.08	.0
May	73.3	102	39	5.09	2.88	12.72	.0
Spring	66.3	102	23	15.47	8.16	23.24	.1
June	80.3	106	50	4.84	5.83	2.59	.0
July	81.8	103	55	6.63	2.44	5.81	.0
August	81.6	105	55	5.22	.62	8.38	.0
Summer	81.2	106	50	16.69	8.89	16.78	.0
September	77.3	101	40	3.67	1.26	1.94	.0
October	66.1	98	28	2.36	.36	4.02	.0
November	57.4	88	19	3.10	.40	7.44	Trace.
Fall	66.9	101	19	9.13	2.02	13.40	Trace.
Year	66.4	106	−1	56.67	41.05	73.83	.8

Normal monthly, seasonal, and annual temperature and precipitation at Leakesville, Greene County

[Elevation, 105 feet]

Month	Temperature			Precipitation			
	Mean	Absolute maximum	Absolute minimum	Mean	Total amount for the driest year (1917)	Total amount for the wettest year (1900)	Snow, average depth
	°F.	°F.	°F.	*Inches*	*Inches*	*Inches*	*Inches*
December	50.5	83	11	5.77	1.51	8.76	Trace.
January	51.1	83	9	4.53	4.07	5.31	0.1
February	51.3	86	−5	6.01	5.46	12.12	.7
Winter	51.0	86	−5	16.31	11.04	26.19	.8
March	60.8	91	21	5.83	5.76	5.50	.0
April	66.2	95	29	4.78	3.98	8.09	.0
May	74.0	100	39	4.75	2.40	3.84	.0
Spring	67.0	100	21	15.36	12.14	17.43	.0
June	79.8	104	50	5.94	.80	15.58	.0
July	81.2	109	58	8.05	7.34	6.83	.0
August	81.6	103	58	5.54	5.80	4.89	.0
Summer	80.9	109	50	19.53	13.94	27.30	.0
September	78.0	102	37	4.91	3.95	5.92	.0
October	67.4	100	27	2.74	.42	3.60	.0
November	58.1	89	20	3.11	1.42	1.84	.0
Fall	67.8	102	20	10.76	5.79	11.36	.0
Year	66.7	109	−5	61.96	42.91	82.28	.8

AGRICULTURE

Early settlers in Perry County built their homes on the lower terraces of Leaf River, selecting the overflow bottom lands for farming. Here they planted corn, potatoes, and vegetables after the spring floods had subsided. In later years, as cotton became a more important crop, fresh clearings were made in the well-drained parts of the second bottoms and nearly all the lower fields were abandoned. The average homestead long continued to consist only of a cabin and a few acres of cleared land. Little attempt was made to grow more than enough grain for home use. Some cattle and hogs ranged in the grassy pine woods and the canebrakes of the river bottom. Mobile was the chief trading point for this region, and for many years annual drives of livestock to Mobile were made. The small amount of store goods needed for pioneer life were purchased there and brought back on the return trip.

With such large areas of public land available, on which livestock could be ranged without cost, wealth lay in the ownership of livestock, rather than land. Although little attention was given to the validity of land titles, the right to range livestock on unfenced land was not limited by the passing of timberland into private ownership, and many residents have continued to depend on livestock production, under these conditions. Switch cane was the principal forage in winter, but in later years its growth was hindered by overgrazing. At present the range cattle too commonly are stunted

creatures, because of inferiority of breed and lack of provision for winter feeding.

Until recently, it was the policy of the lumber companies to withhold cut-over land from market, as there was little demand for it in large tracts and they did not wish to sell small isolated tracts within their boundaries. Now that large areas have been cut over, land is offered for sale in both large and small tracts. In the region of the long-leaf pine there is little permanent second growth. Under ordinary conditions numerous seedlings may spring up, but where livestock is ranged and the land burned over annually, few survive the injury inflicted by spring fires and depredations of range hogs. Now that railroads and towns have been established, affording transportation and markets, the district is better adapted to profitable agriculture, and little or no effort at reforestation is being made. Land is offered to settlers on easy terms, but thus far not much cut-over land has been occupied, although it is expected that within a few years the demand for it will increase.

In 1880, as recorded in the census, there were only 411 farms in Perry County, which with the inclusion of Forrest County, had then nearly twice its present area. These farms represented 14.8 per cent of the total area of the county, but much of this farm land was wooded, only 9.8 per cent being in farms, so that only 1.45 per cent of the total area was improved or cultivated land. The proportion of land in farms increased to 23.3 per cent in 1890, but since that time has not varied much, amounting to 22 per cent in 1920. There were 834 farms in the county in 1920 and the proportion of improved land had increased to 5.4 per cent of the total area. The average farm, from 1880 to the present, has comprised only about 25 acres of improved land.

In 1879, the principal crops, with the acreage of each,[1] were as follows: Corn, 4,466 acres; oats, 2,615 acres; rice, 302 acres; sweet potatoes, 465 acres; cotton, 537 acres. A small acreage of cowpeas, alone or with corn, was grown, and a little sorgo (sweet sorghum) and sugar cane to supply sirup for home use. No hay production was recorded in this census. The oat crop was cut mostly in the dough stage and used for hay, and this, together with stover, was the only roughage produced to supplement the forage of switch cane and native grasses.

In 1919 the principal crops, with the acreage of each, was as follows: Corn, 10,448 acres; oats, 1,005 acres; peas, 480 acres; tame grasses, 1,003 acres; legumes cut for hay, 156 acres; sweet potatoes, 809 acres; cotton, 41,384 acres; and sugar cane, 284 acres.

As reported by the census the acreage of corn has more than doubled since 1879, and the yield per acre has increased about one-third. Corn is customarily planted on the same land several years in succession. However, the interplanting of velvet beans or cowpeas takes the place of rotation to some extent. After the corn and whatever peas or beans are needed for feed and seed have been gathered, livestock is turned into the field to graze, and the manure, with any remaining trampled fodder and vines is plowed under to

[1] Perry County included Forrest County at that time.

enrich the soil for the next crop. In addition, 200 or 300 pounds of mixed cottonseed meal and acid phosphate, or a fertilizer of approximately equivalent composition is applied. Under these methods, yields ranging from 10 to 30 or sometimes 40 bushels of corn an acre are obtained, and annual average yields, as reported, have ranged from 9 to 14 bushels an acre.

On sandy soils such as those in Perry County, it is necessary under ordinary conditions to space the corn rather widely in planting. By this method, ears of good size may be obtained even on land in a comparatively low state of productiveness. The low acre yields are in a measure compensated for by the ease of cultivation and by the rapid drying of the surface soil after rains, which allows cultivation in a short time. By accumulation of organic matter in the soil and by deep plowing, moisture is better conserved, and corn may be planted more thickly. Under heavy fertilization much larger yields may be obtained.

Corn matures slowly, so that by the time the grain is hardened the stalks have become woody and the leaves dead and brittle, rendering stover of little value. In some cases, a small portion of the corn is topped; that is, the leaves and upper stalk are gathered from the standing corn before the grain is mature; but since the practice is laborious and usually unprofitable it has been practically abandoned.

The acreage of oats is not nearly so large as in former years, but the better stockmen regard this as a valuable crop. It is nearly all cut with the mowing machine, much of it while in the dough stage, and fed as hay. It is harvested in the latter part of May and provides a nutritious hay at the season when the supply of hay is usually low. Good oats will yield about 1½ tons of hay an acre and yields as high as 3 tons of well-headed oat hay to the acre have been harvested. It is best to plant oats not later than the middle of November, and plowing should be done three or four weeks before, in order that the sandy soil may have time to settle. Hundred-Bushel and Red Rustproof are the varieties commonly grown. Oats may be grazed during January and February without seriously reducing the yield, and this winter grazing is generally much needed by livestock.

No other small grains are produced. In several census years, 10 or 15 acres of wheat or rye have been reported, but even in early times, wheat was apparently very little grown. In other localities, rye is used to some extent as a winter cover and winter pasture crop, and might well be grown on fields which are now bare throughout the winter. For winter pasturage in cornfields, legumes are undoubtedly preferable to small grains. Velvet beans have been used extensively for interplanting with corn, largely replacing cowpeas, because their heavier growth furnishes more feed and aids in improving soil more rapidly. On rich land they are difficult to cut and handle as hay, for the growth is badly tangled and covered with soft fine hairs; but they provide abundant palatable, nutritious winter forage. Ninety-day, Lyon, Osceola, and Bunch are varieties commonly grown. The beans are planted in the corn row, or more commonly, every second or third row is planted in beans alone. They spread extensively after final cultivation, and as they twine over the cornstalks most of the pods are kept from contact with the ground.

Cowpeas are grown for hay by most farmers. Many different varieties are grown, maturing at different times from summer to late

fall. When grown for hay, peas are commonly planted in oats stubble and harvested in August, when they are beginning to ripen. Good pea-vine hay will yield 2 tons or more an acre and is a very nutritious feed. Some farmers use this as a green-manure crop, planting in midsummer and plowing under in the fall. By this and similar means, land may be developed to a high state of productivity.

Small quantities of winter feed are procured from other forage plants. Sorgo, especially when grown along depressions in cultivated fields where mellow transported soil material has washed in, makes a heavy growth and affords good forage for early winter. In many places a heavy growth of crabgrass comes up in cornfields and is cut for hay in the late fall. Although not so nutritious as some fodders, this makes fairly good hay, if cut before the seed is shattered. Lespedeza is used to some extent as a hay and pasturage crop. In its natural state it does not make a heavy growth where other native grasses are abundant, but if properly cultivated will put forth a good permanent growth. Clovers and tame grasses are used very little for hay. They do not thrive, and clovers—especially the medium red—would necessitate liming and fertilization of the soil. Bur and white clovers can be grown on the better-drained sandy loams which have heavy friable subsoils without special treatment, but even these would do better if the soils were limed. As other legumes thrive in this region, there is little incentive to grow the clover.

