

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF CHEMISTRY AND SOILS
In Cooperation with the Georgia State College of Agriculture

SOIL SURVEY
LAMAR COUNTY, GEORGIA

BY

S. O. PERKINS, in Charge
F. A. HAYES, A. M. O'NEAL, Jr., and C. E. DEARDORFF



Beginning with the 1923 Series, Soil Survey Reports will be issued separately. These reports of the individual areas will be sent to libraries as soon as they are available and should be filed, preserved, and ultimately bound to take the place of the bound volumes of the Field Operations which have previously been supplied by the department. The reports for each year will be consecutively numbered, the last report for a particular year bearing the conspicuous notice: "This number is the final and last Soil Survey Report for the Year 192-."



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON

1928

BUREAU OF CHEMISTRY AND SOILS

HENRY G. KNIGHT, *Chief*
A. G. MCCALL, *Chief, Soil Investigations*

SOIL SURVEY

CURTIS F. MARBUT, *in Charge*
W. E. HEARN, *Inspector, District 2*

COOPERATION

GEORGIA STATE COLLEGE OF AGRICULTURE
ANDREW M. SOULE, *President*
L. M. CARTER, *Head, Division Agricultural Chemistry*

CONTENTS

	Page
County surveyed.....	1
Climate.....	2
Agriculture.....	3
Soils.....	6
Cecil sandy loam.....	10
Cecil sandy clay loam.....	11
Cecil clay loam.....	12
Cecil gravelly sandy loam.....	14
Davidson clay loam.....	15
Appling sandy loam.....	16
Madison gravelly sandy loam.....	17
Congaree fine sandy loam.....	18
Congaree silty clay loam.....	19
Edgemont stony loam.....	20
Meadow (Congaree material).....	20
Summary.....	21

SOIL SURVEY OF LAMAR COUNTY, GEORGIA

By S. O. PERKINS, in Charge, F. A. HAYES, A. M. O'NEAL, jr., and C. E. DEARDORFF

COUNTY SURVEYED

Lamar County is in the central part of Georgia, a little northwest of the geographic center of the State. Barnesville, the county seat, is slightly south of the center of the county, 56 miles south of Atlanta and 38 miles northwest of Macon. The county is about 17½ miles long at its eastern border and averages about 12 miles in width. It comprises an area of 182 square miles, or 116,480 acres.

Lamar County is in the southern part of the piedmont plateau region, not far from the boundary of the coastal plain. The relief is typical of that prevailing on the piedmont plateau which consists of a rolling, dissected plain, the original surface of which is shown by an even sky line. The surface relief varies in different parts of the county from rolling and gently rolling to broken and hilly. A few undulating areas occur on the higher parts of some of the smoother divides. Hog Mountain, near Barnesville, and a high ridge in the southwestern part of the county are the only marked prominences. The present relief is the product of erosion. The area is thoroughly dissected, the watersheds being narrow and the slopes generally rather steep. The relief does not prevent the use of improved machinery, except on a small proportion of the land in the county. Narrow strips of alluvial lands, characterized by smooth level surfaces, occur along the streams. The streams in the rolling or hilly section have cut down more than 100 feet below the ridges.

The upland part of the county is thoroughly drained through the numerous streams, creeks, and ravines which ramify all parts, so that each farm is directly connected with a natural drainage system. All the streams east of the Central of Georgia Railway drain into Ocmulgee River, and west of the same railway drainage is into Flint River. The largest streams are Big Potato Creek and Little Potato Creek, which with their tributaries drain the western side of the county. The eastern part is drained by small creeks and branches, the largest of which is Little Towaliga River.

In 1921 Lamar County was organized from land cut off from Pike and Monroe Counties. At the time the original counties were formed



FIG. 1.—Sketch map showing location of Lamar County, Ga.

the territory was divided into land lots of 202½ acres, and these were distributed to settlers under a lottery system. The early settlers were Virginians and Carolinians, most of whom had settled in other parts of Georgia.

The estimated population of Lamar County, when organized, was about 12,000. The population is distributed fairly evenly over the county, the most thickly settled areas being around Barnesville and Milner.

Barnesville, the county seat and most important town, has a population of 3,059. Gordon Institute and an agricultural and mechanical college¹ are located at this place. Milner, with a population of 407, is the only other town in Lamar County.

Good transportation facilities are supplied by the main line of the Central of Georgia Railway, by the Thomaston branch of the same railway, and by the Fort Valley branch of the Southern Railway. The Central of Georgia Railway runs the entire length of the county. From the Spalding County line it runs in a southerly direction until it reaches Barnesville, then in an easterly direction out of the county; the Thomaston branch runs south from Barnesville to the southern county line. The Fort Valley branch of the Southern Railway serves the southwestern part of the county, Piedmont being the principal stop.

Most of the public roads in the county have been graded and are kept in good repair during dry weather. With the exception of the main highways, all the roads are narrow. Three highways enter Barnesville. The Dixie Highway is paved across the county, but many of the roads become deeply cut during winter and are almost impassable.

Telephone lines connect the main trading points, and rural mail service covers the entire county.

The price of land ranges from \$10 an acre in the most undeveloped sections of the county to \$100 an acre for improved land in good locations; the average selling price is about \$50 an acre.

CLIMATE

The climate of the general region in which Lamar County lies is characterized by short, open winters, long summers, and an abundant rainfall well distributed throughout the growing season.

January, February, and March are the most disagreeable months, owing to the wide variation in temperature. The temperature sometimes falls as low as 6° F., and the cold is very penetrating. Cold spells are usually short, followed by warm, pleasant days, then by rain and renewed cold. A number of hot spells, broken, as a rule, by thunderstorms, usually occur in the summer. The mean summer temperature is 78.4° F., the minimum recorded for the summer is 49°, and the maximum is 102°.

Six months of the year, from November to April inclusive, the prevailing wind is from the northwest; from May to August it is from the south, and during September and October it is from the northeast.

¹ Sixth District Agricultural School. Patterson's American Educational Directory, 1926.

The average date of the last killing frost is March 25 and that of the first is November 12. This gives an average frost-free season of 231 days. Killing frost has occurred as late as April 14 and as early as October 24.

The lightest rainfall occurs in the fall and is favorable for the harvesting of crops. During the driest year on record (1921) the rainfall was 37.53 inches and during the wettest year (1920) was 61.19 inches.

The following table is compiled from the records of the Weather Bureau station located at Fairview.

