

U. S. DEPARTMENT OF AGRICULTURE,

BUREAU OF SOILS—MILTON WHITNEY, Chief.

IN COOPERATION WITH THE STATE OF MISSISSIPPI, THEODORE G. BILBO,  
GOVERNOR; E. N. LOWE, DIRECTOR, STATE GEOLOGICAL SURVEY.

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SOIL SURVEY OF AMITE COUNTY,  
MISSISSIPPI.

BY

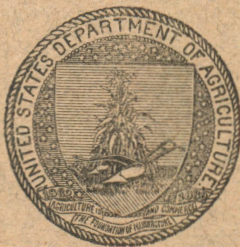
A. L. GOODMAN, IN CHARGE, A. H. MEYER, R. W. McCLURE,  
AND B. H. HENDRICKSON.

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HUGH H. BENNETT, INSPECTOR, SOUTHERN DIVISION.

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[ Advance Sheets—Field Operations of the Bureau of Soils, 1917. ]



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1919.



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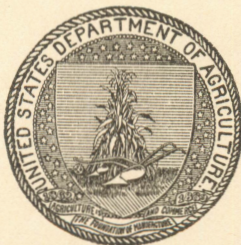
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[Advance Sheets—Field Operations of the Bureau of Soils, 1917.]



WASHINGTON:  
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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF SOILS,  
*Washington, D. C., July 31, 1918.*

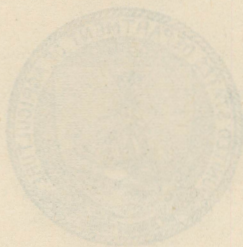
SIR: I have the honor to transmit herewith the manuscript report and map covering the survey of Amite County, Miss., and to recommend that they be published as advance sheets of Field Operations of the Bureau of Soils, 1917, as authorized by law.

This work was carried on in cooperation with the Mississippi State Geological Survey.

Respectfully,

MILTON WHITNEY,  
*Chief of Bureau.*

Hon. D. F. HOUSTON,  
*Secretary of Agriculture.*





## CONTENTS.

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	Page.
SOIL SURVEY OF AMITE COUNTY, MISSISSIPPI. By A. L. GOODMAN, IN CHARGE, A. H. MEYER, R. W. McCLURE, and B. H. HENDRICKSON.....	5
Description of the area.....	5
Climate.....	7
Agriculture.....	8
Soils.....	14
Memphis silt loam.....	18
Grenada silt loam.....	19
Lexington silt loam.....	21
Ruston gravelly sandy loam.....	22
Ruston fine sandy loam.....	23
Ruston very fine sandy loam.....	25
Orangeburg fine sandy loam.....	26
Caddo very fine sandy loam.....	26
Caddo silt loam.....	27
Cahaba sandy loam.....	28
Lintonia silt loam.....	30
Olivier silt loam.....	30
Hammond silt loam.....	32
Vicksburg silt loam.....	33
Collins silt loam.....	34
Waverly silt loam.....	35
Ochlockonee fine sandy loam.....	36
Summary.....	37

## ILLUSTRATIONS.

---

	Page.
FIGURE.	
Fig. 1. Sketch map showing location of the Amite County area, Mississippi...	5
MAP.	
Soil map, Amite County sheet, Mississippi.	3



# SOIL SURVEY OF AMITE COUNTY, MISSISSIPPI.

By A. L. GOODMAN, In Charge, A. H. MEYER, R. W. McCLURE, and B. H. HENDRICKSON.—Area Inspected by HUGH H. BENNETT.

## DESCRIPTION OF THE AREA.

Amite County is in the southwestern corner of Mississippi, with one county between it and the Mississippi River. It is bounded on the north by Franklin and Lincoln Counties, on the east by Pike County, on the south by the Louisiana State line, and on the west by Wilkinson County. The county is 30 miles long from east to west and 24 miles wide from north to south, and has an area of 714 square miles, or 456,960 acres.

Physiographically, Amite County is a plain, dissected by streams that have cut narrow valleys and caused considerable difference in the surface configuration of various parts of the area. The topography of the southeastern corner of the county in the vicinity of Gillsburg and comprising the area drained by Tickfaw River is for the most part gently rolling and well suited to farming. The northeastern section of the county, in the vicinity of Glading, Eleven Mile, Thompson, Smithdale, and Zion Hill, ranges from almost level to rolling. Some hilly country is encountered along the headwaters of streams in this part of the county, but for the most part the surface is favorable for farming. The central part of the county consists of a series of low hills, generally having gentle slopes and rounded crests.

The northwestern corner of the county, comprising approximately three full townships, including the towns of Stephenson and Dayton and all the area drained by the Homochitto River, is known as the Homochitto Hill country. For the most part this section is rough and broken. It comprises a series of narrow divides and ridges of unequal height, having rather sharp outlines and varying slopes due to surface erosion and weathering of gravelly sands and beds of more or less resistant clays. The upper slopes of the ridges are too rough for tillage; along the lower slopes and else-

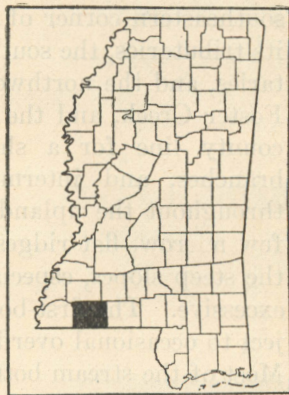


FIG. 1.—Sketch map showing location of the Amite County area, Mississippi.



where there are areas less gullied and broken that could be used for farming. The country south of this hill section, including Gloster and Centerville, has a smooth, almost level to gently rolling surface and is well suited to farming. Throughout the county there are level areas, usually consisting of strips of first bottom, ranging from a few rods to about a mile in width, and occasionally second bottoms or terraces ranging from one-sixteenth mile to one and one-fourth miles in width.

The elevations above sea level range from 136 feet to about 500 feet, the average being approximately 280 feet in the southwestern corner, 300 feet in the southeastern corner, 140 feet along Homochitto River in the northwestern corner, and 450 to 500 feet in the northeastern corner. The elevation at Liberty is approximately 300 feet, and at Gloster 434 feet above sea level. The elevation of the larger stream bottoms varies from 136 to 175 feet. The general slope of the county is toward the south, but streams rising in the extreme northwestern corner of the county flow northwestward until they unite with the Homochitto River, which flows almost due west.

The central and greater part of the county is drained by the East and West Forks of the Amite River and their tributaries. The southeastern corner of the county is drained by Tickfaw River and its tributaries, the southwestern part by Beaver Creek and its tributaries, and the northwestern corner of the county by Brushy Creek, Foster Creek, and the Homochitto River, the last two forming the county line for a short distance. Many small streams, spring branches, and intermittent streams and drainage ways extend throughout the uplands, forming an adequate drainage system. A few narrow, flat ridges have no visible drainage way. On some of the steep slopes, especially in the Homochitto Hills, the drainage is excessive. The first-bottom land adjacent to stream channels is subject to occasional overflow, but remains inundated only a short time. Most of the stream bottoms are better drained near the stream channel than at the foot of the bordering slopes.

Many of the streams furnish water power for grist mills, and there are good opportunities for larger water-power developments, especially on the East and West Forks of the Amite River.

Amite County was organized in 1809, and Liberty was made the county seat. The early settlers were of English descent and came from Georgia and North and South Carolina. The population in 1910, the latest year for which figures are available, was 22,954. The entire population is classed as rural, and the average density is 32.1 persons per square mile. Approximately 10 per cent of the present population is colored. The white population of the county consists almost entirely of descendants of the original settlers. The largest town in the county is Gloster, with a population of something less



than 1,500 in 1910. Liberty the same year had a population of 556. Other towns and villages of local importance are Robinson, Glading, Gillsburg, Zion Hill, Smithdale, Hurst, Marshalton, Stephenson, and Dayton. The most thickly settled section is in the vicinity of Zion Hill, Smithdale, and east of Centerville. In a few sections settlement is very sparse, and the farm houses are in some places 2 to 5 miles apart.

The transportation facilities of the county are fair. The western section is traversed by the main line of the Yazoo & Mississippi Valley Railroad and the east-central part by the Liberty-White Railroad, extending from McComb in Pike County to Liberty. The latter line connects at McComb with the main line of the Illinois Central Railroad from New Orleans to Chicago. The northeastern and southeastern corners of the county are not supplied with railroad transportation, and hauls of 10 to 15 miles by wagon are necessary.

The public roads throughout the county are moderately good, having many sand beds that interfere with traffic during the dry season and many muddy places that are impassable during the rainy season. Some attention has recently been given to the improvement of the roads.

The school system is steadily being improved. There is a new agricultural high school at Liberty, and several consolidated schools in different parts of the county.

The products of Amite County are marketed at New Orleans, points in Mississippi and Louisiana, Memphis, and at Chicago, New York, and other northern markets. Cattle are generally shipped to New Orleans, Natchez, St. Louis, or Chicago, and truck and dairy products to New Orleans, Memphis, and eastern markets, including Washington, Philadelphia, and Pittsburgh.

#### CLIMATE.

The climate of Amite County is mild and healthful, being typical of that of the warm temperate zone. The winters are of short duration, and as a rule farm work can be carried on throughout the year, being interrupted only by rains. The normal growing season, the period between killing frost in the spring and fall, is 235 days, the average date of the last killing frost in the spring, as reported by the Weather Bureau Station at Magnolia, Pike County, where conditions are similar to those in this county, being March 18, and the first in the fall November 8.

The mean annual temperature is about 66° F. Temperatures of more than 100° F. are comparatively rare and for brief periods only.

The rainfall of the county is well distributed. Short droughts occur and may affect crops, but where cultivation is frequent and



thorough, little damage is caused by lack of moisture. Excessive rainfall is more often a source of loss and inconvenience to the farmers than dry periods. The mean annual rainfall is about 62 inches.