Johnson grass and redtop do well on lands too wet to be suitable for other farm crops. Sudan, Bermuda, and carpet grasses might be grown for hay. Sudan grass requires some subsequent cultivation. Carpet grass will give best results on lands which are not covered for long periods by flood waters. Bermuda grass is not highly valued by the farmers, as it does not make a heavy summer growth on uplands in ordinary state of fertility and it is difficult to clear out of cultivated fields. On bottom lands which are subject to overflow for short periods, Berumda grass can be grown rather successfully for pasturage and hay, as has been demonstrated in east Texas. Since more land has been cleared and machinery is more commonly used, the hay crop should become increasingly important.

The acreage in cotton has increased in each 10-year period since 1879, so that in 1919 there were 4,384 acres of cotton grown in the county. Cotton may be grown several years in succession on the same land or may be alternated with corn. Commercial fertilizer in quantities of over 300 pounds an acre is commonly applied. Since the invasion of the boll weevil yields have been reduced to one-third or one-fourth bale an acre, but even under these conditions cotton continues to be the most important cash crop of the area. The lighter-textured upland soils are now preferred for cotton, as the crop there matures earlier than on the bottom-land soils. By growing early maturing varieties, by fertilizing to stimulate early fruiting before the weevils mutiply, and by continuous spraying fair yields may be obtained in normal seasons, and in dry, hot summers much larger yields are possible.

Sweet potatoes were grown on 809 acres in 1919, producing 82,202 bushels. They are grown largely for home use and as stock

feed, but many are also sold in the local markets. When the practice is adopted of curing in large central potato houses, equipped with well-designed heating and ventilating systems, the market may be widely extended and the crop become much more profitable than at present. The varieties grown are chiefly of the "moist-fleshed" type, such as Nancy Hall and Porto Rico. Yields range from 75 to 200 bushels an acre. Good yields may be obtained on sandy land in a moderate state of productivity with the use of little fertilizer.

Sugar cane, for the production of sirup, has always been an important crop and a source of some income. Almost every farmer grows a small acreage of cane, and many sell a surplus of sirup on the local markets. Sirup is produced only in small quantities in this way and it is not of uniform quality, so that at present the demand for it is only local. Sugar cane is a desirable crop for newly cleared land. To obtain a large growth an application of 800 or 1,000 pounds of a mixture of cottonseed meal and acid phosphate may be advised. If well fertilized an acre may produce as much as 400 or 500 gallons of sirup.

The peanut is a promising crop as feed for hogs and as a soil builder. Good cotton is usually obtained following a crop of peanuts "hogged down," with the residue plowed under.

Formerly little attention was given to the possibilities of such crops as pecans, Satsuma oranges, and peaches, but in recent years many small orchards have been set out. The number of pecan trees in the county increased from 187 in 1910 to about 2,000 in 1920, yielding approximately 19,000 pounds of nuts. At the present time most farmers have a small grove, and there are some large groves in the county. It is stated that pecan trees usually return good profits 10 years after planting and that yields increase as the trees mature.

Small groves of Satsuma oranges, some of which are in bearing, have been planted in the southern part of the county. The varieties of the Satsuma group are exceptionally hardy, and weather sufficiently severe to injure or kill them has occurred only very rarely. It is thought that the crop can be grown profitably, especially if orchard heating is practiced.

In 1919, the 5,352 peach trees in the county yielded 3,996 bushels of fruit. Only a few large orchards have been planted, but where the surface relief is suitable, peaches are a profitable crop. A variety of the Sand pear group, which is apparently immune to blight, has been planted to some extent in recent years, and is a promising crop. Nearly every farm in the county has a small arbor of Scuppernong grapes. Fig trees are also common on all farms. In 1919 the number of such trees was 1,036, yielding 10,763 pounds of fruit. Fig trees are easily grown and they are long-lived and productive.

Small fruits are produced in small quantities for home use. On similar soils in some near-by counties, strawberries, as well as beans, peas, cabbage, cucumbers, onions, watermelons, and cantaloupes are produced commercially.

Under existing conditions in Perry County, little profit is derived from livestock dependent upon the open range. At one time switch cane was abundant and livestock could be brought through the winter in fair condition, but as the number of cattle increased the cane

was overgrazed and killed out in many places. On account of scanty feed, especially in hard winters, and tick infestation, the cattle are stunted, 3-year-olds commonly dressing about 250 or 300 pounds. No figures for the number of cattle and sheep on range are available, but at present each farmer keeps only a few head. The average annual loss is rather heavy, especially during a severe winter. Of late years, the growing of legumes for supplemental winter forage has increased, but these crops are not sufficient in quantity to carry the livestock through severe winters.

The difficulties of tick eradication are greatly reduced by keeping cattle under fence, and the growth of grasses in fenced pastures is also better than on the range. Indications are that the animal industry will increase in importance as ticks are eradicated and as more general use is made of legumes, especially the velvet bean, the value of which, so far, has not been fully appreciated. The grazing of livestock on large areas of fenced land, with proper care, better grazing crops, and provision for winter feeding, together with regular dipping until the tick is eliminated, should eventually prove profitable.

Both in the forest and in cut-over land broom sedge is the predominant grass, the growth being heavier in cut-over land. This grass makes a fairly heavy growth of the fine basal leaves, but as it grows rapidly, it soon dries, and the green fresh growth remains under a clump of dead grass. Although the burning over of land favors the growth of broom sedge and other grasses, producing good pasturage for a time, continued burning thins out other more nutritious plants, such as carpet grass and Lespedeza, so that, in the long run, the pasturage is best where fires are kept out.

Broom sedge is so persistent that it is difficult to eradicate it from untilled upland areas where it crowds out other and better grasses. However, where the ground in open spaces is packed by trampling, as in pasture lots and old woods trails, carpet grass makes a considerable growth. Bermuda grass, once established, makes a permanent sod, and, though not heavy, provides good pasturage. In fairly moist places Lespedeza makes considerable growth, and following cultivation a good stand may be secured.

Profitable use might be made of much of the cut-over land on the steeper slopes and outlying areas by reforestation. Where a few mature pines have been left, seedlings appear, but often they are either injured by burning or uprooted by hogs. A thick growth is necessary in order to produce merchantable timber, for scattered trees which branch near the ground are practically useless. In neighboring counties, where damage by fire and livestock has been prevented, a good second growth of forest has developed.

It is, however, difficult to prevent fires. Broom sedge burns readily, and pine leaves fallen among the seedling trees make a small but hot blaze.

The better soils and locations have generally been recognized by farmers in selecting their home sites and the less suitable farms have been abandoned. For a time the heavier, more productive soils in the Leaf River bottoms were cultivated to some extent, but they were later abandoned on account of overflow and because the lighter soils gave better results with cotton. Poorly drained, cold soils are

seldom used. Nearly all farm lands at present have been developed on sandy soils with friable, well-drained, sandy clay subsoils. An occasional growth of hardwoods has influenced this selection to some extent. Slopes have been avoided where, under cultivation without terracing, clayey "gall spots" soon appear.

Prevalent use of one-horse implements is chiefly responsible for the small acreage tilled by the average farmer. Two-horse teams are used for harrowing and to some extent for plowing, but for cultivation one horse is almost invariably used. The land is bedded for corn and cotton, which, it seems, induces deeper rooting. The same results might be obtained by deeper plowing and level cultivation, thus facilitating the use of two-horse teams and making possible the cultivation of a larger acreage.

No effective rotation of crops has been generally practiced in the county. On many farms corn and cotton have been grown in alternate years, but this has little effect on soil productivity except where legumes are extensively interplanted in the corn. Farmers realize, however, that the growing of such crops as cowpeas for hay is beneficial, and legumes are grown more extensively than in the past. The use of rye, peas, and other legumes as green-manure crops will doubtless become more common.

Some fertilizer is commonly applied to nearly every crop. In 1919 the average expenditure for fertilizer per farm was $139.70. A mixture of cottonseed meal and acid phosphate, or acid phosphate alone, is commonly used, this being applied before planting. Nitrate of soda is used to some extent, usually as a later or side dressing to hasten the fruiting of cotton. From 200 to 300 pounds of fertilizer is usually applied to corn and cotton, one-half at the time of planting and the remainder a few weeks later. Sweet potatoes grown in the terrace soils usually receive a larger quantity, and as much as 800 or 1,000 pounds of fertilizer an acre is applied to sugar cane.

Some hay and grain for work animals is commonly purchased by many farmers, and in 1919 the average of reported expenditures for feed was $76.40 a farm. The practice is undoubtedly bad, for oats and legumes may be produced much more cheaply on the farm and also serve to enrich the land and provide a rotation of crops.

Ordinarily all farm work is done by the farmer and members of his family, as the need for extra labor is slight and for short periods only. The average farm in Perry County in 1920 included 108.8 acres, only 26.7 acres of which was improved. In the records of the census each tenancy is listed as a farm, but the average individual holding is larger than there indicated. However, only 20.7 per cent of the farms in the county are operated by tenants. In share farming the owner usually furnishes the land, seed, and fertilizer and receives one-half of the crop.