Normal monthly, seasonal, and annual temperature and precipitation at Fairview

[Elevation, 400 feet]

Month	Temperature			Precipitation		
	Mean	Absolute maximum	Absolute minimum	Mean	Total amount for the driest year (1921)	Total amount for the wettest year (1920)
	° F.	° F.	° F.	Inches	Inches	Inches
December.....	48.2	74	12	4.29	1.82	4.57
January.....	46.8	76	7	4.71	3.40	5.45
February.....	48.6	81	6	4.61	5.21	3.71
Winter.....	47.9	81	6	13.61	10.43	13.73
March.....	56.1	84	22	5.52	1.18	12.87
April.....	62.6	91	30	3.93	2.57	6.25
May.....	69.5	99	40	4.15	3.44	5.61
Spring.....	62.7	99	22	13.60	7.19	24.73
June.....	78.0	101	49	3.01	1.28	2.05
July.....	78.7	102	55	7.14	6.03	6.15
August.....	78.4	100	54	3.87	4.05	5.81
Summer.....	78.4	102	49	14.02	11.37	14.01
September.....	73.6	98	42	3.32	2.51	4.62
October.....	64.2	95	30	2.19	2.23	6.99
November.....	54.0	83	23	2.39	3.80	3.11
Fall.....	63.9	98	23	7.90	8.54	8.72
Year.....	63.2	102	6	49.13	37.53	61.19

AGRICULTURE

The agricultural development of Lamar County is similar to that of other piedmont counties of the State. The land was originally covered with a heavy growth of hardwoods, chiefly oaks and hickory, mixed with shortleaf pine and a few scattered long-leaf yellow pine. At present little of the original forest remains, the existing forest being principally second growth and consisting of old-field or loblolly pine and scattered stands of oak and hickory. The early settlers produced such subsistence crops as corn, wheat, and buckwheat, with a little cotton on the cleared areas; cattle, hogs, and sheep were raised on the open range, both as a source of meat and for trading purposes. Savannah was the first outside market.

Cotton gradually increased in importance until the close of the Civil War, when the demand for cash crops became so great that

it was produced almost to the exclusion of other crops. The production of staple farm crops was insufficient to meet local requirements, and wheat, corn, oats, hay, pork, and beef were shipped into the county. This condition prevails at present, though the ravages of the boll weevil have emphasized the advantages of a diversified system of farming, and a more favorable attitude toward the production of subsistence crops has grown up among the farmers. Nevertheless, even now very few farmers produce enough subsistence crops to supply their own needs. The acreage of the staple crops other than cotton will have to be greatly increased before a surplus will be produced.

Agriculture, at present, consists chiefly of the production of cotton, the cash crop. Upon its success or failure depend the prosperity of commercial interests, the price of land, and, indirectly, all the interests of the farmers. Cotton is grown on every farm, and almost exclusively on some farms.

Lamar County was formed after the 1920 census, but according to the 1925 farm census, cotton occupied, in 1924, 11,105 acres and yielded 4,383 bales, or an average of nearly two-fifths bale to the acre. Most of the cotton is shipped to markets in Macon, Atlanta, and Savannah.

Corn is grown on a slightly larger acreage than cotton. In 1924 this crop was grown on 11,668 acres and yielded 116,404 bushels, or an average of 10 bushels to the acre. The low average yield of corn is explained by the fact that most of the tenants and many of the other farmers give this crop very little attention. The poorest land of the farm is usually selected for corn, little fertilizer is used, and cultivation is not so thorough as is that given to cotton. Yields as high as 80 bushels to the acre have been produced on prize lots.

Oats rank next in importance. According to the 1925 farm census the 379 acres sown to oats produced 6,306 bushels, an average of 16.6 bushels to the acre. The crop is all used locally, most of it being fed in the straw.

Wheat is grown to a small extent. In 1924 the 546 acres grown produced 5,378 bushels, an average of nearly 10 bushels to the acre. The wheat is all used on the farms, being ground for flour in local mills. Rye is not grown extensively but is sown in small patches and used for winter pasture.

Cowpeas are grown mainly for hay, although they are also planted in corn rows and used for soil improvement. Much of the seed is gathered for feed and for planting. A few velvet beans are grown, and a few small patches of alfalfa have been grown in an experimental way.

There are several large pecan groves in the county. In 1924 there were 13,026 bearing trees and 19,975 young trees. Pecans constitute a cash crop and more farmers are setting out groves, especially since the appearance of the boll weevil has rendered cotton an undependable crop.

Pork and beef products are not sufficient to supply the local needs. In 1924 the total number of hogs in the county was 2,737 and the total number of cattle 2,317. Growing interest is being taken in the improvement of livestock, especially hogs, as is shown by the presence of a number of purebred sires of the Duroc-Jersey, Hampshire, Berkshire, and Poland China breeds. Cattle are also being im-

proved by the use of purebred sires of the Shorthorn, Aberdeen-Angus, and Hereford breeds. There are a few Holstein and Jersey cattle in the county. Bermuda-grass pastures are generally depended upon for summer subsistence of cattle, and mixed cowpeas and sorghum, corn stover, and cottonseed hulls constitute the greater part of the roughage in the winter ration.

Farmers generally recognize that the different soils of the county require different methods of management. They also recognize natural adaptations of the soils to crops but are unable to carry out a consistent plan of soil utilization on account of the one-crop system now used. The bottom lands or alluvial soils are generally used for corn. Cotton on these soils produces a rank growth and is more likely to suffer injury from frosts than on the uplands. Davidson clay loam is generally considered the strongest and most productive upland soil. Its chief use in this county is for the production of peaches, but wheat, clover, and alfalfa also thrive on it. Cecil clay loam is regarded as a strong soil for general crops and is considered nearly as productive as Davidson clay loam. Cecil sandy loam can be managed with greater ease than the heavier soils and is used for special crops in addition to the general farm crops. Cecil sandy clay loam, an intermediate type of soil, is a good all-round soil. Farmers are aware that the heavier soils need more rain than do the sandier ones.

Improved implements are fast taking the place of light farming implements, such as one-horse plows, scrapes, and sweeps which are still in common use, especially by the tenants engaged in cotton farming. On the better farms, especially where attention is paid to grain production, such implements as two-horse plows, cultivators, and other improved machinery are used.

Work animals are almost all mules. A few tractors are in use.

For cotton it is desirable to break the land in the fall, but sometimes when cotton picking is delayed, breaking has to be postponed until winter or early spring. In the spring the land is generally worked into beds with centers from 3 to 4½ feet apart, and the fertilizer is distributed in the beds. Some farmers no longer bed the land, but practice level culture. Cotton is planted from early April to the middle of May and is cultivated in the usual way. Cleveland Big Boll is the most popular variety, but Toole, Hastings, Russell, and Cook's Improved are also planted extensively.

Land devoted to corn does not receive so much attention as land used for cotton. The corn land is usually bedded with a one-horse plow and the seed is dropped in the water furrows. The distance between the corn rows is, in general, governed by the fertility of the land, the rows being closer together on the more productive land. Corn planting begins in the latter part of March and continues to the last of June. The blades are pulled for fodder about the middle of August, and the ears are harvested at any time after the grain is thoroughly matured. The prolific varieties, such as Marlboro, Hastings Prolific, and Whatleys Prolific are commonly grown.

In sowing oats, the seed is broadcast and plowed under or the land is plowed and the seed drilled in. A common method is to drill the oats between the cotton rows. Seeding is usually done as early in the fall as possible. Fulghum is the most popular variety, and Appler, Bancroft, and Red Rustproof (Red Texas) are also grown.

Wheat is generally seeded with the grain drill on well-prepared land.

Cowpeas sown for hay are broadcast and plowed under. They are sometimes planted in the cornfields about the time of the last cultivation, for the purpose of improving the land or for hog and cattle forage. The Whippoorwill, Crowder, Brabham, Iron, Buck-eye, and Unknown are the common varieties.

Pecan groves are set out at any time between November and January. The nurserymen plant the seed in fertile soil in order to get a good stock. The stock is then budded or grafted with the different varieties. The most popular varieties are the Mobile, Stuart, Schley, and Teche. Considerable interest in putting out more groves of pecans and in the selection of disease-resistant varieties is manifest.