There is no Weather Bureau Station in Amite County, the nearest station being that at Magnolia, Pike County, about 25 miles east of Liberty. The data in the following table, compiled from the records of the Magnolia station, are believed to be fairly representative of the climatic conditions in Amite County:

*Normal monthly, seasonal, and annual temperature and precipitation at Magnolia, Pike County (elevation, 415 feet.)*

Month.	Temperature.			Precipitation.		
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount driest year (1899).	Total amount wettest year (1905).
	° F.	° F.	° F.	Inches.	Inches.	Inches.
December.....	50.5	82	12	5.62	3.94	5.54
January.....	49.7	80	19	5.14	6.73	6.29
February.....	50.3	83	-1	6.29	2.78	12.82
Winter.....	50.2	83	-1	17.05	13.45	24.65
March.....	62.0	91	24	5.78	5.04	5.23
April.....	65.9	92	30	5.70	.97	14.59
May.....	73.9	101	38	4.97	.30	6.73
Spring.....	67.3	101	24	16.45	6.31	26.55
June.....	79.8	104	50	5.13	8.80	2.24
July.....	81.3	105	57	7.58	2.35	7.91
August.....	81.4	103	54	6.44	5.21	8.49
Summer.....	80.8	105	50	19.15	16.36	18.64
September.....	76.8	103	40	4.02	1.94	5.83
October.....	66.8	99	78	2.60	.63	3.66
November.....	58.2	88	17	2.97	2.14	3.58
Fall.....	67.3	103	17	9.59	4.71	13.07
Year.....	66.4	105	-1	62.24	40.83	82.91

#### AGRICULTURE.

The first settlements in this area were made about 1790 on the West Fork of Amite River, on Beaver Creek, and northeast of the site of Gloster. The settlements were made under Spanish government land grants. The settlers depended for sustenance mainly upon fish and game, supplemented with corn, planted in small fields along the streams, and the vegetables grown in garden patches.

Since the early settlement of this section agriculture has been practically the sole industry. The first crops of importance were cotton,



corn, and rice, the last occupying only a small acreage. Cotton was the principal crop, but the large plantations were practically self-sustaining with respect to food supplies. The raising of stock, including cattle, hogs, sheep, and goats, was an important early industry. Practically all the county originally supported a good cover of longleaf pine, with an undergrowth of sedge and other wild grasses that afforded good pasturage. Stock was raised with little trouble, most of the land being open range. Cattle were turned out early in the spring and collected in late fall, being driven to New Orleans to market.

The 1880 census reports a total of 1,620 farms in the county, with an average of 196.3 acres per farm, about 70 per cent of the area of the county being in farms. Of the farm land, 21.2 per cent, or about 42 acres per farm, is reported as improved at that time, and the average value of all farm property per farm is given as \$853. A little over one-half the farms were operated by the owners and the remainder mainly by tenants. The population of the county in 1880 is reported as 14,004.

At this time there were 27,749 acres planted to cotton, producing 9,952 bales, and 22,589 acres to corn, producing 262,352 bushels. The total area in oats is given as 3,184 acres, and the yield as 27,169 bushels. Rice was grown on 143 acres, with a production of 74,207 pounds, and sweet potatoes on 967 acres, yielding 80,806 bushels. Tobacco is reported on 16 acres, and sugar cane on 208 acres.

From 1880 to 1910 agriculture progressed steadily, with little change in the type of farming. At present (1917) there is a smaller acreage in cotton and a larger acreage in corn, more attention is given to live-stock raising, and truck and market garden crops are grown more extensively.

In the 1910 census cotton is reported on a total of 43,595 acres, producing 13,452 bales. In 1911 only 1,380 bales were produced; in 1915, 2,921 bales, and in 1916, 4,480 bales. The sudden and marked decline in cotton production was due to the invasion of the boll weevil, which made its appearance first in the western part of the county in 1907-08. For a few years the crop suffered little injury, but later a large part of it was destroyed, the maximum yield seldom being more than one-fourth bale per acre, and in many cases not enough bolls remained to warrant picking. Attempts to exterminate the weevil have been unsuccessful, but the early planting of early varieties and the more thorough working of smaller acreages have resulted in somewhat increased yields. This year (1917) the acreage planted in cotton is larger than in any year since 1910.

Land to be used in growing cotton is usually plowed about the first of February and the seed bed prepared by throwing the soil in ridges.



The seed is distributed with a planter in the latter part of March or the first half of April. After the plants are 2 to 6 inches high they are thinned by hand with an ordinary hoe, and thereafter cultivated with horse implements. Early big-boll varieties are the most popular.

Corn ranks second in acreage to cotton. The 1910 census reports a production of 529,335 bushels on a total of 39,004 acres. Corn is cultivated very much like cotton except that some farmers plant in the water furrow instead of on ridges. The flat check-row system is not used in the county. Most of the crop is planted in the first half of March, but some as late as the 20th of July. The most popular varieties are the Mexican June, St. Charles, Yellow Leaming, and Hastings Prolific. Most of the corn produced in the county is used on the farm for feeding work stock, hogs, and the few dairy and beef cattle kept. A part is ground for domestic use. Only a very small proportion of the crop is marketed.

Oats are important in the county as a winter cover crop. The ground is broken and the seed broadcasted and harrowed in. Oats are usually planted in October or November. A small acreage is sown in the spring. The fall-planted oats give the heavier yields. According to the census a total of 2,209 acres in oats in 1910 produced 34,510 bushels. All the oat crop is fed to stock on the farm. The production of corn, oats, and hay within the county is insufficient to supply the local demand, the census reporting an expenditure of \$34,435 for feed in 1909.

Truck crops, mainly Irish potatoes, sweet potatoes, tomatoes, snap beans, English peas, peppers, and cabbage, are extensively grown throughout the southwestern part of the county. The 1910 census reports 233 acres planted to Irish potatoes, producing 20,829 bushels; 1,608 acres planted to sweet potatoes and yams, producing 160,445 bushels; and 848 acres in other vegetables. The acreage in truck crops has increased largely in the years since 1910.

Tomatoes are receiving increasing attention, particularly in the vicinity of Centerville. Seed for this crop is planted under glass the latter part of December. The plants are put out in cold frames about March 1 and allowed to remain for about 3 weeks, when they are transplanted to the fields. Some of the most popular varieties are the Earliana, Preferred, Detroit, and Acme. The yields average about 600  $\frac{1}{3}$ -bushel hampers, or approximately 200 bushels per acre. The crop receives several sprayings of Bordeaux mixture to prevent blight.

Snap beans are an important truck crop, being grown on about 400 or 500 acres. The seed is planted about April 1. The most



popular varieties are the Black Valentine and Kentucky Wonder. Yields range from 50 to 75 bushels per acre. In 1916 it is estimated that about \$10,000 worth of beans were shipped to St. Louis, in addition to shipments made to Memphis, Chicago, Minneapolis, and other markets.

Both red and tabasco peppers are grown. It is estimated that about 50 acres are devoted to these crops of peppers. Pepper kilns located at Centerville and Norwood, La., dry, pack, and ship peppers.

In the 1910 census about 2,000 acres are reported in hay, consisting mainly of tame and cultivated grasses. Cowpeas for seed were grown on 1,031 acres, and peanuts on 627 acres. The census reports 4,159 apple trees, 17,431 peach trees, and 629 nut trees, mainly pecan, in the county.

Cattle raising is fast becoming one of the most important industries of the county. The following table indicates the status of the live-stock industry in 1909:

Number of domestic animals sold or slaughtered:

Calves, sold or slaughtered.....	359
Other cattle, sold or slaughtered.....	7,328
Horses and mules, sold.....	272
Swine, sold or slaughtered.....	10,332
Sheep and goats, sold or slaughtered.....	657
Number of dairy cows on farms.....	8,517

At present there are at least 25 per cent more cattle in the county than in 1909. Amite County has been declared free of the cattle tick, but some herds are still dipped. From July, 1916, to May, 1917, it is reported that approximately 1,170 hogs and 1,052 head of cattle were shipped from Liberty, and about 1,000 head of hogs and 400 head of cattle from Gloster. Some of the cattle raised in Amite County are shipped from Centerville, in Wilkinson County. Several purebred bulls have recently been brought into the county, and the grade of the stock is being improved. Cattle can be pastured at least 10 months of the year. On some farms where there is a growth of wild blue cane on the bottom land from 50 to 60 head may be carried through the winter with no extra feed or at most with only a few bales of hay.

The production of poultry and eggs also is becoming an important industry. Eggs and chickens are shipped daily from Liberty, Gloster, and Centerville to New Orleans and Memphis. Quite a large number of 4, 8, and 12 dozen cartons are daily shipped by parcel post.



The relative value of farm products is shown by the following table, compiled from the census of 1910:

*Value of farm products, arranged by classes.*

Product.	Value.	Product.	Value.
	<i>Dollars.</i>		
Cereals -----	460,000	Live stock and products:	
Other grains and seeds -----	22,360	Animals sold and slaughtered -----	<i>Dollars.</i>
Hay and forage -----	38,010		199,577
Vegetables -----	240,212	Dairy products, excluding home use -----	106,831
Fruits and nuts -----	16,608	Poultry and eggs -----	94,450
All other crops (mainly cotton) -----	1,160,486	Wool, mohair, and goat hair -----	937
		Total value -----	2,339,531

The turpentine industry is of considerable importance in Amite County. One body of trees in the vicinity of Liberty, having 72,000 cups in operation, produced 522 barrels of turpentine and 1,620 barrels of rosin in 1916.

There are three large saw mills in the county cutting longleaf yellow pine. These mills are located at Liberty, Gloster, and Stephenson. Most of the pine land has now been cut over.

The soils and climate of Amite County are adapted to a wide range of crops, and the natural conditions are favorable for its development into one of the richest agricultural counties in southern Mississippi. The Ruston and Grenada soils, which occupy the greater part of the uplands of the county, are easily made very productive by proper farm methods and fertilization.

It is recognized throughout the county that the bottom-land soils, including the Vicksburg, Collins, and Ochlockonee, are best suited to the production of corn, and they are extensively used for that crop. These bottoms, although very productive, do not warm up so early in the spring as some of the sandy upland types, and cotton can not be grown so successfully under boll-weevil conditions. In the southwestern part of the county the gently rolling areas of Memphis, Grenada, and Lexington silt loam are recognized as being well suited to truck and market-garden crops, such as tomatoes, beans, English peas, peppers, and Irish and sweet potatoes. The Waverly and Collins silt loams are considered good soils for hay crops, such as lespedeza and wild grasses. A large area of these soils is planted to lespedeza for hay or seed. Low-lying areas at the foot of bluffs, small-stream bottoms not subject to prolonged overflow, and depressions in the sandy uplands are recognized as well suited to the production of sugar cane, and about 80 per cent of this crop is grown in such places.



The use of modern improved farm machinery is just beginning in the county. The one-horse plow and five-tooth spring cultivator are prevailingly used. Some two-horse plows, disk plows, disk harrows, sulky plows, 14-tooth harrows, double-shovel cultivators, cotton and corn planters, and cotton-stalk cutters are used, and a few farmers in the county make use of the reaper and binder. Oats are generally cut with a mowing machine and bound into bundles by hand. Some of the more progressive farmers in the county already have silos, and the growth of the cattle industry is resulting in the building of more. Corn is used for ensilage, the stalks being shredded and the silos filled by means of gasoline engines.