The selling price of farm land is low on account of the large quantity of cut-over land available. The average value of land in farms, exclusive of buildings, in 1919 was given by the census as $14.33 an acre. Good cut-over land may be obtained at prices ranging from $5 to $10 an acre. Some of the lumber companies, desiring to stimulate settlement, are at present offering land on very easy terms to prospective farm owners.

SOILS

The well-drained soils of Perry County are light in color, the conditions under which they have developed not being conducive to the accumulation of organic matter. These conditions are (1) a forest cover under which the supply of organic matter from the decay of tree roots is small, compared with that from the decay of grass roots in a prairie soil, and (2) a warm, temperate climate with a rather high rainfall, favoring oxidation.

In the normal development of the soil heavier material has accumulated in the subsoil by the washing down of finer material from the topsoil. Even in very sandy, porous soils some fine material from above is carried down to a depth of 2 or 3 feet and there deposited. A well-developed sandy soil, as on level areas, thus consists of a comparatively light textured surface layer, underneath which is a heavier layer, and below this in turn is the parent material, which is more friable and porous.

The soil materials in this region are mainly sand and clay, and the soils derived from them, particularly those on the uplands, may be regarded as normally well developed. The development of a normal soil may be retarded, or largely prevented, on slopes where the removal of the surface material is moderately rapid or in clays so heavy that air and moisture penetrate slowly. Sandy and clay materials washed from the older uplands, together with some light sands and extensive deposits of heavy clay, constitute the materials from which the soils of the county have developed. No limestone occurs in the county. The differences in the soils are mainly the result of textural differences in the parent materials and different drainage conditions. The sandy and clay beds on the uplands have been transformed into sandy soils with friable sandy clay subsoils. The clay of the subsoil has been oxidized at depths varying with the porosity of the material, drainage, and other conditions.

Three principal upland soils, representing different degrees of oxidation have developed from these beds of sandy and clayey materials, namely, Orangeburg, Ruston, and Norfolk soils, which have reddish-brown, yellowish-red, and yellow subsoils, respectively. The deep subsoils of the Orangeburg soils are of lighter texture than those of the other upland soils.

The deposits of heavy clay in the county contain some sand, and on areas which are not very steep shallow sandy soils have developed. Little change in the texture of the material, however, has taken place at a depth of a few inches, except for the oxidation of the upper part of the subsoil to a bright-reddish color. Below this the clay is mottled with red, gray, and yellow, and the resulting soil is designated as Susquehanna. In some places, where the soil is affected by seepage, less oxidation has taken place, and the subsoil is lighter in color. Poorly drained soils with light-colored subsoils and heavy impervious clay substrata of approximately the same structure and texture as the subsoils of the Susquehanna soils are designated as the Plummer series of soils.

On the higher terraces, the soil materials and the conditions of soil development are similar to those in the uplands, and similar soils

have been developed. Soils of the Cahaba series are similar to those of the Ruston, but generally have heavier subsoils. Kalmia soils are similar to those of the Norfolk series, except that the color is usually grayish rather than brownish, and in places the lower subsoil is mottled with gray. Soils like those of the Myatt series, on poorly drained terraces, are only slightly oxidized. The Leaf soils, developed on old alluvial deposits, are brown or gray on the surface and have heavy clay subsoils mottled with red, yellow, and gray.

The upland soils of the county are classed into seven series, as follows: (1) Orangeburg, soils having brown or grayish-brown topsoils and reddish-brown or red, friable subsoils; (2) Greenville, soils characterized by shallow reddish-brown surface soils, and deep-red, friable subsoils; (3) Ruston, soils recognized by light-brown or grayish-brown surface soils and reddish-yellow or light-red friable subsoils, in many places, below a depth of 2 or 3 feet, mottled with red or yellow; (4) Norfolk, soils characterized by light-brown or grayish-brown surface soils, and yellow friable subsoils; (5) Caddo, soils having grayish surface soils, and yellow or pale-yellow subsoils, which are somewhat mottled with gray in the lower part, and in many places compact at depths ranging from 30 to 40 inches; (6) Susquehanna, soils recognized by grayish-brown surface soils, and heavy clay subsoils, mottled with red, gray, and yellow; and (7) Plummer, soils having gray surface soils, light-gray subsoils, with impervious clay at depths varying from 36 to 50 inches. The last-named soils are poorly drained in winter and spring, but dry and harden during summer.

The terrace soils of the county are classed into four series, as follows: (1) Cahaba, soils having grayish-brown or brown surface soils with friable or moderately stiff reddish-yellow and light-red subsoils; (2) Kalmia, soils composed of grayish-brown surface soils and friable yellow subsoils from 36 to 50 inches deep, which in places are mottled with gray, and slightly compact; (3) Leaf, soils which have grayish-brown surface soils, and heavy, plastic, mottled subsoils, the predominant colors being red, yellow, gray, or bluish gray; and (4) Myatt, soils recognized by gray surface soils and light-gray or mottled-gray and pale-yellow subsoils. These are very poorly drained and equally poorly aerated.

Soils constituting first-bottom lands are grouped in series as follows: (1) Ochlockonee, soils having brown topsoils and yellow or brown subsoils, in many places mottled in the lower depths with gray and brown, soils which are subject to overflow, but fairly well drained between periods of overflow; (2) Thompson, having brown surface soils and yellow or pale-yellow friable subsoils, well drained between overflows; (3) and Bibb, characterized by gray topsoils and light-gray and bluish-gray subsoils, in many places mottled with pale yellow. In places the lower portion of the subsoil, at a depth of about 30 or 40 inches, is compact but not particularly heavy. In other places the clay is heavy and almost impervious at this lower depth. In either case the effect is the same; that is, this layer is sufficiently tight to retard underdrainage and make the soils poorly drained.

The following table shows names and proportionate extent of the various types of soils mapped in Perry County:

Types of soil in Perry County, acreage, and proportionate extent

Type of soil	Acres	Per cent	Type of soil	Acres	Per cent
Ruston fine sandy loam	97,344	24.7	Kalmia loam	2,432	0.6
Rolling phase	4,544		Kalmia sand	6,144	1.5
Ruston sandy loam	21,760	5.9	Kalmia gravelly sand	896	.2
Rolling phase	2,368		Cahaba fine sandy loam	11,008	2.7
Ruston gravelly sandy loam	8,128	2.0	Cahaba silt loam	192	.1
Ruston sand	1,536	.4	Leaf very fine sandy loam	9,728	2.4
Susquehanna fine sandy loam	42,432	10.3	Leaf silt loam	5,376	1.3
Susquehanna very fine sandy loam	29,696	7.2	Myatt silt loam	3,648	.9
Susquehanna gravelly sandy loam	4,224	1.0	Ochlockonee silt loam	13,248	3.2
Susquehanna clay	19,584	4.7	Ochlockonee very fine sandy loam	5,440	1.3
Orangeburg sandy loam	3,584	.9	Thompson silt loam	3,328	.8
Orangeburg fine sandy loam	11,456	2.8	Thompson very fine sandy loam	13,952	3.4
Greenville fine sandy loam	1,344	.3	Thompson fine sandy loam	8,448	2.0
Norfolk loam	4,928	1.2	Thompson sand	832	.2
Caddo very fine sandy loam	3,456	.8	Bibb silt loam	13,248	3.2
Plummer silt loam	2,880	.7	Swamp	4,928	1.2
Kalmia fine sandy loam	44,992	10.9			
Kalmia very fine sandy loam	5,056	1.2	Total	412,160	

RUSTON FINE SANDY LOAM

Ruston fine sandy loam has a surface soil of grayish-brown or yellowish-brown fine sand of loamy texture, grading downward into yellowish-brown fine sandy loam. At depths varying from 10 to 18 inches, this is underlain by yellowish-red, friable sandy clay, which at lower depths is dull red and more compact. At a depth of 20 or 30 inches this layer is less compact but retains its dull-red color.

Numerous variations in color and consistence are noticeable throughout this section. Such variations from type are made up of gray or yellowish-gray soil with a subsoil not so red as in the typical soil. Erosion, by which deeper-colored and more compact subsoil is exposed at the surface, may account for some variations.

Ruston fine sandy loam is mapped extensively in all parts of the county, occurring generally in areas which are level or gently rolling, many constituting broad divides requiring little or no terracing. In such areas, the better grade of upland farm land occurs. Ruston fine sandy loam originally supported a good growth of long-leaf pine and some hardwood, mainly along drainage ways. Cut-over land is covered with a good growth of broom sedge, carpet grass, and other native grasses and Lespedeza. Though only from 5 to 10 per cent of this soil is under cultivation, it is recognized as one of the better soils of the county. Corn and cotton are the principal crops, and legumes, sugar cane, and sweet potatoes are grown on a small acreage. Corn under prevailing farm methods, it is estimated, yields from 12 to 25 bushels an acre; cotton from one-fourth to one-third bale; oats (for hay), about 1 ton; sugar cane, from 200 to 300 gallons of sirup; and sweet potatoes from 75 to 150 bushels. Very little corn is grown without some interplanting of velvet beans, and by this means a fair supply of organic matter is maintained. Crop yields vary to a considerable extent according to the quantity of commercial fertilizer applied. A common application to corn and cotton is about 300 pounds of a fertilizer composed of 200 pounds of acid phosphate and 100 pounds of cottonseed meal to the

acre. With good cultivation and the use of 500 or 600 pounds of fertilizer, in favorable seasons three-fourths bale of cotton an acre may be obtained. The yield of cotton, however, is greatly reduced by injury from the boll weevil, most serious during seasons of excessive moisture. Following a heavy growth of legumes, corn planted on soils to which 400 to 500 pounds of commercial fertilizer have been added, may yield 40 bushels an acre. Sweet potatoes and sugar cane are generally heavily fertilized with both stable manure and commercial fertilizers. In other localities this soil is considered one of the better coastal plains soils, and a noticeably better state of productivity is maintained than is common in Perry County.