No systematic crop rotation is followed. Some fields are planted to cotton for several successive years. The rotation practiced by a few farmers consists of cotton, corn, and a small grain followed the same year by cowpeas for hay.

Commercial fertilizers are largely depended upon for the production of crops and are used on all the soils except the Congaree types. The expenditure for fertilizers (including lime) in 1924 was \$73,395, an average of \$110.37 for the 665 farms reporting their use. The acre application for cotton throughout the county varies from 200 to 400 pounds of a 9-3-3² mixture. Some farmers use a higher grade. As a rule all the fertilizer used is applied at planting time. Fertilizer is not commonly applied to oats, except possibly in the spring when nitrate of soda is sometimes used as a top-dressing. Cotton and corn each receive a little nitrate of soda as a side-dressing.

In 1924, expenditure for farm labor in Lamar County averaged \$242.86 to the farm. Farm labor is largely drawn from the negro population and at present is adequate for all needs. Day labor for ordinary farm work is paid \$1.50 to \$2 a day. The standard rate for picking cotton is from 75 cents to \$1.50 a hundred pounds, depending upon conditions in the particular fields.

From the preliminary report of the 1925 farm census of Lamar County the total number of farms was 756, of which 431 were operated by white farmers and 325 by colored. Out of the total number, 307 farms were operated by owners, 15 by managers, and 434 by tenants. Most of the tenant farmers rent for cash or a standard rent in cotton. One thousand pounds of lint cotton is the standard rental for a one-horse farm containing from 25 to 40 acres. Under the share-rent system, the landowner furnishes the work animals, implements, and one-half of the fertilizer and seed, and the crops are divided equally between the landowner and tenant.

SOILS

The soils of Lamar County are similar to those developed throughout the smoother parts of the piedmont plateau of Georgia. They are light colored, that is, they range from light gray or almost white to red in the surface layers. The light color is due to the lack of

² Percentages, respectively, of phosphoric acid, ammonia, and potash.

organic matter, whereas the red color is due to the oxidation of the iron-bearing minerals in the soil.

These soils contain very little organic matter, as the region was covered with forest until it was reclaimed for agricultural purposes. There has been no opportunity for the accumulation of organic matter in the soils as in the prairie regions of the West where grasses grew and died for untold centuries. The small amount of organic matter present in the surface soil in virgin areas quickly disappears when the soil is cultivated.

Only a very small percentage of lime is contained in these soils, although the rocks from which they are derived contain calcium. No lime carbonate is present, either as accumulated carbonate or as carbonate derived from the parent material. The upper part of the soil may be rather well oxidized and leached of carbonates. The feldspathic and ferromagnesian minerals are commonly present in all stages of decomposition. The degree of decomposition decreases downward until the unchanged parent material is reached.

The upland soils of the county, with the exception of small areas on some of the steep slopes and the rocky, gravelly broken ridges, have well-defined profiles, showing a series of layers, or horizons, which differ in texture and structure, as well as in color. The color differences are given in subsequent pages of this report in the description of the several types of soil. These color differences are not readily differentiated by any instrumental means, but must be described in ordinary terms. The differences in texture, however, can be determined by means of instruments, and hence much more accurately than by sense impression.

The most striking features of the texture profiles of the well-developed soils in the county are (1) a comparatively light-textured surface layer, or horizon, (2) a deeper layer, or horizon, which consists of material heavier in texture, in many places much heavier, than that of the surface layer, and (3) a still deeper layer consisting of comparatively light-textured material. The thickness of these layers varies widely. The surface layer ranges from a very few inches in the clay loams to a maximum of about 12 inches in the most sandy soils.

The well-developed soils include the members of the Cecil, Appling, Madison, and Davidson series. In uncultivated or virgin areas these soils are marked by a color profile which may be described, from the surface downward, about as follows: (1) A dark-colored layer containing organic matter, which varies in thickness from a mere film, in the heavier soils, to about 3 inches, in the sandy soils; (2) pale-yellow or grayish-yellow material which shows very little evidence of the presence of organic matter; and (3) material ranging in color from yellowish red to dark red. The substratum may be reddish, yellowish, or mottled with yellow, red, and purple.

Where the mineral material in the top or surface layer consists mainly of sand, the grains are mostly gray or brown in color; but where the mineral matter is silt or clay, the surface layer is dark colored. In Cecil clay loam this top layer may be dark brown or red. In the heavier soils, the yellowish layer, No. 2, may not occur, as the color in many places is modified by the red material below.

In the sandy soils, this yellowish layer ranges in thickness from about 2 to 10 inches. Ordinarily the two top layers, Nos. 1 and 2, constitute the topsoil or horizon A.

Of the well-developed soils, the subsoils of the Davidson soils are the darkest red, and those of the Appling are typically yellowish red or reddish yellow. This reddish material is similar to that of the heavy intermediate layer and may be termed the B horizon, or the true subsoil. In Lamar County it consists of stiff clay.

The fourth layer, or C horizon, constitutes the upper part of the substratum and represents the parent material.

The soils of Lamar County which do not have well-developed profiles have been grouped in the Edgemont and Congaree series. These soils are characterized by the absence of the intermediate heavy layer. In the Edgemont soils the topsoils are comparatively light textured and the subsoils may be friable clay, sandy clay, or merely a mass of broken rock fragments mixed with some fine material. In the Congaree soils all layers may be comparatively heavy or light in texture.

The soils of Lamar County are grouped into series on the bases of origin, color, surface features, and structural characteristics. The upland soils include the Cecil, Appling, Madison, Davidson, and Edgemont soils.

The Cecil soils have dark-gray or brown surface layers 1 or 2 inches thick, underlain by pale-yellow, friable or loose material which continues to a depth varying from about 4 to 10 inches. In the sandy soils the second layer is underlain by a 1-inch or 2-inch layer of reddish-yellow friable material. In the heavier Cecil soils in most places a surface veneer of friable, brown material and a reddish-brown subsurface layer together constitute the A horizon or topsoil. The subsoil, or horizon B, consists of bright-red or deep-red, hard, stiff but brittle clay to a depth varying from 3 to 10 feet. Below this depth is the parent material, or horizon C, which consists of a layer of light-red or yellowish partly decomposed soft rock varying in thickness from 1 to 3 feet. This, in turn, is underlain by solid rock. Mica scales, quartz sand, and veins of quartz are characteristically present in the subsoil, and in places quartz fragments and gravel appear on the surface. These soils are derived from the Carolina gneiss formation which includes light-colored feldspathic rocks and also massive granitic gneiss and granite. The sandy loam, gravelly sandy loam, sandy clay loam, and clay loam members of the Cecil series are mapped in Lamar County.

The Appling soils have gray surface layers from 1 to 3 inches thick, and grayish-yellow subsurface layers which continue to a depth varying from 5 to 8 inches where they are underlain by reddish layers 2 or 3 inches thick. These layers are generally sandy and are friable and mellow. The subsoils consist of reddish-yellow or yellowish-red, stiff, but fairly friable clay from 6 to 18 inches thick. Below the subsoil is mottled light-red and yellow, hard but brittle clay which continues downward to a depth varying from 3 to 5 feet. The substratum material is mottled with red, gray, bluish, and yellow, and consists of partly decomposed rock. These soils are derived from light-colored gneiss, granite, and locally from schist. In places

an interlaminated formation of acidic rocks occurs. Appling sandy loam occurs in this county.