The farm buildings, dwellings, and barns are typical of this section of the State. Most of the dwellings are one-story houses containing 4 to 8 rooms. Comparatively few of the houses are painted. The barns as a rule are small, but owing to the short mild winters they are adequate for housing the live stock and storing feed. Most of the farms are fenced with wire. The work stock consists of horses and mules of medium weight.

Little attention is paid to the rotation of crops. Corn is generally followed by corn or cotton and cotton usually by cotton or corn; commonly the same crop is grown several years in succession. Oats are generally followed by corn, cowpeas, or truck crops for the late fall market. Velvet beans are planted between the corn rows, the vines being pastured after the first killing frost. Commercial fertilizers are extensively used on all the upland soils. Some farmers mix their own fertilizers, using equal parts of cottonseed meal and phosphate. Railroad agents at Liberty, Gloster, and Robinson report that 7 carloads of fertilizers were received at Gloster, 55 carloads at Liberty, and 3 carloads at Robinson in 1917. In addition, many farmers in the county buy their fertilizers at Magnolia, McComb, Summit, Osyka, and Centerville—towns in adjacent counties near the county line. The 1910 census reports an expenditure of \$79,431 for fertilizer on 2,334 farms in 1909.

Farm labor in Amite County is somewhat scarce at the present time. Before the advent of the boll weevil, 1907-8, labor was plentiful, but after it became impossible to grow cotton profitably large numbers of negroes and many white farmers left the county. Since the boll weevil is becoming less destructive laborers are beginning to move back to the county. Farm labor is largely colored, although some white labor is employed. Where employed by the year, farm laborers usually receive from \$10 to \$15 a month and board. The 1910 census states the total expenditure for labor as \$101,274, the number of farms reporting being 1,268.

Farms vary in size from a few acres in the trucking section of the county to several thousand acres in other parts. Most of the



farms contain from 80 to 300 acres. The census for 1910 gives the average size of farms as 89.9 acres, each tenancy being classed as a farm. In recent years, however, farms have greatly increased in size. Less than half the farms are operated by the owners, and practically all the remainder by tenants. Many of the owners rent their land on the share system, furnishing work stock and seed. Prior to the coming of the boll weevil the merchants furnished the farmers with supplies during the year and took settlement from their crops in the fall, but this system has been almost entirely abandoned. Farm land can be rented throughout the county at 50 cents to \$1.50 an acre.

Land prices vary considerably, the average being between \$8 and \$10 an acre. The average assessed value of farm land is given in the 1910 census as \$7.93 an acre. Some of the better developed or highly improved lands sell for \$25 to \$30 an acre. There are many thousand acres of cut-over pine land in the county that can be bought for \$3 to \$8 an acre. This land for the most part can be cleared of stumps and developed into good farms.

According to the 1910 census 67.1 per cent of the area of the county is in farms and the total number of farms is 3,412. Of the land in farms, 47.2 per cent, or an average of 42.5 acres per farm, is improved. The average value of all property per farm in 1910 was \$1,432.

#### SOILS.

The upland soils of Amite County are derived from (1) what has been classified as loessial material and (2) Coastal Plain material. The latter consists of beds of sandy clay, locally including gravel (mainly chert with some quartz). The so-called loess overlies these sandy beds, usually in such a way that the line of contact between the two kinds of material is distinctly visible in road cuts and gullies. Erosion has removed much of the loess on slopes and ridges, so that the Coastal Plain beds are exposed in many places throughout the county. Often there is found a few inches or a foot or two of loessial material over the sandy beds, and again sandy material has been washed from exposures of these beds over the loessial soils occupying lower slopes. The result is that the soils are extremely variable or patchy in occurrence over much of the county—so much so that it is not practicable everywhere to separate all the different types on a map of the scale used in this survey. The loess material thins out rapidly toward the east, and in the extreme southeastern part of the county it is absent, sandy soil predominating. In the Homochitto Hill section of the county a few small patches of white and yellowish clay are exposed on some of the steep slopes. Associated



with this clay and generally lying above, capping the ridges, a white sand or soft white sandstone is found. These materials, which are too soft for building purposes, are unimportant as far as contribution of soil material is concerned.

The loess,<sup>1</sup> or brown silt loam covering of the county, has been described as wind-deposited material, ranging from 4 to 6 feet in depth in the extreme western part of the area and thinning out to zero along the southeastern boundary, but extending across the county to the northern county line. The deeper material in the western part of the county gives rise to the Memphis series. The Memphis soils are not influenced within the 3-foot section by any of the underlying material. Associated with the Memphis soils, brown soils having a mottled, compact substratum are found. These are the Grenada soils. Coastal Plain formations have contributed no material to either of these series.

Areas in which the surface 15 to 20 inches of loessial, or brown loam, material is underlain by reddish, sandy, Coastal Plain material are classed with the Lexington series. In the Homochitto Hill section and over the greater part of the eastern half of the county the brown loam mantle has been eroded entirely away, leaving Coastal Plain sands and gravels exposed. This gives rise to the Ruston, Orangeburg, and Caddo soils, all of which are sandy except the Caddo silt loam. The Caddo silt loam has a yellower color than the Grenada silt loam, and is almost free from the white, compact substratum.

The material of the second bottoms, or stream terraces, was deposited when the overflow waters of the streams reached higher levels than at present. Considerable change has taken place since its deposition, chiefly through the influence of varying drainage conditions. Where the material is well drained a brown to reddish-brown color predominates; where the drainage is poor the soil is light grayish, with mottlings of yellow and brown, and contains iron concretions and other concretionary material. The well-drained areas consist of the Cahaba and Lintonia soils, and the poorly drained areas of the Olivier and Hammond series. The Cahaba soil owes its origin largely to wash from Coastal Plain material, and is sandy, while the Lintonia, Olivier, and Hammond soils appear to be derived chiefly from wash from the brown loam or loessial material.

The first bottoms represent recent alluvium, and are still receiving additional sediments from overflow waters of streams. The material is washed mainly from the loessial uplands and is predomi-

<sup>1</sup> For a description of the loess of western Mississippi see Bul. No. 8, "Preliminary Study of the Soils of Mississippi," Miss. State Geol. Survey.



nantly very silty. One of the peculiarities of the county is that streams rising in and completely surrounded by sandy Coastal Plain uplands frequently have decidedly silty bottoms. This is probably due to the fact that the thin covering of silt that once capped the sandy uplands has been completely eroded away and deposited in the lowlands. The sandy material on the slopes has not washed sufficiently to affect the texture of the bottom soils along such streams.

The well-drained brown bottom soils derived from the silty uplands are classed with the Vicksburg series. Those that are brown and well drained in the surface section but have a mottled grayish and yellowish, compact, poorly drained subsoil, are included in the Collins series, and those that have a similar origin but occupy poorly drained areas, being white in both soil and subsoil, are included in the Waverly series.

Areas of bottom soil in which the alluvium contains wash from the sandy uplands in sufficient quantity to produce a sandy texture are classed with the Ochlockonee series. This series is mapped almost exclusively in the eastern half of the county and along the Homochitto River in the northwestern corner.

The Lintonia is the terrace equivalent of the Vicksburg, the Olivier of the Collins, and the Calhoun series of the Waverly. No Calhoun soil is mapped separately in this county, although a few small patches are included with the Hammond series. Terrace soils derived, as are the Ochlockonee soils, mainly from Coastal Plain material are mapped as the Cahaba in the eastern half of the county.

In Amite County 17 distinct soil types are mapped. These represent 14 soil series.

The Memphis series comprises soils having a brown silty surface soil and a slightly reddish brown to yellowish-brown silty clay subsoil. The Memphis silt loam is mapped in this county.

The soils of the Grenada series have a characteristic brown to yellowish-brown surface soil, underlain by a yellowish silty clay, with a compact lower subsoil of mottled gray and brown, somewhat impervious silty clay. The silt loam is the only member of this series mapped.

The surface soils of the Lexington series are brown to yellowish brown and are silty, being composed of loessial material. They are underlain by dull-red to yellowish-red sandy Coastal Plain material. The series is represented in the county by the silt loam type.

The Ruston soils are gray, varying to grayish brown. The subsoils are reddish yellow to yellowish red and are moderately friable, consisting generally of sandy clay. In places the lower subsoil is



mottled with gray and shades of yellow. The series is represented by three types—the Ruston gravelly sandy loam, fine sandy loam, and very fine sandy loam.

The Orangeburg series is characterized by gray surface soils underlain by dull-red to red, friable sandy clay subsoils. This series is represented in the county by a single type, the fine sandy loam.

The Caddo series includes light-gray surface soils with a yellow sandy clay subsoil, the lower part of which is mottled with gray and is somewhat more compact than the upper part. The series is represented in this county by the very fine sandy loam.

The Cahaba soils have grayish-brown to brown surface soils and yellowish-red to reddish-brown subsoils. The series is represented in Amite County by a single type, the sandy loam.

The Lintonia series includes brown soils with a reddish-brown upper subsoil and yellowish-brown lower subsoil. The series occupies stream terraces. The silt loam is the only type recognized in this county.

The Olivier soil is brown. The subsoil is yellowish brown, and is underlain by compact, mottled material containing iron concretions. One type, the silt loam, is mapped.

Soils of the Hammond series have mottled grayish and brownish surface soils and yellowish subsoils mottled with gray and brown. The lower subsoil is a heavy, plastic, bluish clay. Iron concretions occur on the surface and throughout the 3-foot section. The silt loam is the only member of this series mapped.

The Vicksburg series comprises well-drained bottom soils having light-brown to brown surface soils and a brown to slightly yellowish brown subsoil. Often there is very little change in color throughout the 3-foot section. The series is represented by one member, the silt loam.

The Collins series includes light-brown to brown soils with mottled gray and yellow subsoils. The Collins silt loam is mapped in this county.

The soils of the Waverly series have gray surface soils and mottled yellowish and bluish-gray subsoils. This series occupies poorly drained first bottoms, and is represented in the county by the silt loam.

The soils of the Ochlockonee series have brownish surface soils and brownish or mottled brownish, yellowish, and grayish subsoils. These are the darker-colored soils of the first bottoms, receiving their wash from Coastal Plain uplands. The series is represented by the fine sandy loam.