Ruston fine sandy loam, rolling phase.—Ruston fine sandy loam, rolling phase, differs from the typical soil principally in being less uniform in color, in texture, and in depth of the topsoil. Areas of the deeper-colored reddish-brown subsoil are exposed in many places where the surface soil has been removed by erosion.

In the region covered by soil of this phase, the valleys are deep and narrow with numerous branches and sharp intervening ridges. For this reason the land can be farmed in small fields only, and terraces at close intervals to check erosion are necessary. The original stand of long-leaf pine has been cut, but some hickory, poplar, and other hardwoods grow along the ravines and in places where the surface soil is of light texture and deep. Land of this kind is well adapted to the growing of timber and should be used for this purpose, being too rough and uneven for profitable cultivation.

RUSTON SANDY LOAM

The surface layer of Ruston sandy loam is light-brown or brownish-gray loamy sand, grading at a depth of 2 or 3 inches into brownish-yellow loamy sand or light sandy loam. At a depth of 8 inches occurs reddish-yellow heavier sandy loam, which at depths ranging from 10 to 15 inches grades into a reddish-yellow very friable sandy clay that is more sandy in the lower portion of the subsoil, being in places light sandy loam.

The sandy surface soil is deeper in most places than that of the fine sandy loam and is somewhat lighter in color. Areas of it are in general more rolling than are those covered by the fine sandy loam, although some are comparatively level. In many places, fine sandy loam occurs on the divides and sandy loam on the slopes. Surface drainage is good and much of the land requires terracing to prevent erosion.

Only 1 or 2 per cent of this soil is under cultivation, nearly all of it being cut over and supporting a growth of broom sedge and other native grasses. Virgin growth of pine was good, but the land is not considered so productive as fine sandy loam areas, the difference being caused by the deeper, light, more nearly gray surface soil rather than by the coarser soil texture. Oak, hickory, and dogwood are now present in the second growth.

Ruston sandy loam, rolling phase.—Ruston sandy loam, rolling phase, is essentially the same as typical Ruston sandy loam, the principal difference being a more rugged surface. Most of this

land is better suited for pasture and forestry than for cultivation. The rolling phase occurs most commonly along the headwaters of Milky Creek.

RUSTON GRAVELLY SANDY LOAM

Ruston gravelly sandy loam has a topsoil of brownish-gray sandy loam which, at depths varying from 3 to 5 inches, grades downward into yellowish-red and gravelly material. This is underlain at depths ranging from 10 to 20 inches by yellowish-red gravelly, sandy clay. Gravel is abundant in both topsoil and subsoil, for the most part so thoroughly embedded in earthy material that the soil is not so porous as to be droughty. It supports a good growth of long-leaf pine. However, in certain spots there is little soil material, and the land is of little agricultural value. The substratum, from 5 to 15 feet below the surface, contains considerable gravel which is used for surfacing roads. The gravel consists mainly of chert, with small quantities of quartz, and locally has been cemented at certain levels by iron to form a gravel-iron or hardpan.

This soil occurs in small areas or points at the ends of narrow sloping ridges at junctions of small streams and hollows. Doubtless the gravel beds are extensive, but they have evidently been covered by soil material which has moved down the slopes. Ruston gravelly sandy loam is not extensive and is of little agricultural importance, but the gravel outcrops are valuable, as they afford a convenient supply of good road-building material.

RUSTON SAND

Ruston sand is light in texture, varies in color from grayish brown to yellow, and merges into reddish-yellow loose sand at depths varying from 10 to 20 inches, the red becoming more pronounced at greater depths and the texture somewhat loamy. The topmost surface layer has a grayish-brown or light-gray color.

This soil is not extensive in the county, and occurs in small areas on knolls and ridges, though occasionally it occurs on the lower slopes. Ridge areas are usually smooth and the lower slopes rough, with many deep ravines. Land in which this soil predominates was originally forested with long-leaf pine and blackjack oak, but much of the pine has been cut. Broom sedge is less dense than on the sandy loam areas.

In its natural state the soil contains very little organic matter and is rather droughty. Where the slope is not too steep the soil is well adapted to the production of truck crops. It is an early producing soil, and if a good content of organic matter has been supplied it holds moisture fairly well. The organic-matter content may be increased by manuring and by growing legumes, sweet potatoes, and other humus-supplying crops. Fertilizer or manure is necessary for the production of large crops. The light soil does not retain fertilizer well, and it leaches out much faster than do the soils with sandy clay subsoils. It is considered too light for best results with general farm crops.

SUSQUEHANNA FINE SANDY LOAM

The topsoil of Susquehanna fine sandy loam may consist of a 1-inch or 2-inch layer of brownish-gray loamy fine sand or fine sandy loam underlain by pale-yellow or yellow fine sandy loam, and at depths varying from 6 to 10 inches, by red or yellowish-red, moderately friable fine sandy clay. Deeper down the material changes abruptly at variable depths, ranging from 12 to 15 inches, to red stiff, heavy clay, mottled with yellow except in the uppermost part of this layer. The yellow color increases with depth and gray mottlings appear in the lower subsoil at a depth of 28 or 30 inches. The lower subsoil, therefore, may be described as a plastic clay mottled with gray and yellow, or with gray, yellow, and red.

The soil occurs in close association with Ruston fine sandy loam, the areas of Ruston soils occupying the higher portions of the region, whereas those of Susquehanna soils occur on the lower areas nearer the stream valleys. This soil usually occurs in comparatively small bodies at wide intervals throughout the county, principally north, west, and south of Richton. Some large areas are mapped east of Thompson Creek in the northeastern part of the county, northwest of Beaumont and northeast of Oak Grove Church. Much of this soil occurs on slopes and erodes easily, erosion being especially active in cultivated areas, so that the surface layer of soil is rapidly removed.

Where the surface features are favorable this soil is considered fairly good for cotton; but it must be manured, fertilized, or improved by plowing under legumes to enable it to produce as much as one-half bale of cotton an acre. It is not particularly good for corn, because of the dense impervious subsoil. Long-leaf pine is native and grows well on this soil. Results from the planting of pine trees would not be obtained for several years but, on account of the scarcity of timber, such a forest growth would greatly increase in value.

SUSQUEHANNA VERY FINE SANDY LOAM

The topsoil of Susquehanna very fine sandy loam is gray and at a depth of about 6 inches grades into reddish-yellow fine sandy clay slightly mottled with yellow. Red plastic clay, mottled with yellow, occurs abruptly at a depth of 12 or 15 inches, the yellow mottling increasing with depth; and about 26 inches below the surface gray appears in the subsoil. Below this depth the red has practically disappeared or the colors are mottled yellow and gray, or mottled yellow, gray, and red, with here and there light grayish-brown plastic clay. In unforested places, the heavy mottled clay is reached at depths varying from 6 to 10 inches, and even nearer the surface on the more sloping areas. Some included areas have yellowish or brownish-gray surface soil 2 or 3 inches deep, which grades to yellowish-brown very fine sandy loam. At a depth of about 6 inches this grades to yellow or reddish-yellow fine sandy clay loam, which is underlain at a depth of about 10 inches by red stiff clay. In some places the subsoil below this has a higher content of sand, lending to the subsoil a more friable character than is typical of the Susquehanna soils. Such areas represent a gradation between Susquehanna and Orangeburg soils.

This soil occurs on rolling land where the surface drainage is good, but tight subsoil retards aeration and underdrainage. It is fairly extensive, important areas occurring along the slopes of Carters Creek south of Beaumont; on the divide between Thompson Creek and Gaines Creek, east, northeast, and southeast of Benmore; along Yellow Creek; south of New Augusta; in the vicinity of Dykes School; at Rhodes; south of Red Hill School; and along Milky Creek and its eastern fork.

Agricultural value of this soil is nearly equal to that of Susquehanna fine sandy loam, and agricultural practices and fertilizer treatment are similar.

SUSQUEHANNA GRAVELLY SANDY LOAM

Susquehanna gravelly sandy loam is grayish, changing at a 3-inch depth to pale-yellow gravelly sand, and at a depth of 8 or 10 inches to pale-yellow gravelly fine sandy loam, which is underlain by reddish-yellow clay. This clay becomes stiff, dull red, and mottled with yellow at a depth of 20 inches, and the yellow increases with depth. Gray or bluish gray appears at an approximate depth of 30 inches. In places mottled red and yellow heavy plastic clay occurs within an inch or two of the surface. An abundance of water-rounded gravel, mostly chert with some quartz, is scattered over the surface and distributed through the soil and subsoil, but the quantity decreases rapidly after the heavy clay is reached.

Soil of this kind occurs on slopes and elevated areas, usually in small bodies of less than 1 square mile and widely separated through the county. More important areas are found south and northwest of Oak Grove Church, east of Corinth about 4 miles, and near Kittrell.

The fertility of this soil is not so high as that of the finer-grained Susquehanna soils, but it has the advantage of growing crops more quickly. It is best adapted for the growing of cotton and early vegetables. Long-leaf pine and scrub oak are native to the soil, and reforestation with pine might be found profitable.