The Madison soils have dark-brown 1-inch or 2-inch surface layers underlain by brown or light-red layers which continue to a depth varying from 5 to 8 inches. The subsoils are bright-red, stiff, but brittle clay which continues to a depth varying from 18 to 24 inches. Below this depth the material is light-red friable micaceous clay, which at a depth of 3 or 4 feet grades to rotten rock. These soils are characterized by the presence of small mica scales in the topsoil and subsoil, and by a great abundance of mica in the substratum. Small fragments of the schist rock occur on the surface. These soils are derived from quartz, mica schist, and gneiss. They are readily differentiated from the Cecil soils by the prevailing brown color of the surface layer, and by mica scales and rock particles. Madison gravelly sandy loam was mapped in Lamar County.

The Davidson soils have brown or reddish-brown surface layers 1 or 2 inches deep, underlain by dark reddish-brown or dark chocolate-brown heavier material which continues to a depth of 8 or 10 inches. These two layers constitute the topsoil, or horizon A. The subsoils, or B horizons, are dark-red or maroon-red, stiff, friable clay, which continues to a depth varying from 6 to 15 feet. The soil materials originated from diorite and other basic rocks. The dark brownish-red color of the topsoil, the deep-maroon color of the subsoil, and the great depth to which the soil material has weathered are characteristics of the Davidson soils. Here the soil materials originated from the weathering of basic rocks, the most common of which are hard, tough, massive, dark-colored diorite or diabase rich in lime feldspar. In places, hornblende schist influenced the material. Davidson clay loam was mapped in this county.

The Edgemont soils have gray surface layers, from 1 to 3 inches thick, underlain by grayish-yellow or pale-yellow friable material. The subsoils, or B horizons, where developed, may consist of yellow clay loam material or of clay. These soils are derived from fine-grained sandstone and quartzite. In some places the broken rocks are near the surface.

The alluvial soils of the county differ from the residual soils in the manner of their formation. The materials giving rise to the alluvial and upland soils are derived from the same rocks, but the materials of the alluvial soils were transported a considerable distance from their point of origin and were deposited along the stream courses during periods of overflow. The alluvial soils of this county are classed in the Congaree series and as meadow land.

The soils of the Congaree series are characterized by topsoils which may vary in color from gray to reddish brown and by subsoils which may range in color from light brown to reddish brown, and which are friable and variable in texture. The fine sandy loam and silty clay loam members of this series occur in Lamar County.

Meadow (Congaree material) consists of alluvial material which varies so greatly in texture and color that it could not be differentiated into types of soil.

Each soil series includes soils which have been differentiated on the basis of texture of the surface materials. Ten types of soil, rep-

representing six series, and the miscellaneous classification of land (meadow) are shown on the accompanying soil map.

Acres and proportionate extent of the soils mapped in Lamar County, Ga.

Type of soil	Acres	Per cent	Type of soil	Acres	Per cent
Cecil sandy loam.....	39,360	33.8	Congaree fine sandy loam.	1,728	1.5
Cecil sandy clay loam.....	40,064	34.3	Congaree silty clay loam.....	1,280	1.1
Cecil clay loam.....	7,872	6.8	Edgemont stony loam.....	832	.7
Cecil gravelly sandy loam.....	512	.4	Meadow (Congaree material)....	7,680	6.6
Davidson clay loam.....	576	.5			
Appling sandy loam.....	14,528	12.5	Total.....	116,480	-----
Madison gravelly sandy loam..	2,048	1.8			

CECIL SANDY LOAM

In uncultivated areas, the topsoil of Cecil sandy loam consists of a dark-gray sandy loam surface layer, from 1 to 3 inches deep, underlain by a grayish-yellow or reddish-yellow sandy loam sub-surface layer which continues to a depth ranging from 7 to 10 inches. In most places an intermediate layer, from 1 to 3 inches deep, of yellowish-red sandy clay, marks the beginning of the subsoil. The true subsoil consists of red stiff but brittle clay which breaks into irregular lumps. This layer ranges in thickness from about 30 to 80 or more inches and in most places is underlain by friable material mottled with yellow, red, and purplish colors, or by yellow-red soft micaceous material. In some places the subsoil may grade into or rest upon the partly disintegrated grayish granite rock, and here and there soft gneiss rock may be near the surface. In places the upper part of the subsoil is reddish-yellow sandy clay, 2 or 3 inches thick, which grades into red clay.

In cultivated fields the topsoil, to a depth of 4 or 6 inches, is in most places gray or light brown, except where some of the red subsoil has become admixed with it and has produced a yellowish-red or reddish-brown color. A few small, angular quartz particles, not in sufficient quantity to interfere with cultivation, are scattered over a large part of the land. A few eroded or "gall" spots occur on some slopes where the sandy mantle has been removed by erosion. In places near the base of slopes or in slight depressions, there may be an accumulation of sandy loam from 10 to 14 inches deep. Patches of Cecil sandy clay loam, Cecil gravelly sandy loam, Cecil clay loam, Appling sandy loam, and Madison gravelly sandy loam were included with this soil in mapping.

Cecil sandy loam is an extensive and important soil type. It occurs in all parts of the county in areas ranging in size from a few acres to several square miles. The largest areas are in the north-eastern and northern parts of the county.

Areas of Cecil sandy loam are generally undulating or rolling and occur in comparatively smooth positions, such as broad interstream areas or divides or as long, gentle slopes. In places where the surface is more broken, this soil grades to Cecil sandy clay loam. In general, this land lies favorably for the use of improved implements, including tractors. Surface drainage is good under ordinary conditions, but during rainy seasons the surface soil of the smoother areas

becomes saturated and sometimes crops suffer from an excess of moisture. Land of this kind warms up late in the spring.

About 80 per cent of this land is cleared and under cultivation. The native forest growth consisted of shortleaf pine, various species of oak, and hickory, but very little of the virgin tree growth remains, the present forest consisting chiefly of old-field pines.

Cecil sandy loam is used for the production of the staple crops of the county and for pecans. Cotton is the principal crop and yields from one-fourth to one bale to the acre. Land for cotton is fertilized with applications ranging from 200 to 500 pounds of a 9-3-3 or 8-3-3 mixture. Corn produces an average yield of about 15 bushels to the acre. The average yield of oats is about 18 bushels and of pea-vine hay about three-fourths ton to the acre. Wheat and rye yield from 8 to 15 bushels to the acre. There are several fair-sized pecan groves on this soil and the trees are making an excellent growth.

Cecil sandy loam is a strong, durable soil and is highly prized by many farmers. It has a wider range in crop adaptation than any other soil in the county. Besides being suited to general farm crops it is also adapted to trucking. Some small patches of pimiento peppers are produced with good returns. All the crops are fertilized, but cotton receives the heaviest applications.

The loose sandy loam texture of this soil favors the use of light implements and work animals. A good seed bed can easily be made, the soil being the most easily tilled in the county.

The selling price of land of this kind is the highest in the county, ranging from \$50 to \$100 an acre for the best farms, depending on location and state of improvement.

The greatest needs of this soil are organic matter and thorough terracing of the sloping areas.