The following table gives the name and actual and relative extent of each of the various soils mapped in Amite County:

*Areas of different soils.*

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Ruston fine sandy loam.....	184,128	40.3	Ochlockonee fine sandy loam...	6,016	1.3
Grenada silt loam.....	93,312	20.4	Waverly silt loam.....	5,888	1.3
Ruston very fine sandy loam...	57,536	12.6	Ruston gravelly sandy loam...	5,696	1.2
Vicksburg silt loam.....	20,800	4.6	Hammond silt loam.....	4,672	1.0
Lexington silt loam.....	17,856	3.9	Lintonia silt loam.....	3,008	0.7
Caddo silt loam.....	14,720	3.2	Cahaba sandy loam.....	2,944	0.6
Collins silt loam.....	13,568	2.9	Orangeburg fine sandy loam...	1,152	0.3
Memphis silt loam.....	11,264	2.5			
Caddo very fine sandy loam....	8,128	1.8	Total.....	456,960	
Olivier silt loam.....	6,272	1.4			

#### MEMPHIS SILT LOAM.

The Memphis silt loam consists of a brown silt loam, underlain at a depth of 8 to 12 inches by a dull-red to reddish-yellow silty clay loam to silty clay, which passes at about 24 to 30 inches into yellower, more friable material. The lower subsoil contains more silt and less clay than the upper subsoil, and has a more friable structure. Typically, the lower subsoil is not compact and shows very little gray mottling. In flat areas and depressions, however, the subsoil is mottled, like that of the Grenada silt loam. This type includes patches of the Grenada silt loam and the Lexington silt loam. The former generally occur on the tops of the ridges or on the steeper slopes, where erosion has removed the brown loam covering, leaving the reddish-brown and red Coastal Plain sands exposed. Evidence of the comparatively shallow depth at which these sands occur toward the southwestern corner of the county is seen in the reddish-brown tint of many of the hillsides of old fields.

Typical areas of the Memphis silt loam occur in the southwestern corner of the county, bordering the Wilkinson County line in the vicinity of Centerville and south of Gloster. There are a few small patches on ridge tops and slopes leading to some of the larger drainage ways, near Liberty and Zion Hill, but these are too small to be separated satisfactorily.

The topography of the Memphis silt loam in Amite County ranges from smooth and level to rolling and almost hilly. Most of the type is very gently rolling and well suited to agriculture. The drainage is prevailingly good, there being only a few poorly drained depressions of minor importance. The porous silty substratum is very absorptive and retentive of moisture.



The type has a relatively small total acreage in the county, but it is an important soil, a large part being used for intensive truck farming. Practically all the type is under cultivation or used for pasture land.

Cotton, corn, oats, beans, Irish and sweet potatoes, English peas, tomatoes, and peppers are the most important crops grown. Trucking is yearly becoming more important in the southwestern corner of the county. Both beef and dairy cattle are grazed on this type, and approximately all the corn grown is fed on the farm. The beans, tomatoes, peppers, peas, cabbage, and Irish potatoes are either sold to the canning factory at Norwood, La., or shipped to northern and eastern markets.

The Memphis silt loam is considered a good soil for general farming, as well as an excellent soil for trucking. Corn produces 15 to 25 bushels per acre, tomatoes from 200 to 250 bushels, and string beans from 50 to 75 bushels.

The soil is friable and easily handled, a mellow seed bed being easily prepared. Heavy applications of commercial fertilizer, ranging from 200 to 1,000 pounds per acre, are generally applied to the land used in growing truck crops.

Areas of the Memphis silt loam sell for \$10 to \$50 an acre, depending mainly on location with respect to towns, markets, and railroads, and on the character of improvements.

The trucking industry seems to offer the best opportunities on this soil, and the greater part of the type probably could be used most profitably for the production of early and medium-early vegetables.

#### GRENADA SILT LOAM.

The Grenada silt loam consists of a brown silt loam, underlain at 5 to 12 inches by reddish-yellow, dull-red, or buff-colored silty clay, which passes at a depth of 20 to 30 inches, in some places gradually and in others abruptly, into a compact stratum of silty clay loam to silty clay, mottled with yellowish and grayish colors, and containing in many places brownish and dark-colored concretions and soft concretionary material. The subsurface material for a few inches just above the clay subsoil may be a yellowish silty clay loam. As a rule the subsoil in better drained situations has a distinct reddish color down to the compact layer, but in many situations in flats, on lower slopes, and in depressions the color tends toward yellowish, often being reddish yellow in the upper part of the subsoil and yellow in the lower part, just above the compact layer. Some small areas have the compact mottled layer very near the surface. On some slopes, where the surface 6 to 8 inches has been eroded away, a brownish-yellow silty clay is exposed. Other included areas have loose sand on the surface, washed down from exposures of Ruston



and Orangeburg material higher up the slopes. As mapped, the type includes many small areas of the Ruston fine sandy loam, Ruston and Caddo very fine sandy loam, and Lexington and Memphis silt loam. These areas average about one-half acre to 3 acres in extent. The Grenada silt loam, according to the litmus-paper test, is acid in both soil and subsoil.

This type is widely distributed throughout the county; it is most extensive in the western part. A broad, continuous body occurs in the vicinity of Gloster. Other bodies occur east of Centerville, east and southeast of Liberty, and in the vicinity of Cedar Grove School, O'Neil, and Smithdale. The topography ranges from level or almost flat to gently rolling, hilly, and rough. The type comprises level to gently rolling country in the vicinity of Centerville, Smithdale, and Gloster, and it occupies the crests of some of the steepest ridges in the Homochitto Hill section of the county. Drainage is only fair, mainly because of the compact substratum. The nearer the compact substratum to the surface, the poorer the drainage.

The Grenada silt loam is one of the most extensive and important soils in the county. About 25 per cent of the type is under cultivation; the remainder is in pasture, lying idle, or covered with a scattered growth of virgin longleaf pine, red oak, blackjack oak, and old-field pine.

Cotton and corn are the chief crops. Oats, sugar cane, cowpeas, velvet beans, lespedeza, and vegetables, such as tomatoes, English peas, Irish potatoes, sweet potatoes, string beans, and peppers, are secondary crops. Corn probably leads in acreage, followed closely by cotton and truck crops. Most of the corn and oats grown on this type is used on the farm, while the cotton and truck are cash crops. Pastures on the Grenada silt loam support a good growth of lespedeza, broom sedge, carpet grass, and other wild grasses. Both beef and dairy cows are pastured. In general, dairying is not important. A few farmers ship cream, butter, and milk to New Orleans and McComb. Beef cattle are shipped to New Orleans, Natchez, and Chicago. A large percentage of the truck grown on this type in the vicinity of Centerville is shipped or hauled to the canning factory at Norwood, La., the remainder being shipped mainly to northern and eastern markets.

Cotton produces from one-fourth to one bale per acre in favorable seasons, corn from 15 to 40 bushels, sugar cane from 200 to 450 gallons of sirup, tomatoes from 450 to 600  $\frac{1}{3}$ -bushel crates, beans from 60 to 75  $\frac{1}{3}$ -bushel hampers, and Irish potatoes from 75 to 125 bushels per acre.

The Grenada silt loam is not so easily cultivated as the Memphis silt loam, but when plowed under proper moisture conditions it works up into a loose, mellow seed bed. Where the surface soil has



been eroded away, leaving the yellow clay exposed, large clods frequently form and these are difficult to crush. Commercial fertilizers are extensively used on this type. The quantity ranges from about 200 pounds per acre for cotton and corn to 1,000 pounds for truck.

The Grenada silt loam sells for \$8 to \$30 an acre, depending mainly upon location with regard to railroads, towns, and improvements.

For the best results on this type the rotation of crops and the incorporation of organic matter by applying barnyard manure and turning under such green-manuring crops as velvet beans, soy beans, cowpeas, or peanuts are needed. Deeper plowing is beneficial. Some of the hillsides require terracing to prevent destructive erosion. Applications of 1 ton to 2 tons per acre of crushed limestone probably would prove advantageous.

The following table gives the results of mechanical analyses of samples of the soil, subsoil, and lower subsoil of the Grenada silt loam:

*Mechanical analyses of Grenada silt loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
423709.....	Soil.....	0.3	0.8	1.0	2.1	12.0	69.6	14.1
423710.....	Subsoil.....	.4	.9	.7	1.8	10.5	58.3	27.4
423711.....	Lower subsoil...	.5	2.4	1.7	3.3	9.6	63.7	18.8

LEXINGTON SILT LOAM.

The Lexington silt loam is very much like the Grenada silt loam, except that sandy coastal plain material is encountered within the 3-foot section. It consists of about 6 to 10 inches of brown silt loam, underlain by dull-red to reddish-yellow or buff-colored silty clay, which passes at depths of about 15 to 30 inches into dull-red, red, or mottled reddish, yellowish, and grayish, friable sandy clay. Occasionally the lower subsoil is somewhat compact and contains some brownish concretions, but it is always sandy. Typically the subsoil is dull red or red; it consists of the materials giving the Ruston or Orangeburg soils. The Coastal Plain material is nearer the surface on the crests of ridges where the overlying brown loam material has been subjected to more severe erosion. The depth to the underlying sandy material is quite variable. The type as mapped includes patches of the Ruston fine sandy loam, Orangeburg fine sandy loam, and Grenada silt loam. Some areas are sandy, the lighter material having been washed down from higher slopes.

This type occurs mainly on slopes and ridges, having a patchy development through the central and western parts of the county.



Large typical areas occur in the vicinity of Compromise School and north of Merwin.

The topography ranges from gently rolling to somewhat hilly, but the slopes in most cases are smooth enough for easy cultivation. The drainage is generally good, except in areas having a compact stratum of clay near the surface. Where the upper material is not compact the sandy, friable nature of the subsoil insures good drainage. The surface run-off is rapid and erosion on the steeper slopes is rather serious.

The Lexington silt loam has a small total area in the county, but about 40 per cent of the type is under cultivation.

Cotton and corn are the principal crops. Some oats and truck crops, such as beans, garden peas, tomatoes, Irish potatoes, and peppers, are grown. Most of the products of the truck farms are hauled to the canning factory at Norwood, La., or shipped to northern markets. A small part of the type supports a fair growth of lespedeza and sedge grass, and is used for pasture.

This soil seems to warm up somewhat earlier in the spring than the Memphis and Grenada silt loams, and is preferred for growing early beans and tomatoes.

Corn yields 12 to 20 bushels per acre, oats from 15 to 25 bushels, and cotton from one-fourth to three-fourths bale. Yields of tomatoes and beans vary widely, depending on the season.

The Lexington silt loam is easily tilled. It is generally plowed broadcast with a one-horse plow and bedded up. The ground is more thoroughly cultivated for truck than for the general staple crops such as corn and oats. Commercial fertilizers are applied at the rate of 150 to 250 pounds per acre for ordinary farm crops and from 500 to 800 pounds for truck.

This type sells for \$8 to \$25 an acre, depending mainly on location and improvements.

In farming this type considerable care is required to prevent erosion, and terracing is advisable.