SUSQUEHANNA CLAY

Susquehanna clay is heavy clay mottled brown and red, and changes within a few inches of the surface to mottled red and yellowish-brown. It grades into a plastic clay, mottled red and pale yellow, in many places showing some gray at a depth of about 1 foot. The yellow mottling increases with depth, a gray or bluish-gray color appearing at a depth of about 20 inches. A cream-colored or light-gray clay commonly occurs in the lower subsoil, material of this kind being similar to Montrose clay. In places the surface is covered by a thin layer of sandy material, which when dry tends to crumble slightly. The subsoil in exposed ditch banks when dry cracks and checks to a marked degree into small, hard fragments. The soil on rolling areas has good surface drainage, but poor underdrainage and aeration. An extensive area occurs in the southeastern part of the county on the upper watershed of Whisky Creek, and other smaller areas are distributed throughout the county.

It is difficult to plow Susquehanna clay because of its dense, plastic character. Under excess moisture erosion is rapid on most of the slopes, and land of this kind is best suited to forests and pasture.

ORANGEBURG SANDY LOAM

Orangeburg sandy loam has a surface soil of grayish-brown sandy loam, below which is yellowish-brown or reddish-yellow heavy sandy loam. This is underlain, at depths varying from 10 to 14 inches, by yellowish-red friable sandy clay. Where the upper subsoil is yellowish red, the material below is red friable sandy clay; in the lower part a somewhat brighter red, lighter-textured sandy clay occurs; and the substratum to a considerable depth is sandy and porous.

The surface soil varies in color according to the depth of underlying clay; where the clay is deeper the surface soil is grayish brown; but where clay lies within a few inches of the surface, the surface layer is reddish brown. The latter type soils represent Greenville sandy loam. The subsoil ranges in color from the moderately light red of Ruston subsoils to the deep red of Greenville subsoils. Patches of Ruston sandy loam have been included in mapped areas of Orangeburg sandy loam.

Orangeburg sandy loam occurs mainly on nearly level or undulating ridge areas and usually extends for some distance down the adjoining slopes. The headwaters of streams have cut deeply into the porous, friable material constituting the substratum. When the soil occurs at lower levels, the watercourses as a rule are not deeply cut.

Areas of this soil, in tracts ranging from 10 to 100 acres, are well distributed over the county, the larger bodies occurring in the southwestern part in the vicinity of Oak Grove Church and in a region about 5 miles south of Richton.

Land of this type is well drained. Even on the slightly sloping areas the run-off is not so rapid as to cause washing and the surface soil absorbs considerable water. On the steeper cultivated and unterraced slopes erosion is a serious problem. Moisture passes quickly into the friable subsoil and any excess drains away into the underlying material, so that the soil can be cultivated very soon after rains. The friable clay subsoil retains moisture well, so as to fully supply the demands of growing crops through rather long periods of dry weather, especially where proper cultivation is practiced and the humus supply maintained. Where the soil is in more sloping situations terraces should be carefully maintained, for when erosion reaches the lighter underlying material the gullies cut back and deepen rapidly. In parts of the county where this soil occurs on rolling areas which have been farmed for some time some of the land has become badly gullied.

Orangeburg sandy loam is generally recognized as an especially productive soil, and in this county land where it occurs has commonly been selected for farms, a third or more of such soil in the county being under cultivation. Forest growth consists mainly of long-leaf pine, but includes also hickory, red oak, and dogwood.

The more important crops are corn, cotton, velvet beans, and oats. Under the prevailing farming methods corn yields from 15 to 25

bushels an acre; cotton, one-third to one-half bale; and oats, about 1 ton. Land of this kind responds to good farming methods, such as the growing of legumes, applications of manure, frequent shallow cultivation, and deep plowing. On well-farmed land, with small applications of commercial fertilizer, from 30 to 50 bushels of corn an acre and other crops in proportion may be obtained. The sandy clay subsoil retains residuary mineral fertilizer well, and the effects of heavier applications of fertilizer, manure, or the plowing under of green crops are said to be even more enduring.

In some parts of the Southern States Orangeburg soils are successfully used for the growing of peaches, as in the Fort Valley district of Georgia. Since climatic conditions of the two regions are not very different, it would seem that peaches might be grown on a commercial scale in Perry County.

ORANGEBURG FINE SANDY LOAM

The grayish-brown fine sandy loam surface soil of Orangeburg fine sandy loam grades at depths from 5 to 8 inches into reddish-brown or yellowish-brown heavier fine sandy loam. This is underlain at depths varying from 10 to 14 inches by red, friable fine sandy clay continuing to 3 feet or more without much change. In places, somewhat sandier material is reached at a depth of about 3 feet. The profile is similar to that of Orangeburg sandy loam, but the soil material is of finer texture.

This soil is well distributed over the county but is most extensive in the vicinity of Richton. It occurs mainly on broad smooth ridges, in many places extending for some distance down the slopes, especially about the heads of draws. Most of this soil may be farmed with little or no terracing. Both surface drainage and underdrainage are favorable on level areas. The soil is recognized as one of the better soils of the county, and probably 50 per cent of it is under cultivation. In forested areas, the growth is mainly long-leaf pine, with some hickory or red oak, and considerable dogwood.

The productivity of this soil is much the same as that of Orangeburg sandy loam.

GREENVILLE FINE SANDY LOAM

Greenville fine sandy loam is brown, fairly heavy loam at the surface, grades at a depth of 6 or 8 inches into reddish-brown heavy fine sandy loam, and is underlain by deep-red, friable, well oxidized sandy clay. This extends to a depth of more than 3 feet, the junction of the topsoil and subsoil being sharply defined. The surface soil is heavier and darker in color than that of the Orangeburg soils, the color in many places grading to a chocolate brown or reddish brown.

This soil is not extensive in the county, occurring only in small bodies of a few acres each, within mapped areas of Orangeburg soils. It is found in basinlike areas at the heads of shallow drainage ways. Drainage conditions are good, the subsurface drainage being so efficient that the surface soil drains out quickly after rain, but even under ordinary cultivation, the soil maintains growing crops in good condition through dry periods. This soil is generally recog-

nized as the strongest of the sandy soils in Perry County, and is nearly all under cultivation. The forest growth is similar to that on the surrounding Orangeburg soils.

The land is used mainly for corn, which yields well, averaging about 25 bushels an acre. Comparatively little of it is used for cotton, because its growth on this soil is rank and injury from the boll weevil serious. It formerly yielded an average of 1 bale an acre.

Much of this land has been in cultivation for many years, and in some places the content of humus is so greatly reduced that the soil is in poor physical condition. The tilth and productivity of such soil may be largely restored by plowing under a crop of legumes or by pasturing. Small quantities of commercial fertilizer, usually about 200 pounds an acre, are commonly used. It is understood that with this application crops produce yields equal to those on the lighter sandy loams where four times the quantity of fertlizer is applied.

NORFOLK LOAM

The surface soil of Norfolk loam is light-brown or yellowish-brown loam containing considerable very fine sand, and grades in forested areas, at depths from 1 to 3 inches, into brownish-yellow friable loam. The layer of yellow silty clay loam directly below is underlain at a depth of 8 or 10 inches by yellow, friable fine sandy clay, which has some faint gray mottling at a depth of 36 or 40 inches. Areas of this soil may be level or undulating. The native growth originally consisted of long-leaf pine, most of which has been cut. Good drainage is characteristic, and with a moderate application of fertilizer or manure the soil produces good crops of cotton and fair yields of corn.

CADDO VERY FINE SANDY LOAM

Caddo very fine sandy loam is gray very fine sandy loam at the surface, and at a depth of 4 or 5 inches is pale-yellow fine sandy loam. It is underlain, at depths ranging from 10 to 20 inches, by yellow or pale-yellow, friable fine sandy clay, somewhat mottled with gray at depths from 18 to 24 inches. The lower subsoil, at a depth of about 26 inches, consists of mottled yellow and light-gray compact fine sandy clay. This material is in many places only slightly compact when wet, but when the ground has thoroughly dried, the lower subsoil becomes very hard. At a depth of about 40 inches the material is almost everywhere compact, and bluish-gray mottling is common. A few rust-colored concretions commonly occur scattered through the lower subsoil.

The surface of areas of this soil is smooth, the soil occurring on the lower gentle slopes. Owing to the nearly impervious character of the lower subsoil, underdrainage is imperfect. The land supports a heavy stand of long-leaf pine. Drainage conditions, however, make it an inferior farm soil, and probably little use of it will be made so long as better drained soils are available. Lespedeza and native grasses produce good pasturage, and the soil can probably be best utilized for pasture and forest land.

PLUMMER SILT LOAM

The surface soil of Plummer silt loam is gray silt loam containing some very fine sand and the subsurface layer consists of light-gray silty clay loam with a little pale-yellow mottling. At a depth of 8 or 10 inches, this layer is underlain by mottled light-gray and pale-yellow clay, grading at depths varying from 28 to 36 inches into bluish-gray plastic clay.

This soil is not extensive in Perry County, occurring only in small areas, of a few acres each, along the lower slopes of small streams. It is very poorly drained, seepage water causing it to remain in a boggy condition through most of the summer. Native vegetation consists mainly of grasses, with an occasional slash pine and black gum, and the soil is unsuitable for cultivated crops.

KALMIA FINE SANDY LOAM

Kalmia fine sandy loam consists of a brownish-gray or light-brown light fine sandy loam, grading at a depth of 6 or 8 inches into brownish-yellow fine sandy loam. At depths varying from 10 to 15 inches the subsoil of pale-yellow or yellow friable fine sandy clay begins. As developed in this county, the subsoil is generally rather free from mottling, but in low places where the drainage is not good, the lower subsoil is pale yellow, mottled with gray. Compact material may be reached at a depth of about 3 feet. In most places, however, the substratum is friable, at least to sufficient depth to afford good underdrainage.