The following table shows the results of mechanical analyses of samples of the surface soil, subsurface soil, and subsoil of Cecil sandy loam:

Mechanical analysis of Cecil sandy loam

No.	Description	Fine gravel	Coarse sand	Medium sand	Fine sand	Very fine sand	Silt	Clay
		<i>Per cent</i>						
257806	Surface soil, 0 to 2 inches.....	6.5	24.4	9.6	22.9	10.3	20.4	6.7
257807	Subsurface soil, 2 to 9 inches.....	5.4	23.4	10.4	26.6	10.4	21.4	3.1
257808	Subsoil, 9 to 48 inches.....	2.2	10.7	4.2	10.4	5.6	26.6	40.5
257809	Subsoil, 48 to 65 inches.....	3.1	11.0	4.4	15.4	12.4	30.6	23.2

CECIL SANDY CLAY LOAM

In the virgin or wooded areas, the topsoil of Cecil sandy clay loam consists of dark-gray or grayish-brown heavy loamy sand or sandy loam, from 1 to 3 inches deep, underlain by yellowish, reddish-yellow, or light-brownish sandy clay loam, which continues to a depth ranging from 6 to 9 inches. The subsoil is red, stiff but brittle clay, which, when dug out, breaks into irregular lumps or particles. This material continues downward to a depth ranging from 50 to 100 or more inches, then grades into friable, micaceous clay,

which in turn grades into soft disintegrated rock. A part of the area of Cecil sandy clay loam is a combination of small patches of Cecil sandy loam and Cecil clay loam, and the land has a spotted appearance. This condition is the result of erosion. These areas of sandy loam and clay loam were too small to separate on the map. Included with Cecil sandy clay loam as mapped are areas where the gray surface of the sandy loam has been mixed with the clay of the clay loam, giving the surface soil a brownish-red color. This included soil was undoubtedly Cecil sandy loam from which the surface mantle of sandy loam had been removed, leaving the red clay loam. In places the red clay is exposed. On account of the spotted and mixed nature of this soil the farmers have named it "mulatto land." In cultivated fields the surface is spotted with gray, reddish brown, and red. Some quartz, quartzite, and a few schist gravel and quartz stones are scattered over the surface of nearly all the land, but not in sufficient quantity to interfere with cultivation. A few patches in which the stone and gravel content is more noticeable are shown on the map by gravel and stone symbols.

Cecil sandy clay loam is the most extensive soil type in Lamar County, slightly exceeding Cecil sandy loam in total extent. It occurs in rather large continuous areas in nearly all parts of the county, except in the vicinity of Milner.

Areas of Cecil sandy clay loam are gently rolling or rolling. The surface features include smooth, rounded ridges with long, gentle slopes, narrow ridges with more steeply inclined slopes, and rather hilly or broken areas. In the more hilly localities and around the heads of drainage ways surface wash has removed much of the sandy surface layer and has left the subsoil exposed. Where of sufficient size these areas were mapped as Cecil clay loam. Surface drainage is good to excessive, and terracing is necessary to prevent erosion.

About 70 per cent of the Cecil sandy clay loam is cleared, the remainder being forested chiefly with old-field pine. A few small tracts of the original forest, which consists principally of oaks, hickory, and a few pines, are still standing. This is a strong and desirable soil, and some of the better farms are located on it.

The crop yields on this land vary considerably with the management of individual farms. Cotton, the leading crop, yields from one-third to 1 bale to the acre, with an average of about one-half bale, and corn from 10 to 40 bushels, with an average of about 18 bushels. Oats produce an average yield of 20 bushels, and cowpeas from one-half to 1 ton of hay to the acre. Pecans do well on this soil.

Cecil sandy clay loam is a general-farming soil. Crops do not suffer so severely from continuous wet weather as they do on Cecil sandy loam, and they will stand more dry weather without injury than on Cecil clay loam.

Prices for land of this kind range from \$20 to \$100 an acre, depending upon the location, improvements, surface features, and the care with which the land has been managed.

CECIL CLAY LOAM

In virgin or wooded areas, the surface soil of Cecil clay loam, locally known as "red clay land," consists of reddish-brown, heavy

sandy loam or loam 1 or 2 inches thick, underlain by brownish-red or red clay loam which continues to a depth of 4 to 6 inches. The subsoil is deep-red, stiff, brittle clay which breaks into nutlike particles, and which continues to a depth varying from 60 to 100 or more inches. The lower part of the subsoil is light-red, hard but friable and crumbly clay, carrying a considerable quantity of mica flakes. This layer is from 15 to 30 inches thick, and is underlain by the light-red mottled with yellow very friable disintegrated and partly decomposed parent material. Cecil clay loam has weathered deeper than the other Cecil soils, the subsoil layer is much thicker, and the soil contains fewer gravel and stones.

In cultivated fields the surface soil is red or reddish-brown clay loam from 5 to 7 inches deep. The color and structure are determined by the quantity and stage of decomposition of organic matter.

Minor variations from the typical soil occur in a number of places. In some patches the topsoil is dark colored and resembles that of Davidson clay loam, though the subsoil is typical Cecil clay loam. In other places the line of demarcation between this soil and Davidson clay loam was difficult to determine, and narrow strips and patches of Davidson clay loam are mapped with Cecil clay loam. On account of their size, small patches of Cecil clay, occurring around the heads of streams and on knolls and slopes where the more sandy material has been washed off, are also mapped with Cecil clay loam. Some of these included areas have a layer of clay loam from 1 to 3 inches deep on the surface; in others erosion has exposed the heavy red clay; and in still others the material is sandy clay loam.

Cecil clay loam occurs most extensively in the southern and eastern parts of the county. The largest areas are $1\frac{1}{2}$ miles west of Barnesville, 2 miles east of Middlebrooks along the Upson-Lamar County line, and 1 mile north of Johnstonville. Smaller areas are scattered throughout the county.

Areas of Cecil clay loam are rolling and include broad, undulating ridges with long, rounded, generally smooth slopes, narrow-crested, short, steep slopes, and some rather steep and broken land around heads of streams. Most of the land lies well for farming.

Drainage is well established and in some places, where the run-off is swift, terracing is necessary to prevent serious erosion.

Probably 65 per cent of the land is cleared. It originally supported a heavy growth of hardwoods, chiefly various species of oak, hickory, and a few yellow pine. Nearly all the original forest has been removed and at present second-growth or old-field pine is the principal growth on uncultivated areas.

Cecil clay loam is utilized for the production of the staple crops of the county, including cotton, corn, oats, cowpeas, a little wheat, and some rye. The crop yields on this soil are variable, depending upon farm management. All crops do well when the land is carefully and intelligently managed, but yields are generally low on the tenant farms and on those on which poor methods of farming are employed.

Cotton yields range from one-fourth to one bale or more to the acre. Corn averages about 15 bushels, but the best farmers obtain yields of 30 to 40 bushels to the acre. Oats yield from 20 to 40

bushels, and wheat and rye average about 10 bushels each. From one-half to one ton of cowpea hay to the acre is obtained. Pecans and peaches are grown on this soil and yields are satisfactory.

Owing to the heavy texture of Cecil clay loam it requires careful management to keep it in good physical condition. It must be plowed when it is neither too wet nor too dry. The better farmers use tractors and heavy work animals and plow the land 6 or 8 inches deep. The tenant farmers plow to a slight depth with light implements and consequently their crop yields are low. The soil erodes badly under poor cultural methods, and many fields have been abandoned and allowed to grow up in old-field pine and underbrush.

Current land values range from \$30 to \$60 an acre, depending upon location, improvements, and surface features.

The greatest need of this soil is terracing, deeper plowing, and the incorporation of organic matter. A crop rotation, in which a crop of cowpeas, soy beans, or velvet beans is turned under at least every third year, should be practiced.