#### RUSTON GRAVELLY SANDY LOAM.

The Ruston gravelly sandy loam consists of light-brownish to grayish sandy loam or fine sandy loam, passing at 5 to 6 inches into yellowish material of the same texture, and this at about 8 to 18 inches into a dull-red, friable gravelly sandy clay. There usually is an abundance of gravel on the surface and throughout the 3-foot section. In places the subsoil is practically a mass of gravel, the gravel consisting mainly of small, rounded chert pebbles, with a few quartz pebbles.

This type has a patchy development throughout the county, typically occurring along the slopes adjacent to drainage ways, and



on the crests of some of the higher ridges. Typical areas occur along the slopes of the uplands adjoining the Amite River in the vicinity of Oak Grove Church, west of Ford School, in the vicinity of Liberty, and 2 miles northeast of Travis School. Many of the steep slopes in the Homochitto Hill section of the county are covered with gravel, and there are a few gravel pits in this section and near Liberty. The topography ranges from gently rolling to rough and steep. Most of the type is well drained and suitable for tillage. In some places there is so much gravel that the soil is open and porous, so that moisture is not retained in sufficient quantity to supply the needs of growing crops.

The type has only a small acreage in the county, and only about 10 per cent of it is in cultivation. Cotton is by far the most important crop. The soil warms up very early in the spring and cotton matures early enough to escape much of the damage caused by the boll-weevil. Cotton produces one-fourth to three-fourths bale per acre, higher yields being obtained in wet seasons than in dry. The soil is rather difficult to till, owing to the abundance of gravel. Commercial fertilizers are applied, usually at the rate of 200 to 250 pounds per acre.

This type sells for \$5 to \$10 an acre, depending mainly on location.

Where it has been cultivated for several years this soil is deficient in organic matter. The growing of velvet beans, cowpeas, or other green-manuring crops is beneficial.

#### RUSTON FINE SANDY LOAM.

The Ruston fine sandy loam consists of grayish to light-brownish fine sandy loam, passing at 3 to 5 inches into a pale-yellowish fine sandy loam. At 10 to 16 or 18 inches this grades into a dull-red, friable sandy clay, which in places is somewhat compact in the lower part of the 3-foot section, and mottled slightly with yellowish or grayish. In most places the sandy clay subsoil becomes redder with increase in depth, frequently passing into material similar to that giving the Orangeburg soils within the 3-foot section. As mapped, the type includes areas in which the soil consists of a fine sandy loam overlying the deposits from which the Lexington and Grenada material is derived. Some small areas of the Orangeburg fine sandy loam, Ruston very fine sandy loam, Caddo very fine sandy loam, and Grenada, Memphis, and Monroe silt loams are included with type as mapped.

The Ruston fine sandy loam is the most extensive soil in the county. It occurs in broad areas through the central and eastern parts, its continuity being broken by areas of the Caddo and Rus-



ton very fine sandy loam and along the streams by areas of terrace and first-bottom soils.

As a rule the type occupies gently rolling to rolling country. Large areas in the vicinity of Zion Hill and Smithdale, and in the southeastern corner of the county are nearly level, while areas mapped in the Homochitto Hill section of the county are badly broken, ranging from hilly to rough, and to a large extent are not suited to agriculture. The Ruston fine sandy loam is generally well drained except in the vicinity of depressions. Where the drainage is not good the texture is relatively fine, large quantities of iron concretions occur on the surface, and the soil becomes lighter yellow in color. Such areas, where sufficiently extensive to separate, are mapped as the Caddo very fine sandy loam.

The Ruston fine sandy loam is the most important farming soil in Amite County though a relatively small proportion is under cultivation. A large part of it consists of cut-over pine land. The greater part is suitable for cultivation and offers good opportunities for farming. This type north of Liberty, in the vicinity of Zion Hill and Smithdale, is thickly settled and well farmed. It is well suited to the production of all the crops common to this section of the State.

Corn probably is the most important crop in point of acreage. Cotton, oats, corn, peas, velvet beans, sugar cane, watermelons, sorghum, and sweet and Irish potatoes are grown extensively and many truck crops, most important of which are tomatoes, beans, English peas, and peppers, are produced. The type supports a good growth of broom sedge, carpet grass, lespedeza, and white clover, which supply good summer pasturage. Some beef cattle, sheep, goats, and hogs are pastured on this type.

A large part of the crops produced on the Ruston fine sandy loam are used at home. The cotton and truck crops are sold at local and eastern markets. Some of the farmers sell corn. The soil warms up early in the spring and is especially suited to the production of cotton under boll-weevil conditions, as well as to truck for early market.

The yields of cotton and corn on this type vary considerably, depending chiefly on the quantity of commercial fertilizer used and the thoroughness of cultivation. Corn ordinarily yields from 10 to 18 bushels per acre, and cotton from one-fourth to three-fourths bale. Barnyard manure is used where available and commercial fertilizers, in many cases mixtures of cottonseed meal and acid phosphate, are applied at the rate of about 150 to 350 pounds per acre.

Areas of this type vary considerably in price, ranging from \$3 to \$5 an acre in the cut-over, undeveloped part of the county, to \$15 and \$25 an acre in the more thickly settled country around Zion



Hill and Smithdale. The price depends largely upon location and improvements.

For the highest development of the Ruston fine sandy loam the systematic rotation of crops is necessary, with the growing and turning under of such crops as velvet beans, cowpeas, peanuts, or other legumes, to incorporate organic matter in the soil. Hillside ditches or terraces are needed in places to prevent washing, and some of the steeper slopes should be used only for grass or other soil-binding crops, or for orchard crops, such as peaches, apples, and plums.

#### RUSTON VERY FINE SANDY LOAM.

The Ruston very fine sandy loam consists of a grayish very fine sandy loam. It is dark at the surface and changes at a depth of 2 or 3 inches to grayish or to yellow or pale yellow. Below a depth of 8 or 10 inches the material is a reddish-yellow to a dull-red or yellowish-red silty clay, containing a sufficient quantity of very fine sand to give it a moderately friable structure. The sand content generally increases with depth, and at 25 to 30 inches a compact stratum is reached, consisting of yellowish, plastic clay, carrying mottles of grayish fine sandy loam. Iron concretions are found in the lower subsoil. Well-drained areas of this type have a reddish subsoil, while the poorly drained patches are yellowish. The type as mapped includes small areas of the Ruston and Orangeburg fine sandy loams, Caddo very fine sandy loam, and Caddo and Grenada silt loams.

The Ruston very fine sandy loam has a rather patchy occurrence throughout the county. It has an important development along the Pike County line. Typical areas are mapped in the vicinity of Guy School, Mars Hill Church, south of Tangipahoa, Glading, and Mixon, northeast of Oak Grove Church, and near Reynolds school. The topography ranges from slightly undulating to heavily rolling, most of the hill slopes being smooth and well suited to cultivation. The drainage varies considerably, ranging from good on the ridges and slopes to fair in the more nearly level areas.

A comparatively small part of this type is in cultivation; the greater part is pasture or cut-over pine land. The soil is well suited to general farming and where tilled the same crops are grown and the same methods of farming practiced as on the Ruston fine sandy loam, the yields per acre being slightly lower.

Land of this type can be bought for \$3 to \$12 an acre. The value of the land in farms depends mainly on improvements, and that of cut-over land on the number of stumps as affecting the possibility of immediate cultivation and cost of clearing.



This type requires about the same treatment as the Ruston fine sandy loam. The application of one-half to 1 ton of crushed limestone per acre is beneficial.

#### ORANGEBURG FINE SANDY LOAM.

The Orangeburg fine sandy loam, to a depth of 6 to 8 inches, consists of a gray to grayish-brown fine sandy loam. This is underlain by yellowish fine sandy loam, which continues to about 12 or 15 inches, grading below this depth into a red, friable, fine sandy clay.

This type occurs in the eastern part of the county near Robinson and north of Glading. It caps some of the highest knolls and ridges in the county. The topography ranges from rolling to hilly, and the drainage is good.

The Orangeburg fine sandy loam has a patchy occurrence throughout the county, and occupies a small total area. About 25 per cent of it is under cultivation. Cotton and corn are the most important crops. Oats, velvet beans, and peanuts are grown successfully.

The yields of cotton, corn, and oats are somewhat higher on this type than on the Ruston fine sandy loam. Cotton ordinarily produces one-fourth to 1 bale per acre, corn from 15 to 30 bushels, and oats from 15 to 35 bushels. The soil is easily cultivated, but washes badly where exposed on slopes unless protected by hillside terraces. Commercial fertilizers are used in moderate quantities.

This type is generally sold in connection with other soils. It has a value of \$8 to \$20 an acre.

#### CADDO VERY FINE SANDY LOAM.

The Caddo very fine sandy loam consists of a grayish very fine sandy loam, passing at 4 to 6 inches into a pale-yellow very fine sandy loam, which is underlain by a yellow, moderately friable clay. Below 25 inches a compact stratum of yellow sandy clay, mottled with gray and brown, is encountered. This type differs from the Ruston very fine sandy loam in having a yellower color, poorer drainage, and a more mottled and compact subsoil. Large bodies of this soil in the cut-over belt east and south of Glading have from 1 inch to 2 inches of dark-gray very fine sand to silt on the surface. This layer, when wet, is almost black, but on drying out assumes an ashy-gray color. Where the soil is well drained the mottling is less pronounced and the type closely approaches the Norfolk. The type as mapped includes patches of the Ruston very fine sandy loam, Ruston fine sandy loam, and the Caddo and Grenada silt loams.

This soil is typically developed in the cut-over pine lands of the southeastern section of the county. Large areas occur in the vicinity of Terry Creek Church, north and northwest of Webberville School,



east of Glading, and in the vicinity of Guy School. It occupies almost level crests of ridges and smooth, gentle slopes leading to drainage ways. The drainage ranges from fair to poor, depending upon the slope. Some of the flats on the crests of ridges are poorly drained and contain many crawfish chimneys.

Only about 5 per cent of the type is in cultivation. The greater part is cut-over land. Some of the type is still forested with virgin longleaf and shortleaf pine. Some areas of cut-over land support a scattered growth of blackjack and post oak.

Cotton, corn, sugar cane, and oats are the principal crops. The type supports a good growth of broom sedge, carpet grass, and occasionally lespedeza, and is used for pasturing sheep, goats, and beef and dairy cows. Corn produces 8 to 15 bushels, cotton from one-fourth to one-half bale, and oats from 12 to 20 bushels per acre.

The Caddo very fine sandy loam is easy to handle, but can not be cultivated under so wide a range of moisture conditions as the Ruston soils. The type has a tendency to clod if plowed when wet, and packs after heavy rains. Fertilizers containing cottonseed meal and phosphoric acid are used, generally at the rate of 150 to 250 pounds per acre.