On the level terrace of Thompson Creek on the east side of the Waynesboro-Richton road, a variation of this soil appears as a brownish-gray fine sandy loam or loamy fine sand, grading at a depth of 3 or 4 inches into pale-yellow fine sandy loam, and this changing, at 10 or 12 inches, into pale-yellow, friable, fine sandy clay, mottled in the lower part with light gray. At a depth of 3 feet or more, occurs light-gray or almost white compact fine sand, mottled with pale yellow.

This is the predominant soil on the terraces of the county and is most extensively developed on Leaf River, where the terraces and first bottoms are 3 or 4 miles wide, and on Tallahala Creek and Bogue Homo, where the bottoms average 2 miles in width. The wider terraces commonly include two or three benches, rising toward the upland from 5 to 10 feet at each step, so that the small streams from the hills have a good rate of fall and have cut well-defined channels through the terraces. The successive benches are nearly level, but in some places they slope slightly back toward the upland, with a narrow strip of poorly drained land adjoining the higher level. Even the first bench lies well above all ordinary overflow. These terraces in general are well drained, so that Kalmia soil has developed through their entire areas.

The surface is sufficiently undulating to afford adequate surface drainage, with the steps and stream channels providing outlets for drainage waters at fairly regular intervals, effecting good underdrainage also. Although the land may be wet in places during the winter, through the growing season moisture conditions are good.

The forest growth consists mainly of long-leaf pine, but includes some slash pine and hardwood on the lower bench, with sweet gum, maple, holly, oak, and birch occurring also. Gall berry bushes are abundant in places, and blackberry, blueberry, smilax, and yellow jasmine are also present. Areas on which hardwood grows are locally styled "hammock land."

This soil is recognized as good farming land, and probably 5 or 6 per cent of it in the county is under cultivation. Terracing is unnecessary, and only a few poorly drained places require drainage. Corn, velvet beans, and cotton are the principal crops, and oats, sugar cane, sorgo, sweet potatoes, and cowpeas are grown to some extent. Under the usual farm methods, corn yields from 15 to 20 bushels and cotton about one-third bale an acre. A few head of cattle ranged openly through most of the year are turned into the cornfields occasionally through the winter to feed on the fodder and interplanted beans. Consequently the farm land receives little manure. Commercial fertilizers are generally used on all crops, but where a large quantity of beans has been interplanted in the corn less nitrogenous fertilizer is required.

The land is farmed in much the same way as are the upland soils with similarly friable subsoils and differs little from them in productivity. Land of this kind might be brought to a much higher state of fertility by plowing under manure and legumes, the addition of organic matter resulting in better moisture conditions and greater productivity.

KALMIA VERY FINE SANDY LOAM

Kalmia very fine sandy loam consists of a brownish-gray very fine sandy loam to a depth of 3 or 4 inches and light-gray or pale-yellow very fine sandy loam to a depth of 6 or 8 inches, where occurs the subsoil of pale-yellow friable fine sandy clay, which contains light-gray or bluish-gray mottlings at depths of 30 or 40 inches. At a depth of about 3 feet the clay in places becomes heavier and rather stiff. Here and there small concretions of ferruginous material are scattered through the subsoil, and a thin layer made up largely of this material appears at intervals in the lower subsoil.

Soil of this type occurs to some extent on the terraces of most of the larger streams, in association with larger areas of Kalmia fine sandy loam. It is most extensively developed on lower Thompson and Tallahala Creeks, in the northern part of the county.

Drainage conditions are about the same as with Kalmia fine sandy loam, but in general the very fine sandy loam occurs in more poorly drained situations, and on it crops grow slowly. Only a small portion of this land, which is better drained than the average, is under cultivation. Artificial drainage would be necessary for cultivation of the remainder, and under present conditions this would be impracticable for the production of the common farm crops of this region.

KALMIA LOAM

Kalmia loam is brown light loam, from 3 to 5 inches deep, then yellowish-brown loam, to depths varying from 8 to 12 inches, and below that yellow, friable clay containing some fine sand. Directly

beneath this the lower subsoil of pale-yellow clay continues to a depth of 3 feet or more, and in places is mottled with gray and is more or less compact. Here and there small rust-colored concretions and aggregations of ferruginous material are abundant in the lower subsoil, forming with the embedding gray clay a very pronounced compact layer which interferes with underdrainage. This compact material apparently underlies the soil at depths varying from 3 to 5 feet.

This soil is developed on the stream terraces. It occurs in the county mainly in three localities—one along Bogue Homo on the Jones County line, one near the mouth of Gaines Creek near the Greene County line, and one near Thompson Creek on the Wayne County line. A number of small areas occur along Black Creek in the southwestern part of the county.

The drainage conditions are fair near the outer edge of the terraces and poor on the opposite side. Very little of this land is under cultivation, the lighter-textured soils being preferred because of easier cultivation. Forest growth consists mainly of shortleaf pine, and the undergrowth is principally broom sedge, with many small gall berry bushes.

By ditching the more poorly drained areas, this land could be made suitable for cultivation. It has sufficient elevation above the first bottom to afford drainage ditches a good fall and when drained should prove more productive than the sandy soils, and at the same time easier to cultivate.

KALMIA SAND

The topsoil of Kalmia sand is grayish-brown loose sand, grading downward at a depth of 2 or 3 inches into brownish-yellow loose sand which abruptly changes in color to orange or yellow. This continues to a depth of 36 inches or more.

This soil is extensively developed on the terraces of Leaf River, generally occurring in strips a quarter of a mile wide and adjacent to the first bottom. On the terraces of the smaller streams, it occurs only in widely separated small bodies.

These areas have smooth surfaces and rise well above overflow level. They are devoid of watercourses, the porous material absorbing nearly all normal rainfall. On account of the rapid underdrainage, this is an early producing soil, but somewhat subject to drought.

On account of its early productiveness and the ease of clearing and cultivation, this soil is farmed with some success; crops which do not make a heavy growth endure the ordinary periods of drought very well. Under boll weevil conditions, it is well adapted to the production of cotton, as the crop may be planted early, and matures early, before the boll weevil becomes prevalent. The plants do not make a heavy growth, and the ground, not being shaded, dries out quickly after rains, consequently the weevil does not multiply rapidly. The soil is too light and subject to drought to support a good growth of corn. With moderate quantities of fertilizer, sweet potatoes and peanuts yield nearly as well as on the sandy loam soils. These crops do not require a great deal of mineral plant-food elements, and the low vines shade the earth, thus retarding evaporation of moisture

from the soil. Velvet beans and peas do not yield so well as on the heavier soils, but with good cultivation and the application of fertilizer, fairly good crops are obtained. By growing these vine crops a good supply of organic matter can be maintained, and moisture conditions may be materially improved. The land is adapted to the production of truck crops.

KALMIA GRAVELLY SAND

Kalmia gravelly sand consists of grayish-brown gravelly sand, underlain by a subsoil of yellowish-brown gravelly sand which grades to yellow in the lower part of the subsoil. In places the substratum, 15 or 20 feet deep, consists of beds of gravel and sand. The content of gravel in the soil is variable, but is generally sufficient to render the soil porous and droughty. In places, it makes up a large part of the surface material. The pebbles are usually less than 1 inch in diameter and consist largely of chert and quartz. The color of the upper subsoil ranges from yellow to reddish yellow, the brighter-colored soil representing Cahaba gravelly sand.

The soil is not extensive, occurring in small areas on the level surface of terraces of the larger streams, mainly along Leaf River and Thompson Creek. The open soil and porous substratum afford rapid underdrainage, so that the soil is droughty and none of it is under cultivation. The characteristic tree growth is shortleaf pine.

At present these gravel deposits are of value mainly as road-surfacing materials.

CAHABA FINE SANDY LOAM

The topsoil of Cahaba fine sandy loam consists of grayish-brown fine sandy loam which at a depth of 3 or 4 inches, becomes yellowish brown, and then at a depth of 8 or 10 inches a reddish yellow or yellow, and heavier in texture. This is underlain at depths varying from 10 to 15 inches by yellowish-red, friable fine sandy clay, which here and there may be reddish yellow with pale-yellow mottling in the lower subsoil. In some places the lower subsoil consists of compact fine sandy loam. In other places, as at the northeastern edge of Richton, the surface soil is brownish-gray fine sandy loam 3 or 4 inches deep, over yellow or brownish-yellow heavier fine sandy loam, and the subsoil which appears at 6 or 8 inches as reddish-yellow friable fine sandy clay, grades in the lower subsoil to yellow, friable fine sandy clay.

This soil occurs in well-drained positions on the terraces. It is most extensively developed along Tallahala Creek, but occurs to some extent on most of the level terrace surfaces in the county. Small streams have cut deep channels in the friable material, and these provide good outlets for underdrainage.

A few patches of Kalmia fine sandy loam, Cahaba silt loam, and Cahaba loam have been included in mapped areas of this soil. Cahaba silt loam occurs principally on the Leaf River terraces, near the first bottom. The subsoil of Cahaba loam is a little heavier than that of the fine sandy loam, though agriculturally there is very little difference between the two soils.

Forest growth consisted originally of long-leaf and shortleaf pine, with some oak, hickory, and other hardwoods, but most of the timber has been cut. The soil is recognized as one of the better soils, and probably 70 per cent of it is under cultivation. Corn, cotton, and velvet beans are the principal crops. Where well farmed, corn yields from 25 to 40 bushels an acre and cotton one-third bale or more. Velvet beans and cowpeas thrive and produce well. Fertilizers are commonly used, and fertilization methods are similar to those on the upland soils of the county.