The following table shows the results of mechanical analyses of samples of the surface soil, subsurface soil, and subsoil of Cecil clay loam:

Mechanical analysis of Cecil clay loam

No.	Description	Fine gravel	Coarse sand	Medium sand	Fine sand	Very fine sand	Silt	Clay
		<i>Per cent</i>						
257815	Surface soil, 0 to 2 inches.....	4.0	14.4	8.5	33.8	16.2	14.0	4.3
257816	Subsurface soil, 2 to 6 inches....	4.8	12.4	7.6	34.4	16.2	14.5	10.9
257817	Subsoil, 6 to 70 inches.....	3.8	5.6	2.6	7.9	10.3	27.1	43.2
257818	Subsoil, 70 to 96 inches.....	4.8	7.8	3.4	12.2	11.8	37.4	22.9
257819	Subsoil, 96 to 120 inches.....	4.2	6.9	3.6	16.6	17.4	32.6	19.0

CECIL GRAVELLY SANDY LOAM

In virgin areas the topsoil of Cecil gravelly sandy loam consists of gray or dark-gray sandy loam or loamy sand from 1 to 3 inches deep, underlain by grayish-yellow or reddish-yellow heavy loamy sand or sandy loam, which continues to a depth of 8 or 10 inches. The subsoil is red, stiff, but brittle clay, which breaks into irregular particles having a coarse granular or nut structure. This layer varies from 30 to 70 inches in thickness and grades into friable material mottled with yellow, red, and purplish, or into yellowish-red soft micaceous material. In some places the subsoil layer may rest upon the partly disintegrated granite rock; in other places the soft gneiss rock may be present at a depth below 2 feet. Locally the upper part of the subsoil is reddish-yellow sandy clay, 2 or 3 inches thick, which grades into red clay. This soil differs from Cecil sandy loam in that it contains 25 or 30 per cent of quartz, quartzite, and schist gravel scattered over the surface and mixed with the surface soil. The gravel does not seriously interfere with cultivation. Only rarely is gravel present in the subsoil.

Cecil gravelly sandy loam occurs in a number of small areas scattered over the county. The surface is undulating, gently rolling, or rolling, and drainage is good.

This soil and Cecil sandy loam are equally important, the same crops are grown, and crop yields are similar. Cultural methods, fertilizing practice, and land values are the same as those given for Cecil sandy loam.

DAVIDSON CLAY LOAM

In old-field areas the topsoil of Davidson clay loam, to a depth ranging from 7 to 10 inches, is dark reddish-brown, chocolate, or snuff-colored friable clay loam. The subsoil is dark-red, stiff, smooth brittle clay, which continues to a depth of several feet. Below a depth ranging from 50 to 70 inches, the color is slightly lighter red. This soil is, in general, easily distinguishable from other soils of the county on account of its darker color. It is locally known as "chocolate land" or "push land."

Davidson clay loam comprises a small total acreage in Lamar County and varies little from typical. It has all been cleared and is now or has been in cultivation. Therefore, a description of the soil in its virgin condition is not given. This soil grades into Cecil clay loam, some areas of which are included with Davidson clay loam in mapping.

Seven small areas, having a combined acreage of less than 1 square mile, are mapped. Three patches occur northeast of Johnstonville, three smaller ones southeast of Goggansville, and another 1 mile south of Barnesville.

Davidson clay loam is derived from the weathering of basic rocks, the most common of which is hard, massive, dark-colored diorite or diabase rich in lime feldspar. In Lamar County this rock is so deeply weathered that the parent material is not seen even in the deepest road cuts.

Davidson clay loam, as mapped in Lamar County, comprises the smooth crests of ridges and gentle slopes. Surface drainage is good and in places is excessive.

Davidson clay loam is a strong, durable soil of high natural productiveness. The greater part of it is utilized for the production of peaches. Cotton, corn, oats, cowpeas, and wheat are the principal cultivated crops. Cotton yields from one-third to one bale to the acre, with an average of about three-fourths bale. The average yield of corn is about 20 bushels an acre and should be twice this quantity. As much as 75 bushels are obtained from well-fertilized land that has been well cared for. Wheat yields from 12 to 35 bushels to the acre; oats from 20 to 60 bushels, with an average of about 30 bushels; and cowpeas from one-half to 1 ton or more of hay. All crops make a heavier growth on this land, and it can be maintained in a high state of productiveness more easily than any other upland soil.

Land of this kind sells at prices ranging from \$60 to \$100 an acre.

Davidson clay loam is especially adapted to general farm crops, including alfalfa, clover, and grasses, and is considered good land for peach orchards.

Although this is a strong soil it should be managed with care in order to conserve its fertility. A rotation of crops in which clover, alfalfa, cowpeas, or soy beans are included should be practiced to keep up the nitrogen supply and to add organic matter, which would improve the physical condition of the soil.

APPLING SANDY LOAM

In virgin areas the topsoil of Appling sandy loam consists of a layer, from 1 to 3 inches thick, of dark-gray sandy loam, underlain by pale-yellow sandy loam which continues to a depth ranging from 8 to 12 inches. The typical subsoil is yellowish-red or reddish-yellow friable clay, which continues to a depth ranging from 18 to 24 inches. This grades into mottled yellow and light-red friable clay, 1 or 2 feet thick, and this, in turn, is underlain by the mottled yellow, light-red, whitish, and pinkish friable parent material, which grades into the soft disintegrated gneiss or granite parent rock.

In cultivated fields the surface soil, to a depth ranging from 4 to 6 inches, is light-gray sandy loam, underlain by the pale-yellow sub-surface layer. This soil is locally known as "white sandy land."

Some small, poorly drained areas of Worsham sandy loam, with yellow upper subsoil and mottled bluish, whitish, and drab, heavy clay lower subsoil, are included with Appling sandy loam in mapping. These areas occur along the lower slopes and around the heads of streams. The lighter color in the subsoil is the result chiefly of poor aeration, poor drainage, and poor oxidation. Some of the higher-lying areas include gradations toward Cecil sandy loam. In these the subsoil is redder but still shows slight mottling of yellow. Some small areas of Cecil sandy loam are also included in mapping. In places the texture is coarse sandy loam and locally a few quartz gravel are scattered over the land. As a rule Appling sandy loam is more nearly stone free than any other upland soil in the county.

Appling sandy loam occurs most extensively in the vicinity of Milner where it is found in large, fairly uniform areas. Other fair-sized areas are 1 mile west of Goggansville, in the vicinity of Fredonia Church, 1½ miles east of Liberty Hill, near Chappel, and around Piedmont. Smaller areas are scattered over the county.

In general, areas of Appling sandy loam are undulating or gently rolling and occur on smooth, even-surfaced parts of ridge crests or on similar land at the base of slopes.

Owing to its undulating or gently rolling surface, this land has good surface drainage, but underdrainage is not so well established and crops on the more level areas are sometimes damaged from excessive moisture in wet seasons.

The greater part of this land is cleared and cultivated. The forest growth on the remainder consists chiefly of second-growth pine, oak, and hickory. All the common crops of the county are grown. Cotton, corn, and oats are the principal crops. Cotton yields, in most cases, are equal to those on Cecil sandy loam, but the yields of other crops are lower. Several large pecan groves are located on this soil and small fields are planted to pimiento peppers.