The Caddo very fine sandy loam sells for \$3 to \$10 an acre.

Although this soil is naturally of low productiveness, it can easily be improved by careful tillage and crop rotation. Deep fall plowing and the growing of winter cover crops, such as oats or rye, are beneficial. The use of green-manuring crops, such as velvet beans, cowpeas, or soy beans, also is advantageous. Apparently peanuts could be grown profitably as a field-forage crop for hogs, and also for the manufacture of oil.

#### CADDO SILT LOAM.

The Caddo silt loam is a grayish to light-brown silt loam which passes at 3 to 5 inches into a pale-yellow silt loam. At about 8 to 12 or 14 inches this is underlain by a yellow silty clay, which at 20 to 30 inches passes into somewhat compact silty clay mottled with yellowish and grayish. Occasionally brownish concretions and concretionary material are found in the lower subsoil. In poorly drained flats the mottled, compact layer frequently lies nearer the surface, is more compact, and contains more concretions than in other places, and the soil is more grayish and the subsoil paler yellow. The subsoil is plastic when moist. This soil is similar to that mapped as the Monroe silt loam in an earlier survey of an adjoining area—Tangipahoa Parish, La.

Areas of the Caddo silt loam resemble somewhat the soil in imperfectly drained areas of the Grenada, but the soil is lighter in



color, and the subsoil is yellow to bright yellow, whereas that of the Grenada is reddish yellow to dull red. The type differs from the Hammond silt loam in having better drainage and not occupying a terrace position.

The Caddo silt loam is confined to the south-central and south-eastern parts of the county, some of the largest areas being mapped in the forks of the Amite River north of Amite River School, south and east of Tobias School, and south of Bethlehem Church. A few small areas are encountered along the Louisiana State line. The type occupies a relatively low belt of country near the larger streams and has a level to undulating topography. The drainage is fair. The level areas are inundated at times, and in these there are some poorly drained patches.

The type is inextensive, and only a very small part of it is cultivated. Most of it is cut-over or forested land; in a few places there is still a dense growth of virgin longleaf pine.

This type is used mainly for pasture. A few small tracts are cultivated, chiefly to cotton and oats. Corn gives low yields. Most of the cattle grazed are grade stock, and are fattened for slaughtering. Dairying is yet of little importance. Cotton produces one-fourth to one-half bale per acre with better yields where heavily fertilized. Corn yields 10 to 12 bushels and oats 15 to 25 bushels per acre.

The Caddo silt loam sells for \$5 to \$10 an acre, depending mainly upon improvements. Areas in virgin timber sell for a much higher price.

This type, owing to its level topography and friable structure, is easily tilled; it holds moisture moderately well and responds readily to the use of fertilizers. The soil is deficient in organic matter, which can be supplied by means of legume crops, such as cowpeas, velvet beans, and peanuts. Applications of lime are beneficial. The soil conditions seem favorable for the production of upland rice.

The following table gives the results of mechanical analyses of samples of the soil, subsurface, and subsoil of the Caddo silt loam:

*Mechanical analyses of Caddo silt loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
423729.....	Soil.....	1.5	2.0	1.5	8.8	15.4	60.4	10.4
423730.....	Subsurface.....	.7	1.6	1.2	6.3	11.3	57.2	21.5
423731.....	Subsoil.....	1.9	3.5	2.1	7.1	9.0	56.6	19.7

#### CAHABA SANDY LOAM.

The Cahaba sandy loam consists of a gray to brownish-gray or reddish-brown loamy sand to sandy loam, underlain at about 8 to



10 inches by a reddish-yellow to yellowish-red sandy clay. This grades into a reddish-brown, friable sandy clay which in most cases continues throughout the 3-foot section. In poorly drained spots the lower part of the soil section is somewhat mottled with gray and black or brown iron stains. In several areas quartz and chert gravel is scattered over the surface. Small areas of the Cahaba fine sandy loam are included.

The type occupies terraces or second bottoms. Typical areas are mapped along the East Fork of Amite River south of Wall Bridge and northwest of Oak Grove Church. The type has a patchy occurrence through the sandy section of the county. The topography is prevailingly flat. Drainage is generally well established. In places there are small depressions or drainage ways. In the depressions the underdrainage usually is not so well developed.

Only a small total area of the Cahaba sandy loam occurs in the county, but nearly all the type is under cultivation. Cotton and corn are the chief crops. Velvet beans, sugar cane, peanuts, oats, and watermelons are grown to some extent. Owing to its sandy nature the soil warms up early in the spring, and for that reason a large proportion of the type is planted to cotton. Corn and velvet beans are generally grown together, with good results. Practically all the oats, corn, velvet beans, and sorghum produced is fed to cattle or work stock on the farm.

Corn produces 12 to 30 bushels per acre, cotton from one-fourth to 1 bale, and sugar cane from 200 to 500 gallons of sirup per acre.

The soil is loose and friable, and can be cultivated under a wide range of moisture conditions. Some fields are so well drained that they can be plowed immediately after heavy rains. Some two-horse plows are used, but one-horse plows predominate. Commercial fertilizers high in nitrogen and phosphoric acid are in common use. Applications of 150 to 300 pounds per acre are generally made.

This type is valued at \$10 to \$20 an acre, depending mainly upon location and improvements.

For best results with this soil a more systematic rotation of crops is needed. Legumes, including cowpeas and velvet beans, do well and are beneficial to the soil. Peanuts also do well. The growing of winter-cover crops, such as oats and rye, is highly advantageous.

Several small areas of Kalmia sandy loam are included with this type. The Kalmia soil is not sufficiently extensive or important in this county to warrant the recognition of a distinct series. It differs from the Cahaba in having a yellow or mottled yellow, red, and gray subsoil and in being more poorly drained. The soil is a gray or brownish-gray to pale-yellow loamy sand to sandy loam, underlain at 8 to 15 inches by a yellow sandy clay subsoil, which in well-drained situations shows faint mottlings of red and brown and in poorly drained



places mottlings of gray, yellow, and drab. In the lower part of the subsoil the material is often compact and contains black and brown iron oxide concretions. In some places gravel is present on the surface. The Kalmia soil occurs near the larger streams and is formed from the washing of Coastal Plain material. There are a few small areas along Caney Creek, on the second bottom of the East Fork of Amite River north of Travis Store and northeast of Wall Bridge, and along the West Fork of Amite River north of Oak Grove Church, and about 1 mile northwest of the County Farm.

On the Kalmia soil cotton produces from one-fourth to one-half bale per acre, and corn from 12 to 18 bushels. Some sugar cane is grown. The soil is easily cultivated, but remains wet and soggy for some time after heavy rains. For its improvement, systematic drainage, the growing and turning under of legume crops, and the addition of lime are needed. This soil has a separate value of \$5 to \$10 an acre.

#### LINTONIA SILT LOAM.

The Lintonia silt loam consists of a brown silt loam, underlain at 8 to 10 inches by a dull reddish brown to chocolate-brown silty clay loam to silty clay. The subsoil is not noticeably compact or mottled. Near the foot of bluffs occupied by the Ruston gravelly sandy loam, the soil is gravelly.

This is a terrace soil found along some of the larger streams of the county. It is mapped north of Wall Bridge, north and south of Harold Bridge, and south of Oak Grove Church. The soil is generally confined to the outer margin of the terraces, where the drainage is good. A few patches occupy knolls, surrounded by the Olivier, Collins, or Vicksburg silt loam.

The Lintonia silt loam has a small total area, and for that reason is not important in the general agriculture of the county. Practically all the type, however, is in cultivation.

Cotton, corn, and oats are the principal crops, about 75 per cent of the cultivated area being devoted to the production of corn. Corn yields 15 to 30 bushels per acre, and cotton from one-fourth to 1 bale. The soil is easily handled and works up into a loose, mellow seed bed.

This type is generally held in connection with other soils. It has a value of \$15 to \$30 an acre.

#### OLIVIER SILT LOAM.

The Olivier silt loam closely resembles the Collins silt loam but differs from it in being a terrace, or second-bottom soil, while the Collins is an overflowed, first-bottom soil. The type consists of a brown, friable silt loam to a depth of 8 to 10 inches, underlain by a yellowish-brown silty clay loam to silty clay, which at a depth of 15 to 30 inches grades into a compact silty clay loam or silty



clay. This compact layer generally ranges from 6 to 18 inches in thickness and is mottled with yellow, yellowish brown, and grayish. It contains an abundance of rusty-brown or black concretions and concretionary material. When dry it is very hard, and in making a boring the material crumbles into small particles and does not adhere to the auger. Below the compact, impervious layer the gray color is less noticeable, the soil becoming buff or brownish yellow. In some of the more poorly drained areas gray mottling often occurs within 6 inches of the surface. In well-drained areas the change in color is gradual, while in poorly drained spots it is abrupt.

This soil occupies a terrace, or second-bottom position adjacent to the overflowed stream bottoms along many of the streams of the county. Some of the largest areas are in the extreme northwestern corner of the county, bordering the first bottom of the Homochitto River, and along the East and West Forks of the Amite River in the vicinity of Lindsey Bridge, at the intersection of Nelson Creek, and southwest of the County Farm. Other areas are located along Tickfaw River and Beaver Creek. The topography is prevailingly flat; in some cases slight depressions are common, while in others the type slopes gently toward the overflowed bottom land. The drainage is not so well developed as in the case of the Lintonia silt loam.

The type is not very extensive in the county but is all well suited to tillage. It is a productive soil, and about 90 per cent is in cultivation or used for hay or pasture land.

Cotton, corn, oats, sugar cane, sorghum, and lespedeza hay are the most important crops grown on this type. Some small areas used as pasture for cattle support a heavy growth of lespedeza, broom sedge, carpet grass, and other wild grasses. Nearly all the crops produced on this type, except cotton, are used on the farm. Cotton yields one-fourth to three-fourths bale per acre in favorable seasons, corn from 15 to 25 bushels, oats 15 to 30 bushels, and sugar cane from 200 to 400 gallons of sirup.

The soil is generally tilled with a one-horse plow and is easily cultivated. If plowed when too wet it forms clods, but these are easily pulverized on drying. Where plowed under proper moisture conditions the soil works up into a loose, mellow seed bed. Some commercial fertilizer is used, the applications ranging from 150 to 300 pounds per acre. It consists generally of an equal mixture of cottonseed meal and acid phosphate.

Farms located on this type sell for \$10 to \$20 an acre, depending chiefly upon their location and improvements.

For best results on the Olivier silt loam the depth of plowing should be increased, and winter oats and rye grown. The growing



of velvet beans with corn gives good results. Artificial drainage is needed, and applications of 1 ton to 2 tons of crushed limestone per acre are beneficial.