CAHABA SILT LOAM

Cahaba silt loam consists of brownish silt loam, underlain by yellowish-red silty clay or fine sandy clay, somewhat stiff in the lower part and in places mottled with yellow and some bluish tints. This soil is not extensive. It occurs on terraces, the principal areas being those at New Augusta and near Little Creek on the Gulf, Mobile & Northern Railroad. Drainage conditions are good and the soil is more productive, but somewhat heavier to cultivate than the fine sandy loam. It is particularly well suited to corn and oats.

LEAF VERY FINE SANDY LOAM

The topsoil of Leaf very fine sandy loam is gray very fine sandy loam from 8 to 12 inches deep, which becomes pale yellow and heavier with depth and somewhat mottled with gray. This layer is usually underlain, beginning at a depth of 15 or 20 inches, by heavy, plastic clay, mottled with yellowish red and gray or with red, yellow, and gray. In places small concretions of ferruginous material are abundant in the topsoil and subsoil. A heavy, mottled clay forms the deeper substratum.

This soil occurs on terraces, mainly those along Leaf River, the largest areas lying near the mouths of Bogue Homo and Tallahala Creek. The surface is just sufficiently undulating to provide good surface drainage. The plastic clay subsoil does not absorb water readily and becomes hard in dry weather. Forest growth consists of pine, small oak, and other hardwoods. None of this land is under cultivation in Perry County, but elsewhere it is used to some extent for the production of corn, oats, and cotton. Native grasses and Lespedeza grow well on this soil, making most of the areas better adapted to pasture and timberland than to cultivated crops.

LEAF SILT LOAM

The topsoil of Leaf silt loam consists of a light-brown silt loam, underlain at a depth of 4 or 5 inches by yellow silt loam or silty clay loam. At a depth of 10 or 12 inches the material is reddish-yellow silty clay, which in turn is directly underlain at depths varying from 16 to 24 inches by plastic heavy clay, mottled with red, gray, and yellow, resembling the subsoil of the Susquehanna soils.

On the level broad terraces of Leaf River north of New Augusta a variation occurs where the soil of gray silt loam contains some very fine sand. This is underlain at a depth of 2 or 3 inches by pale-yellow silt loam, containing sand, which grades in texture into silty

clay loam, and lower into silty clay. At depths from 18 to 24 inches a mottled red, yellow, and gray plastic clay appears.

The principal areas of Leaf silt loam in Perry County are on the terraces along Black Creek, in the southwestern part of the county. Fair-sized areas also occur along Bogue Homo, but only a few small areas are near other streams.

Slash pine, black gum, sweet gum, dogwood, maple, post oak, star anise, and bay are the principal trees, pine predominating. This soil is known as hammock land. In Perry County none of this soil is under cultivation, but in other parts of the country it is farmed to some extent, although yields are not so good as on soils having friable subsoils. Of crops which might be grown, Lespedeza and rice seem the most promising.

MYATT SILT LOAM

The surface soil of Myatt silt loam consists of gray or slightly mottled gray and brown silt loam, grading at a depth of 3 or 4 inches into light-gray silt loam. This is underlain by light-gray clay loam or clay containing some fine sand, which with increasing depth becomes heavier and more plastic, and of light-gray or bluish-gray color, mottled with pale yellow. Small ferruginous concretions are commonly disseminated through the subsoil, and in places the lower subsoil includes a layer, an inch or two in thickness, made up largely of these concretions and friable ferruginous material so compact as to form a hardpan nearly impervious to water.

Small detached areas of this soil occur on terraces adjacent to the valley of Gaines Creek, along the south side of Leaf River, and in other parts of the county.

The native growth on this soil consists of slash pine, maple, dogwood, oak, and black gum. The soil is not well suited to staple crops, but land of this kind in other regions is used for growing rice. Ditching is necessary to secure satisfactory drainage, and under present conditions, the soil is not sufficiently productive to justify this expense. Such poorly aerated soils, even when drained, are not so productive as well-aerated soils, but even in its present condition Lespedeza can be grown.

OCHLOCKONEE SILT LOAM

Ochlockonee silt loam is made up of a rich-brown, mellow silt loam, which grades at a depth of 6 or 8 inches into brown silty clay loam, underlain by brown or chocolate-brown, friable silty clay. In depressions where the drainage is not so well established, pale-yellow and gray mottling is present in the lower subsoil, such areas representing an approach toward the Bibb soils. Small areas of Bibb silt loam are included with the type as mapped.

Ochlockonee silt loam is the predominant soil of the first bottoms along Leaf River, Bogue Homo, and Black Creek. The bottom lands of Leaf River are from one-quarter to three-quarters of a mile in width, and those of Bogue Homo and Black Creek about one-quarter of a mile wide.

The overflow bottoms along Leaf River lie at somewhat irregular levels. In most places, an inner bottom, from 100 to 200 yards wide,

lies from 4 to 8 feet lower than the main portion of the bottom lands. Usually the main bottom appears uniformly level, but here and there sloughs and strips of lower bottom occur. The main bottoms are subject to overflow, but owing to the low position of the inner bottoms and channels, and the comparatively rapid fall of the streams, overflows seldom last more than a few days, and, except for these short periods, the land is well drained.

Tree growth consists of beech, magnolia, holly, pine, ironwood, and various other hardwoods. In the lower places and in sloughs where water stands for considerable time, the growth is mainly gum. Some of the merchantable timber has been cut. This productive soil was cultivated to some extent by the early settlers, but has for a long time been abandoned for general farming. The reason for this is probably due to the occasional loss of crops, the difficulty of cultivating the heavy soil with light equipment, and the increasing commercial importance of the cotton crop which, because of the boll weevil, is not suited to such a heavy soil as this. Farther up Leaf River, in Covington County, this soil is extensively farmed. There corn and Lespedeza yield well, and heavy yields of cotton were formerly obtained, but since the invasion of the boll weevil they are greatly reduced.

OCHLOCKONEE VERY FINE SANDY LOAM

Ochlockonee very fine sandy loam in the better-drained areas along the stream banks and on hummocks and other higher positions consists of rather light brown very fine sandy loam, which grades downward into yellowish-brown fine sandy loam material or loamy very fine sand. In the numerous depressions occurring on land of this kind there occur small areas of Ochlockonee silt loam. In these patches the topsoil grades downward into light-brown and then into yellowish-brown very fine sandy loam material. In many places the subsoil in these depressions shows considerable gray or bluish gray.

This is a recently deposited alluvial soil, subject to overflow and additional deposition of material from flood water. Except in the depressions, drainage is good between periods of overflow. The soil occurs extensively along Tallahalla Creek, with small areas elsewhere, many of which, because of the difficulty of making accurate separations in the bottoms, have been included on the soil map with other alluvial soil types. Most of it grows slash pine, sweet gum, black gum, oak, dogwood, summer huckleberry, blackberry, yellow jasmine, and smilax vines, and titi appears in places.

THOMPSON SILT LOAM

Thompson silt loam consists of a topsoil of grayish-brown silt loam to depths ranging from 8 to 12 inches and a subsoil of yellow or pale-yellow fine sandy clay or fine sandy loam. The lower subsoil, at a depth of 30 or 36 inches, is in many places mottled with gray.

This soil occurs extensively as nearly level areas in the northeastern part of the county, in the bottoms along Thompson Creek where the stream flows through narrow lower bottoms slightly subject to overflow and in the higher bottoms lying farther back.

Forest growth on this soil includes water oak, swamp pine, magnolia, holly, beech, maple, sweet gum, black gum, bay, willow oak, and other hardwoods.

Drainage conditions are fairly good during the summer. By dredging more direct channels, much of the land, none of which is now under cultivation, could be made suitable for the growing of oats, corn, sorgo, and various hay and meadow grasses.

THOMPSON VERY FINE SANDY LOAM

The topsoil of Thompson very fine sandy loam is made up of brownish-gray very fine sandy loam, which, at a depth of 4 or 5 inches, becomes yellowish brown or pale yellow and heavier in texture. The subsoil, below a depth of 12 inches, consists of yellow, heavy fine sandy loam or fine sandy clay somewhat mottled with gray. The lower part of the subsoil appears more mottled, and in many places contains some rust-colored concretions. Bluish-gray or light-gray fine sand or fine sandy loam material, faintly mottled with pale yellow and somewhat compact, is reached at depths varying from 36 to 40 inches.

Mapped with Thompson very fine sandy loam are some patches of Chastain silt loam, a rich-brown silt loam, grading downward into light-brown or yellowish silt loam or clay loam, resembling Ochlockonee soil in the upper layers. The lower subsoil is reddish silty clay, which is heavy and plastic and underlain at lower depths with heavy clay, mottled with red, yellow, and gray.

Thompson very fine sandy loam is rather extensive in Perry County, occurring in large areas in the bottoms along Thompson Creek, and in narrower bottoms along Cypress and Pearce Creeks in the southern part of the county. This land, if drained, could be successfully used for growing corn, oats, sorgo, and various hay and meadow grasses.

THOMPSON FINE SANDY LOAM

The brownish-gray topsoil of Thompson fine sandy loam grades at a depth of 4 or 5 inches into pale-yellow fine sandy loam. At a depth of about 12 inches this is underlain by pale-yellow heavy fine sandy loam or fine sandy clay. The lower subsoil is somewhat mottled with gray.

The soil occurs on high first bottoms, subject to less frequent and continued overflow than those bottoms on which Ochlockonee soils occur. In some places the entire width of the bottom is composed of this soil, and in other places this soil is confined to the upper bottoms.