Cotton yields range from one-third to two-thirds bale to the acre but average about two-fifths bale. Corn yields from 10 to 15 bushels, averaging about 12 bushels, and oats yield about 15 bushels to the acre.

The current value of this land ranges from \$20 to \$50 an acre.

In addition to its use for general farming, this soil can be used for market gardening. A few farmers grow pimiento peppers from which they realize considerably more profit than from any other

crop. The land is also adapted to the production of bright-leaf cigarette or plug wrapper tobacco. The use of fertilizer for all crops is necessary, and organic matter, which is the soil's greatest need, could easily be supplied by growing leguminous crops and turning them under as green manure.

The results of mechanical analyses of samples of the surface and subsurface soil, and of the subsoil of Appling sandy loam are shown in the following table:

Mechanical analysis of Appling sandy loam

No.	Description	Fine gravel	Coarse sand	Medium sand	Fine sand	Very fine sand	Silt	Clay
		<i>Per cent</i>						
257801	Surface soil, 0 to 3 inches.....	10.4	18.7	8.7	27.5	11.9	17.8	5.6
257802	Subsurface soil, 3 to 10 inches..	8.1	8.9	8.8	27.8	12.5	18.7	15.9
257803	Subsoil, 10 to 20 inches.....	7.2	10.4	3.8	10.6	5.0	25.8	37.5
257804	Subsoil, 20 to 40 inches.....	6.1	9.8	3.6	11.4	6.5	28.7	34.2
257805	Subsoil, 40 to 60 inches.....	7.2	11.0	4.4	16.4	11.0	28.9	21.1

MADISON GRAVELLY SANDY LOAM

In virgin or wooded areas, the surface soil of Madison gravelly sandy loam consists of a 1-inch or 2-inch layer of brown sandy loam, underlain by light reddish-brown heavy sandy loam which continues to a depth ranging from 6 to 9 inches. These two layers carry a high proportion of finely divided mica flakes. The subsoil, to a depth ranging from 16 to 24 inches, is red, stiff, brittle clay which either has a nut structure or crumbles into small angular pieces. It is somewhat similar to the subsoils of the Cecil soils. A few mica scales occur in this layer. Below this, to a depth ranging from 26 to 32 inches, is light-red, very friable micaceous clay having a soapy or slick feel. This layer is underlain by yellowish, light-reddish, or purplish partly disintegrated quartz mica schist rock, the parent material.

Scattered over the surface and mixed with the soil is a considerable quantity of angular and subangular brown quartz mica schist gravel and garnets, also fragments of mica schist rock ranging from 1 to 6 inches in diameter. This soil is characterized by its brown surface, the result of the presence of brown schist and garnet gravel, of the presence of a noticeable quantity of mica scales, and of the proximity of the substratum material of partly disintegrated schist.

In a few places stones occur on the surface and these are shown on the soil map by stone symbols. The thickness of the heavy layer, or subsoil, varies considerably. On some of the slopes or on more rolling areas the finer soil material has been removed by erosion, leaving the gravel resting upon the heavy subsoil, and in other places the surface material grades into the soft quartz mica schist.

Madison gravelly sandy loam is not an extensive soil. Several small areas are mapped in the central and northern parts of the county. The largest areas are 2 miles northeast and 2 miles southeast of Brown's Mineral Spring, 2 miles northeast of Barnesville, and 2 miles northwest of Goggansville.

Areas of Madison gravelly sandy loam are undulating, gently rolling, or rolling and include comparatively smooth land on the top of the divides and on gentle and rather steep slopes. The smoothest land is in the northern part of the county. Drainage is good.

This is a very productive soil, and under boll-weevil conditions is one of the best in the piedmont region for cotton. About 75 per cent of it is cleared and in cultivation. The tree growth is the same as that on Cecil sandy loam.

Cotton is the principal crop. Other crops grown are the same as those on Cecil sandy loam and the yields are essentially the same. This soil, on account of its sandy and gravelly nature, is easily farmed with light implements and a good seed bed can easily be prepared. Fertilizer is used by most farmers.

This land sells at prices ranging from \$30 to \$75 an acre, depending upon location and state of improvements.

The following table gives the results of mechanical analyses of samples of the surface soil, subsurface, and subsoil of Madison gravelly sandy loam:

Mechanical analysis of Madison gravelly sandy loam

No.	Description	Fine gravel	Coarse sand	Medium sand	Fine sand	Very fine sand	Silt	Clay
		<i>Per cent</i>						
257811	Surface soil, 1 to 7 inches.....	2.8	9.5	8.4	36.2	12.7	20.5	10.3
257812	Subsurface soil, 7 to 18 inches.....	3.2	8.2	4.4	18.6	7.8	21.1	36.9
257813	Subsoil, 18 to 30 inches.....	5.1	18.9	7.8	22.4	6.2	14.6	25.2
257814	Subsoil, 30 inches+.....	5.6	23.6	9.7	30.6	10.1	12.1	8.7

CONGAREE FINE SANDY LOAM

In virgin or wooded areas the topsoil of Congaree fine sandy loam is mellow, friable, grayish-brown, or brown loamy fine sand or smooth, mellow, fine sandy loam, from 7 to 10 inches deep. The subsoil is brown or reddish-brown silty clay loam or silty clay which continues to a depth ranging from 20 to 30 inches and is underlain by stratified layers of brown sandy loam and mottled heavy gray and brown sandy layers of varying thickness. Considerable finely divided mica flakes are present in both soil and subsoil.

Congaree fine sandy loam, as mapped in this county, varies considerably from place to place. Small patches of more sandy material occur on narrow ridges or levees along the stream banks and elsewhere throughout the areas, and narrow strips of silt loam and silty clay loam are in the low or depressed positions. Strata of different-textured materials of various colors are of common occurrence at different depths. Patches of meadow (Congaree material) are included with this soil in mapping.

Congaree fine sandy loam is still in the process of formation. It is composed of material washed from the uplands and redeposited along the stream courses during times of overflow. It is mapped in small, broken strips of different widths, along Little Towaliga River, bordering the two branches of Buck Creek, and along some of the

other streams in the eastern part of the county. The largest area is along Little Towaliga River.

This is a first-bottom soil and has a smooth, level surface which lies only a few feet above normal water level. However, the soil is fairly well drained except during floods.

Nearly all the Congaree fine sandy loam has been cleared and is either under cultivation or is used for hay and pasture land. It is a productive soil for corn and forage crops. Pecan trees attain a large size and produce heavily in favorable seasons, and watermelons thrive. A large part of this soil is used for pasture, consisting principally of Bermuda grass, white clover, Lespedeza, and broom sedge.

Congaree fine sandy loam, when sold separately, has a current selling price ranging from \$20 to \$60 an acre.

CONGAREE SILTY CLAY LOAM

In forested or virgin areas the surface material of Congaree silty clay loam, to a depth ranging from 7 to 10 inches, is brown, brownish-red, or reddish-brown friable smooth silty clay loam. The subsoil is similar to the topsoil and the line of demarcation between the two is indistinct. However, the subsoil in most places is somewhat heavier, is slightly darker brown, and just above a depth of 3 feet is marked by grayish-brown streaks; in many places it contains strata of sand and various other materials. This soil is not uniform in Lamar County. The surface soil in places contains more sandy material than is typical and in many places, to a depth of 10 or 12 inches, the surface soil is silty loam or silty clay loam underlain by gray or mottled material of varying texture and structure. Finely divided mica flakes are commonly present in both soil and subsoil. Some strips of meadow (Congaree material) and patches and streaks of Congaree fine sandy loam were included with this soil in mapping.