#### HAMMOND SILT LOAM.

The Hammond silt loam consists of a gray to pale yellowish gray silt loam, underlain at 6 to 10 inches by a pale-yellow silty clay, which passes quickly into plastic clay mottled with yellow and gray. The lower subsoil usually is compact, and gray or bluish gray in color. Typically few concretions are found in the soil, but the lower part of the subsoil contains considerable black concretionary material. There are included patches where the gray mottling appears near the surface, and in these places concretions are abundant on the surface. The Hammond silt loam has the local name "crawfish land." Small patches of the Olivier silt loam are included with the type as mapped.

The Hammond silt loam occupies a terrace or benchlike position adjacent to some of the largest streams in the county, being typically developed on the second bottom of the East Fork of the Amite River three-fourths mile west of Lindsey Bridge, south of Mt. Zion Church, and northwest of Travis Bridge and along Tickfaw River north of Gillsburg. The topography is prevailingly flat, and the drainage is poor, especially in slight depressions.

The type has a small total area, and only about 10 per cent of it is under cultivation. Cotton, corn, and oats are practically the only crops grown, the largest acreage being in fall-planted oats. The greater part of the type supports a dense growth of lespedeza, broom sedge, carpet grass, and other wild grasses, and is used for pasture. Considerable lespedeza hay is cut. Most of the stock grazed on this type consists of grade beef cattle.

Cotton yields from one-fourth to three-fourths bale per acre, corn from 10 to 20 bushels, and oats from 15 to 35 bushels. Lespedeza frequently yields from 1 ton to 2 tons per acre.

The soil is easily cultivated. The land is generally given a shallow plowing with a one-horse plow. Where oats are to be planted, it is generally broken broadcast; in other cases the rows are bedded up. Commercial fertilizers are used to a small extent.

Land of this type sells for \$5 to \$12 an acre, depending upon drainage and location.

For best results in farming the Hammond silt loam it is necessary to improve the drainage, either by open ditches or tile drains, deep enough to reach below the compact substratum. The type should be plowed in the fall and planted to some cover crop such as oats or rye. All this type, according to litmus-paper tests, is acid, and applications of 1 ton to 3 tons of crushed limestone per acre are very bene-



ficial. In the vicinity of Hammond, La., about 40 miles south of Amite County, large quantities of strawberries are produced on soil of this type, and the industry should prove profitable in this county.

#### VICKSBURG SILT LOAM.

The Vicksburg silt loam is a brown silt loam which either shows but little change in the 3-foot section, aside from a slight change in the shade of brown, or passes into light-brown or yellowish-brown silty clay loam or silty clay. In places near the foot of the uplands the subsoil has a slightly reddish tinge. Also, in the poorly drained situations, where the type grades toward the Collins silt loam, there is frequently some rusty-brown mottling and occasionally a little grayish mottling below about 30 inches. A few poorly drained spots of the Collins silt loam are included with this type. In the immediate vicinity of some of the large stream channels a thin deposit of loessial material or river wash is deposited over the brown silt loam.

The type is alluvial and is subject to overflow. It is found along most of the large streams in the county. Typical areas are mapped along the East and West Forks of the Amite River at Wall Bridge and Travis Bridge and west of Robinson, and in the first bottoms of Tickfaw River, and Beaver, Old Centerville, and other creeks. The topography is prevailingly flat, though areas of billowy surface exist. In general the drainage is well developed.

The Vicksburg silt loam is the most important first-bottom type in the county. It occupies rather extensive areas, and about 75 per cent of the total area is under cultivation or used for pasture.

Corn is the most important crop, closely followed by oats, cotton, lespedeza, and velvet beans. Cotton was the most important crop prior to the advent of the boll weevil, when the crop was largely discontinued in the lowlands, because the soil can not be cultivated as early as the sandy uplands and the maturing of the bolls is correspondingly late. In the southwestern corner of the county several small areas are in truck crops, mainly beans, tomatoes, and Irish potatoes.

Pastures on the Vicksburg silt loam support a dense growth of lespedeza, carpet grass, broom sedge, and other wild grasses. Cane grows thickly along many of the stream channels. Beef cattle and dairy cows are grazed on this type. The dairy industry is in its infancy at present, but promises to develop considerably.

Corn produces 15 to 40 bushels per acre. Cotton, before the boll weevil reached the county, frequently produced a bale per acre. The yields are now considerably lower. Oats produce from 15 to 35 bushels per acre. Yields of three-fourths ton to 2 tons per acre of lespedeza hay are obtained. Velvet beans make a good growth on this type, producing a ton or more of beans per acre.



The soil is easily cultivated, breaking up into a loose, mellow seed bed. The one-horse plow is in general use, although modern farm implements are being introduced rapidly. Very little, if any, commercial fertilizer is used on this type.

The Vicksburg silt loam sells for \$10 to \$25 an acre, depending upon the danger of overflow, location with regard to markets, and improvements.

There is a general need for deeper plowing on this type. The growing of velvet beans between the corn rows is a good practice. Steps to protect the land from overflow should be taken. Keeping the stream channels clear of obstruction would materially improve the conditions, as regards damage to crops by floods.

#### COLLINS SILT LOAM.

The typical Collins silt loam is a brown silt loam, passing into mottled yellowish and grayish or bluish-gray silty loam to silty clay. This becomes quite compact at about 20 to 28 inches and contains small brown and dark-brown or black concretions. Frequently the upper subsoil is a yellowish-brown silty clay loam or silty clay. Small concretions are common throughout the entire soil section. As mapped the type includes patches of the Vicksburg and Waverly silt loams.

The type occupies first bottoms and usually is more poorly drained than the Vicksburg silt loam, often being found along the outer edge of the bottom, with a strip of Vicksburg between it and the stream banks. Typical areas are mapped along the first bottoms of both the East and West Forks of the Amite River, along Cuba Creek, and along Nelson, Hurricane, Beaver, and other creeks through the county. The topography is prevailingly flat, and in some instances depressed.

The Collins silt loam is considered an important bottom-land type in the county. About 25 per cent of its total area is under cultivation or used for pasture, the remainder being covered with a forest growth consisting of beech, swamp maple, and pine, water and willow oak, magnolia, and ironwood, with some bay and switch cane and an undergrowth of star anise, yellow jessamine, and blackberry.

About the same crops are grown, the same system of farming is practiced, and the same disposition of the crops is made as on the Vicksburg silt loam. The type is specially suited to corn, lespedeza, and lowland rice. Crop yields are somewhat lower than on the Vicksburg silt loam, and owing to its tendency to pack in wet weather the Collins silt loam is somewhat more difficult to cultivate. Very little, if any, commercial fertilizer is used.

This type sells for \$8 to \$20 an acre.



On this soil there is a general need for deeper plowing, the growing of winter cover crops, the application of lime, and the improvement of drainage. The growing of velvet beans with the corn crop is beneficial. The canebreaks could be used advantageously for winter pasture.

The following table gives the results of mechanical analyses of samples of the soil and subsoil of the Collins silt loam:

*Mechanical analyses of Collins silt loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
423703.....	Soil.....	0.4	0.7	0.7	2.7	5.3	69.1	21.3
423704.....	Subsoil.....	1.8	3.1	1.7	4.3	4.9	64.9	19.4

#### WAVERLY SILT LOAM.

The soil of the Waverly silt loam, to a depth of 6 to 8 inches, consists of a grayish or mottled brown, grayish, and rusty-brown silt loam. Below this a whitish, grayish, or mottled grayish, yellowish, and rusty-brown silt loam is encountered, and this passes at about 18 inches into whitish or bluish-gray, compact, impervious silty clay. Below 30 to 36 inches the whitish color is less prominent in places and a mottled yellowish and grayish silty clay is found. In depressed areas the whitish, impervious layer is nearer the surface than in the better drained areas.

There is included with this type small areas, lying at the foot of sandy bluffs, having a sandy surface. There are occasionally small spots which have a bluish-white surface and are locally called "bald spots" or "salt spots." Areas of this kind are covered with pebbly concretions, are very acid, and support little or no vegetation.

The Waverly silt loam generally occupies the outer edge of overflowed bottoms adjoining the uplands, with areas of the Collins or Vicksburg silt loam between it and the stream banks. Typical areas occur in the northwestern corner of the county along the Homochitto River and along the Amite River in the vicinity of Travis Bridge, Lambert Bros. mill, and west of the county farm. The topography is flat to depressed, and the drainage is poor. Some areas at the foot of bluffs are seepy and water-logged.

The Waverly silt loam, owing to its comparatively low productivity and small area, is not considered an important type. Only about 5 per cent of it is under cultivation. Rice, corn, oats, and sugar cane are about the only crops grown. Much of the type supports a good growth of lespedeza, carpet grass, and other grasses, and is used for pasture. The greater part is forested with swamp pine, maple, beech,



bay, and magnolia, with a dense growth of star anise and other water-loving bushes. Rice does well, but the yields of corn and oats are very low. The type can be worked only within a narrow range of moisture conditions, and bakes and packs if cultivated when too wet.

Land of this character sells for \$3 to \$8 an acre.

For the improvement of the Waverly silt loam the first requisite is drainage, which, owing to the impervious nature of the subsoil, is somewhat difficult. The application of about 1 ton to 3 tons of crushed limestone per acre after drainage has been established is needed. Present conditions, however, do not seem to warrant the reclamation of this type, as there is a considerable acreage of unused and more productive land in the county. It affords some pasturage in its native state.

#### OCHLOCKONEE FINE SANDY LOAM.

The Ochlockonee fine sandy loam, to a depth of 10 to 12 inches, typically is a light-brown fine sandy loam to loamy fine sand, having a comparatively open structure. This is underlain by a light-brown to yellowish loam or silty clay loam, including numerous strata of materials of different textures. The lower subsoil in many places is mottled with gray, and brown and black iron oxide concretions are of common occurrence.

The type as mapped along the Homochitto River and Foster Creek consists of a brownish-yellow, loose, incoherent sand to a depth of 20 to 25 inches. Similar areas are mapped as Riverwash in Wilkinson County, which adjoins Amite County, but owing to the small extent of the material in Amite County it is included with the Ochlockonee fine sandy loam. The type also includes a few areas in which the surface soil consists of 3 or 4 inches of loam or fine sandy loam, grading into the typical brown silt loam of the Vicksburg. Areas of this kind are not uniform; where the sand predominates they are mapped as Ochlockonee, and where the silt predominates they are classed with the Vicksburg.