The more extensive developments of this soil occur in the bottoms along Gaines and Piney Woods Creeks, in the northeastern part of the county. Forest growth includes magnolia, sweet gum, oak, star anise, holly, and black gum. This soil is similar to Kalmia fine sandy loam, and none of it is under cultivation.

THOMPSON SAND

Thompson sand consists of yellow or pale-yellow sand recently deposited on the banks of some of the larger streams; usually it is

about 3 feet deep. Some thin layers of light-gray sand occur, and in places heavier light-brown material may be reached within the 3-foot depth.

This soil occurs in small areas, generally in the sharp bends of streams or along cut-offs. The surface of these areas is hummocky and the land contains sloughs. Most of the land is well above the normal water level, but on the inner side of bends washes occur. A good growth of sweet gum, slash pine, tulip poplar, ironwood, oak, bay, and other trees covers most of this land. The soil is not suitable for farming.

BIBB SILT LOAM

Bibb silt loam consists of a light-gray or light-brown silt loam underlain at shallow depths by silty clay loam which is light gray in color and mottled with reddish brown. From a depth of 6 or 8 inches below the surface a bluish-gray silty clay subsoil continues to a depth of 30 inches or more. The lower subsoil is mottled with pale yellow. In places the subsoil at depths of 30 or 40 inches consists of compact silty clay loam material or tough silty clay, either of which is nearly impervious to percolating water.

The soil occurs along many of the small streams of the county and to some extent in low poorly drained parts of the larger creek bottoms. The land is subject to overflow and is poorly drained, remaining wet through most of the year. Forest growth consists of sweet gum, bay, holly, and other hardwoods. In some cleared areas Lespedeza, Bermuda grass, and carpet grass afford excellent pasturage. Very little of this land is under cultivation, and its reclamation is unlikely so long as better-drained soils are available.

The two following variations are included in mapped areas of Bibb silt loam: (1) Bibb fine sandy loam, consisting of a topsoil of gray loamy fine sand about 3 or 4 inches deep underlain by a subsoil consisting of a light-gray or bluish-gray fine sandy clay, mottled with pale yellow and in places with reddish yellow in the lower part; and (2) Bibb very fine sandy loam, a soil which differs very slightly in texture from Bibb fine sandy loam.

Bibb fine sandy loam is subject to overflow and is wet most of the time. Both Bibb fine sandy loam and Bibb very fine sandy loam support practically the same forest growth as Bibb silt loam.

SWAMP

Areas mapped as swamp include shallow muck or peat, swampy areas of dark mucky loam and very fine sandy loam (Johnston soils), and swampy areas of dark-gray or gray fine sandy loam and very fine sandy loam (Bibb soils). Extensive tracts of dark-brown or black muck, peaty muck, or peat, are underlain by as much as 3 feet of black muck over dark-gray sandy loam material. Swamp areas occur in the narrow bottoms of small streams or drainage ways which have no definite channels, where the soil material is practically always saturated with water. The land supports a dense growth of bay, black gum, holly, maple, star anise, titi, smilax, sphagnum moss, and other swamp vegetation.

SUMMARY

Perry County lies within the coastal plain in the southeastern part of Mississippi. It is undulating or gently rolling, and has wide bottoms and terraces along the larger streams. The county was organized in 1806, but until recently remained largely in an undeveloped state, with large areas of virgin forest. Nearly all the land has been cut over. In 1920, the population was 8,987. The climate is characterized by a long frost-free season and mild winters. The mean annual rainfall is about 60 inches.

Early agricultural development was retarded because of poor transportation facilities. At present, corn and cotton are the principal farm crops, but other suitable crops are grown on a small scale, also various grasses for pasturage and hay.

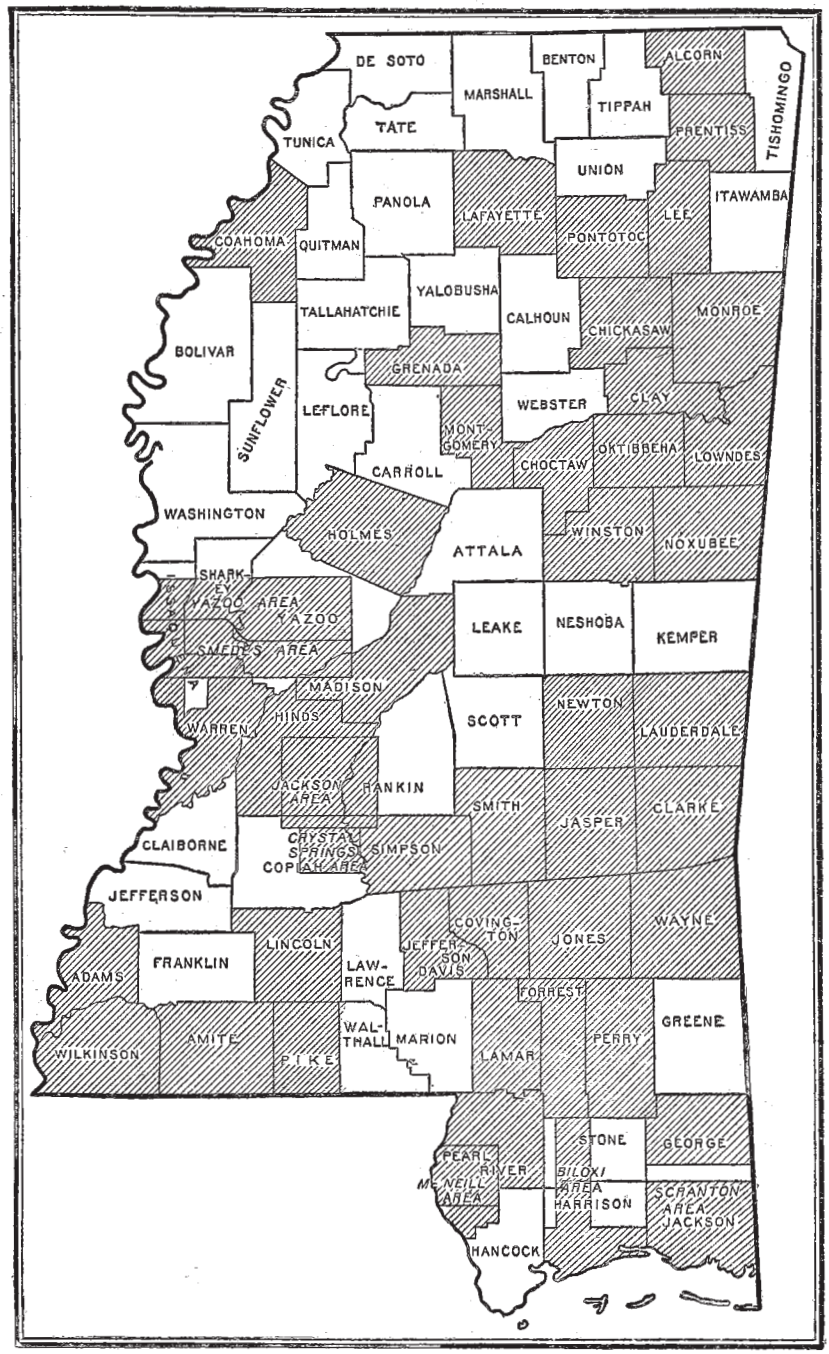
The soils of the county are normally light colored, lacking sufficient organic matter to darken them. Well-developed soils, derived from sandy clay formations, are characterized by sandy topsoils and friable, well-oxidized sandy clay subsoils. The conditions on the terraces under which the soils have developed have been much the same as on the uplands.

The soils derived from sandy clays, including soils of the Ruston, Orangeburg, and Greenville series, are the principal upland soils, these being the good general-farming soils. Susquehanna clay, characterized by a mottled, plastic clay subsoil, is an inferior soil. Plummer silt loam, characterized by a gray subsoil, is poorly drained and not suitable for farming.

Of the terrace soils, Kalmia and Cahaba soils have friable subsoils, are well drained, and are used successfully for general farming. Myatt silt loam is poorly drained and is not well suited to the production of the staple crops. Leaf soils, characterized by mottled plastic clay subsoils, are inferior soils.

On the first bottoms occur the Ochlockonee soils, which are characterized by brown surface soils and yellow friable subsoils. These are productive but require drainage for successful farming. Thompson soils, occurring somewhat higher above the stream channels, are also subject to overflow. Bibb soils are gray, very poorly drained, and of low agricultural value. Swamp includes poorly drained alluvium and muck.

○



Mississippi

Area surveyed in Mississippi shown by shading

Accessibility Statement

This document is not accessible by screen-reader software. The U.S. Department of Agriculture is committed to making its electronic and information technologies accessible to individuals with disabilities by meeting or exceeding the requirements of Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended in 1998. Section 508 is a federal law that requires agencies to provide individuals with disabilities equal access to electronic information and data comparable to those who do not have disabilities, unless an undue burden would be imposed on the agency. The Section 508 standards are the technical requirements and criteria that are used to measure conformance within this law. More information on Section 508 and the technical standards can be found at www.section508.gov.

If you require assistance or wish to report an issue related to the accessibility of any content on this website, please email Section508@oc.usda.gov. If applicable, please include the web address or URL and the specific problems you have encountered. You may also contact a representative from the USDA Section 508 Coordination Team.

Nondiscrimination Statement

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the

Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by:

(1) mail: U.S. Department of Agriculture
Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW
Washington, D.C. 20250-9410;

(2) fax: (202) 690-7442; or

(3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.