Congaree silty clay loam occurs along a few of the largest drainage courses of the county, the largest areas lying along Big Potato Creek in the western part and Buck Creek and Towaliga River in the eastern part.

This soil is of alluvial origin, having been deposited along a few of the drainage ways during stream overflow. With each inundation additional material is brought down from the upland and is deposited as a new surface covering. The areas of Congaree silty clay loam are low, flat first bottoms, subject to overflow after every heavy rain, but the land is not deeply inundated, except during heavy floods, when it remains under water for only a short time.

Very little of this land has been cleared, most of it being forested with a heavy growth of gum, tulip poplar, ash, oaks, ironwood, sycamore, and other trees. The cleared land is used almost exclusively for the production of corn. Some oats are grown and give good yields when the land is not flooded. Corn yields from 20 to 40 bushels to the acre without the use of fertilizer, and cowpeas make a heavy growth. Bermuda grass, white clover, and Lespedeza do well and afford excellent pasturage.

Congaree silty clay loam is a very productive soil, especially for grain, hay, and forage crops. In this county the danger from overflow might be reduced by deepening and straightening the streams.

This land is usually sold in conjunction with adjoining upland soils.

EDGEMONT STONY LOAM

In virgin areas the topsoil of Edgemont stony loam is gray loam or silt loam 1 or 2 inches deep, underlain by yellowish loam, clay loam, or clay which has no normally developed layers. In some places the subsoil is streaked with reddish or brown mottlings and in other places the light-colored, partly disintegrated fine-grained laminated rock is exposed on the surface. In Lamar County this soil varies in color, texture, and structure, therefore no typical description can be given. Included with mapped areas of Edgemont stony loam are narrow strips of a stony sandy loam having a red subsoil, and on Hog Mountain the soil, included on account of its small extent, is yellowish or brownish sand with an abundance of quartzite gravel and stone scattered over the surface and mixed with the soil. Most of the stones on this mountain are quartz and quartzite, whereas on the rest of the Edgemont stony loam they are chiefly fine-grained sandstone with some quartzite.

This soil occurs in Lamar County in two areas on long narrow ridges, one 2 miles north of Barnesville and the other, which is about 3 miles in length, beginning one-half mile northwest of Milner Cross Roads School and extending in a southwesterly direction beyond the county line.

Edgemont stony loam is the roughest land in the county. Drainage is well established. Only very small patches have been cleared and used for crops, as the soil is not well suited to agriculture. The greater part is in forest consisting of several species of oaks, hickory, some pine, and other trees.

The value of this land depends on the quantity and quality of the timber it supports. It should remain in forest.

MEADOW (CONGAREE MATERIAL)

Meadow (Congaree material) includes alluvial lands which are so variable in texture, structure, and color, both in the soil and subsoil, that a soil type designation is impractical. A large part of this land consists of recently deposited sand, silt, and clay, and includes small patches of Congaree silt loam, Congaree fine sandy loam, Congaree sandy loam, Congaree coarse sandy loam, and semiswampy areas of intricately mixed soil.

The material is irregular in profile arrangement, layers of sand, silt, and clay of varying thickness occurring throughout the soil section. The color may be reddish brown, dark gray, or light gray.

Areas of this mixed material form narrow, almost continuous strips along all the streams in the county. Areas are low and flat and are subject to frequent overflow. Much of the land remains wet throughout the year and the material in many places is subject to change after every heavy rain. Parts of the areas are fairly well drained under ordinary conditions and a few patches are cultivated, usually to corn, which yields 25 or 35 bushels in favorable seasons.

Meadow (Congaree material) is used largely for forestry and pasture.

SUMMARY

Lamar County is in the central part of Georgia, and has an area of 182 square miles or 116,480 acres.

The general surface relief is undulating or rolling and drainage is good. Drainage of the west side of the county is into Flint River and that of the eastern side into Ocmulgee River.

Lamar County has an estimated population of about 12,000, which is evenly distributed. Barnesville, the county seat, had a population of 3,059 in 1920.

The public roads are numerous, and extend to all parts of the county. They are all of dirt construction and in the winter become nearly impassable in many places.

The climate is mild, with short, open winters and long summers. An abundant rainfall is evenly distributed throughout the year. The average frost-free season is 231 days.

The agriculture of the county consists mainly of the production of cotton, and all business interests center about this crop. Not enough corn, oats, wheat, hay, pork, and beef are produced to supply the local needs. Cotton, in 1924, was grown on 11,105 acres, with a production of 4,383 bales. The boll weevil is active in this county.

No systematic crop rotation is practiced, although the better farmers change their crops as often as possible. More than one-half of the farmers are tenants, and the standard rental for a one-horse farm is 1,000 pounds of lint cotton.

The soils of the county consist mainly of residual or upland soils, with narrow strips of alluvial or bottom lands along the stream courses. Most of the upland soils are derived from granitic gneiss with inclusions of mica schist, but some small areas are derived from diorite, diabase, and other basic rocks.

Cecil sandy loam and Cecil sandy clay loam are desirable soils, adapted to the general crops of the region and to some special crops, such as peaches and pecans. Cecil sandy clay loam is the most extensive soil in the county. Cecil clay loam is heavier and is suited to general farm crops.

Davidson clay loam is of very small extent in Lamar County, but it is a strong durable soil, well suited to general farm crops. Small grains, grasses, alfalfa, and clover do especially well, but peach orchards and pecan groves occupy practically all of this kind of land.

Appling sandy loam is the lightest-textured soil in the county. It is adapted to general farm crops, truck crops, pecans, and bright-leaf tobacco.

Madison gravelly sandy loam is suited to general farm crops and to peaches and pecans.

Congaree fine sandy loam and Congaree silty clay loam are fertile alluvial soils, suited to the production of corn and forage crops. Meadow (Congaree material) is used chiefly for forest and pasture.

Edgemont stony loam as mapped here is nonagricultural land.

[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, and on July 1, 1927, the Bureau of Soils became a unit of the Bureau of Chemistry and Soils.]

Accessibility Statement

This document is not accessible by screen-reader software. The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at (800) 457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at <http://offices.sc.egov.usda.gov/locator/app>.

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers. If you believe you experienced discrimination when obtaining services from USDA, participating in a USDA program, or participating in a program that receives financial assistance from USDA, you may file a complaint with USDA. Information about how to file a discrimination complaint is available from the Office of the Assistant Secretary for Civil Rights. USDA prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex (including gender identity and expression), marital status, familial status, parental status, religion, sexual orientation, political beliefs, genetic information, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.)

To file a complaint of discrimination, complete, sign, and mail a program discrimination complaint form, available at any USDA office location or online at www.ascr.usda.gov, or write to:

USDA
Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, S.W.
Washington, DC 20250-9410

Or call toll free at (866) 632-9992 (voice) to obtain additional information, the appropriate office or to request documents. Individuals who are deaf, hard of hearing, or have speech disabilities may contact USDA through the Federal Relay service at (800) 877-8339 or (800) 845-6136 (in Spanish). USDA is an equal opportunity provider, employer, and lender.

Persons with disabilities who require alternative means for communication of program information (e.g., Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).