The Ochlockonee fine sandy loam is typically developed along Hominy Creek in the vicinity of Dickey Water Mill, along the East Fork of the Amite River south of Bates Mill Bridge, and along many smaller streams throughout the county. It occupies a first-bottom position, and is subject to frequent overflows. The surface is generally flat; in places it is hummocky as a result of severe water action during overflows. The drainage ranges from good to poor, depending largely upon the depth of the stream channel.

This type is not extensive, and only about 25 per cent of it is cultivated. Corn, cotton, and oats are practically the only crops grown. Corn produces 12 to 30 bushels per acre, cotton from one-fourth to three-fourths bale, and oats from 15 to 25 bushels. A



large part of the type supports a growth of swamp pine, water oak, magnolia, beech, bay, and willow. Where the timber has been removed there is a good growth of water-loving grasses, switch cane, and lespedeza. Beef and dairy cattle are grazed, wintering without extra feed on the switch cane and various evergreen vines and bushes.

The soil is loose and friable, and is easily cultivated. It warms up somewhat earlier in the spring than the Vicksburg, Collins, or Waverly soils. No commercial fertilizer is used.

The Ochlockonee fine sandy loam sells for \$5 to \$20 an acre, depending on the danger of overflow, whether cleared or in timber, and location.

For the improvement of this type artificial drainage is necessary. The incorporation of vegetable matter, as by growing and turning under velvet beans and cowpeas, is needed.

#### SUMMARY.

Amite County is located in the southwestern corner of Mississippi. It has a total area of 714 square miles, or 456,960 acres.

The topography is prevailingly rolling; it varies from almost level to hilly, and the northwestern corner of the county, known as the Homochitto Hill section, is badly dissected and gullied. The general slope is toward the south. The elevation of the county ranges from 135 to 500 feet, the greater part lying between 200 and 450 feet above sea level. The county is drained mainly by the East Fork and West Fork of the Amite River, the Homochitto River, Tickfaw River, and Beaver Creek with their tributaries. The streams have comparatively wide, first bottoms and broad terraces, or second bottoms. The surface drainage throughout the county is generally good.

Amite County, according to the 1910 census, has a population of 22,954. The entire population is classed as rural. By far the greater part is engaged in agricultural pursuits. The largest town is Gloster, with a population of about 1,500 in 1910. Liberty is the county seat. About 10 per cent of the present population is colored. In general the county roads are fair. Road improvement is receiving increasing attention.

New Orleans, Memphis, St. Louis, Chicago, Natchez, Jackson, and McComb, and Norwood, La., are the principal markets.

The climate of Amite County is mild and healthful. The mean annual temperature is about 66° F., and the mean annual precipitation about 62 inches. There is a normal growing season of 235 days.

The agriculture of Amite County consists of the production of general farm crops, mainly corn, cotton, oats, and hay, together with cowpeas, soy beans, velvet beans, sugar cane, watermelons, sorghum, and sweet and Irish potatoes, and various truck crops, such as tomatoes, string beans, cabbage, English peas, and peppers. The graz-



ing and feeding of beef cattle, and some dairy cattle, sheep, and hogs are important industries.

There are a number of modern farm houses in the county, but the houses as a rule are small. The barns are small, but suitable for housing the work stock and storing feed. The farm machinery consists mainly of one-horse plows and cultivators, although improved implements are being introduced. The work stock consists of light-weight horses and mules.

No systematic rotation of crops is practiced, cotton or corn being grown in the same fields year after year. Large quantities of commercial fertilizers are used, principally on the sandy and silty up-land types. Most of the farmers employ colored labor, as a fair supply is available.

The size of the farms ranges from a few acres to several thousand acres. The average size is reported in the 1910 census as 89.9 acres, each tenancy being counted as a farm. Farm lands vary in price from \$3 to \$20 or \$30 an acre, the assessed valuation being given in the 1910 census as \$7.93. The average value of all property per farm is given as \$1,432. In the 1910 census 67.1 per cent of the area of the county is reported in farms, with a total of 3,412 farms. Of the farm land 47.2 per cent, or an average of 42.5 acres per farm, is reported improved.

Amite County comprises a part of the brown loam or loessial belt to the west and a part of the area of the Grand Gulf sands and clays of the Coastal Plain region to the east. The loessial soils predominate. In the eastern part of the county the soils are sandy, being derived from the weathering of Coastal Plain sands and clays.

Seventeen soil types, classed with 14 soil series, are mapped in Amite County. The loessial soils give rise to the Memphis, Grenada, Lexington, Lintonia, Olivier, Hammond, Vicksburg, Collins, and Waverly series, while the Coastal Plain deposits give rise to the Ruston, Orangeburg, Caddo, Cahaba, and Ochlockonee series.

The Ruston fine sandy loam is by far the most extensive type mapped, and the most important farming soil in the county. It is well suited to the production of cotton, corn, oats, hay, velvet beans, watermelons, sugar cane, and truck and market-garden crops.

The soils of this county compare favorably with those of any of the other counties in southern Mississippi, Louisiana, or Alabama. With proper treatment they are capable of being built up to a high state of productiveness and offer good opportunities for stock raising, dairying, trucking, market gardening, and poultry raising in connection with general farming. The county has thousands of acres of idle cut-over pine lands that can be bought for \$3 to \$8 an acre. With clearing these lands can be converted into productive farms.





LEGEND

Ruston glovely sandy loam	Collins silt loam
Ruston fine sandy loam	Lahoma silt loam
Ruston very fine sandy loam	Obion silt loam
Caddo very fine sandy loam	Hammond silt loam
Caddo silt loam	Waverly silt loam
Grenada silt loam	Cahaba sandy loam
Lexington silt loam	Ocala fine sandy loam
Memphis silt loam	Orangeburg fine sandy loam
Vicksburg silt loam	

CONVENTIONAL  
SIGNS

CULTURE  
(Printed in black)

City or Village, Roads, Buildings, Wharves, Jetties, Breakwaters, Levees, Lightships, Port	Railroads, Steam and Electric
Secondary roads and Trails	Railroad Trestle
Bridges, Ferry	Railroad Tunnel
Ford, Dam	School or Church, Cemeteries
Mine or Quarry, Rock cutting and Made land	Shift Re-arrangement Rock cutting and Triangulation station
Stock and Gravelly areas	Soil boundaries
Boundary lines	LAND SURVEY CITY OR VILLAGE
Boundary lines	Boundary lines
Boundary lines	U.S. township and section lines

RELIEF  
(Printed in brown or black)

Contours	Document Hills Mountain Peaks
Depression contours	
Sand Wash and Sand dunes	Shore and Low-water line Sandbar

DRAINAGE  
(Printed in blue)

Streams	Lakes, Ponds, Intermittent lakes
Intermittent streams	Swamps, Canals and Trenches, Flumes
Swamp, Salt marshes	Submerged marsh Tidal flats



[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."

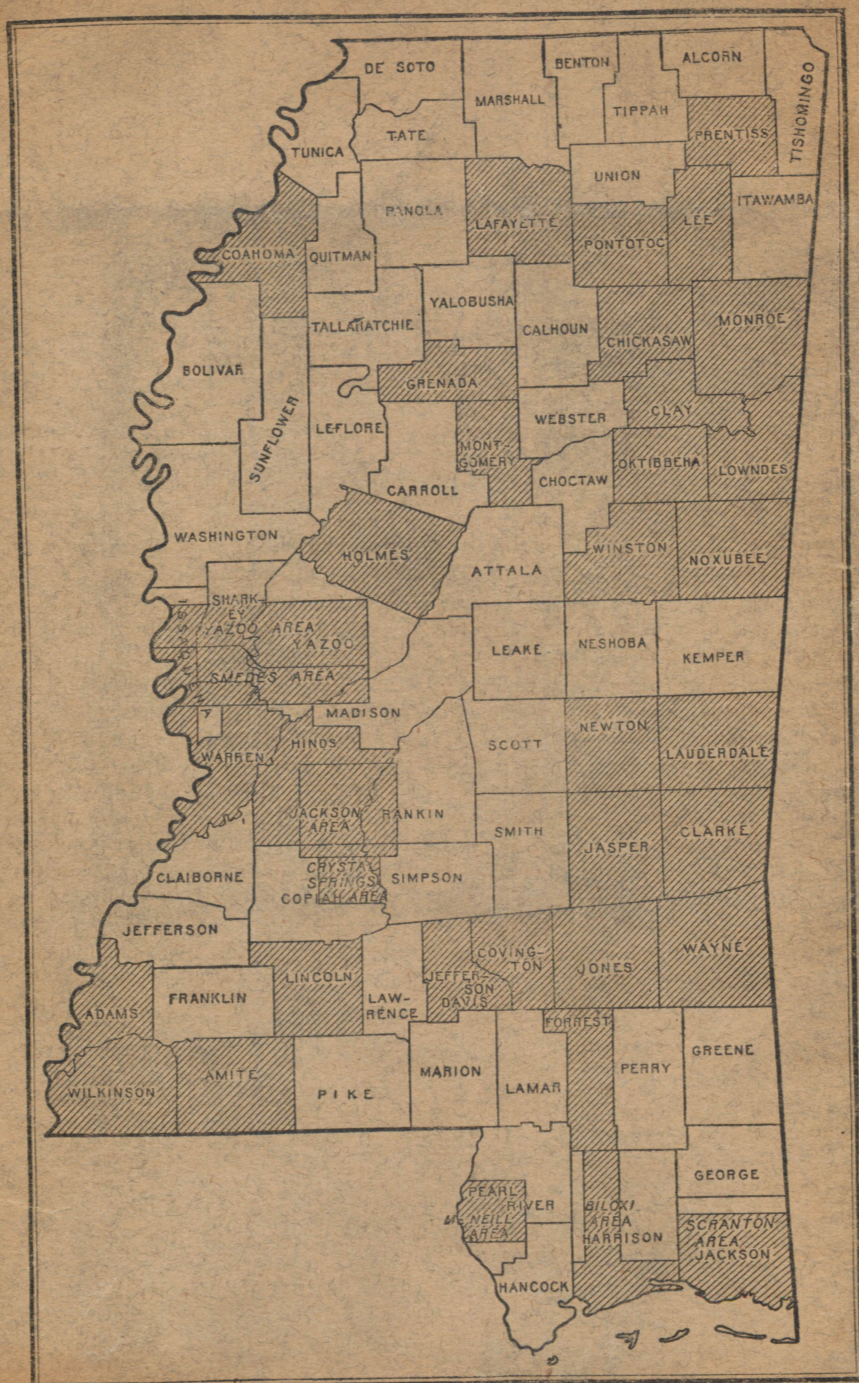
*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That public resolution numbered eight, Fifty-sixth Congress, second session, approved February twenty-third, nineteen hundred and one, be amended by striking out all after the resolving clause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





Areas surveyed in Mississippi.