SOIL SURVEY OF CALHOUN COUNTY, ALABAMA.

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DESCRIPTION OF THE AREA.

Calhoun County, Ala., is located in the northeastern part of the State, near the Georgia line. It is situated just south of parallel 34° north latitude, while meridian 86° west from Greenwich passes through the western portion of the county. Cleburne and Talladega counties bound it on the east and south; Cherokee and Etowah on the north; and Etowah, St. Clair, and Talladega on the west. The Coosa River, which has a general southwesterly course, separates it from St. Clair County. The county comprises an area of 397,440 acres, or 621 square miles.

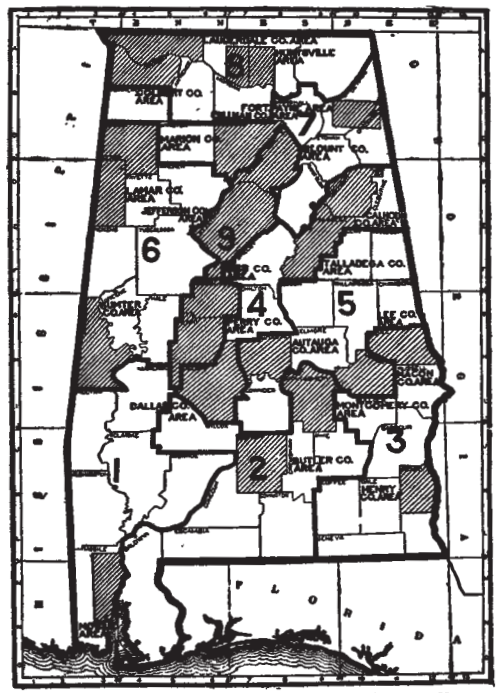

FIG. 15.—Sketch map showing location of the Calhoun County area, Alabama.

Practically all of the county lies within the Coosa Valley region, with the exception of a narrow strip along the eastern boundary, which is occupied by an extension of the Appalachian Mountain system. This is a deeply eroded plateau consisting of sharp ridges and narrow V-shaped valleys, with elevations varying from 1,000 to 1,200 feet or more above sea level. The Coosa Valley section ranges in elevation from about 600 feet, in the valleys proper, to over 2,000 feet upon the peaks of Choccolocco and Coldwater mountains. It is made up of ridges and valleys which have a general northeast to southwest course across the county. The Choccolocco and Coldwater

mountains form the main watershed and determine largely the direction of the streams. On the eastern side of the Choccolocco range occurs the Choccolocco Valley, drained by the creek of the same name, which leaves the county south of Oxford. Here the valley broadens to something over 4 miles in width. The Dugger Mountains serve to turn a portion of the drainage north through Nancy and Terrapin creeks, which leave the county northwest of Piedmont. The moderately rolling country about Piedmont has been largely carved by these streams. On the western side of the Choccolocco Mountains the drainage is largely through Ohatchee, Tallahatchee, and Cane creeks, with their tributaries, which flow in a general westerly course and empty into the Coosa River. The latter forms the main outlet for all the drainage of the county and has vast possibilities for developing water power. Coldwater and Estaboga creeks drain the southwestern section of the county.

Calhoun County was organized December 18, 1832, and was called Benton County until 1858. It was formed from territory ceded by the Creek Indians. The first settlement was made in 1830, in the vicinity of White Plains, which later contested for the court-house, but lost to Jacksonville, the latter becoming the first county seat in 1837. It remained here until 1903, when it was transferred to Anniston. The early settlers came from Tennessee, Georgia, Virginia, and the Carolinas, but mostly from Georgia and Tennessee. The county was settled gradually, but by 1860 the population had increased to 21,539. After the close of the civil war, and with the advent of the railroads, additional settlers came from sections farther north. They assisted in opening up the ore mines and gave an impetus to manufacturing. With the addition of immigrants from the surrounding States the county, according to the census of 1900, had a population of 34,874, of which 9,695 were in the city of Anniston. Oxford, Jacksonville, and Piedmont each have a population of more than 2,000. Other towns and villages are Bynum, De Armanville, Choccolocco, Ironcity, White Plains, Weaver, Zula, Tredegar, Angel, Wellington, Ohatchee, Duke, and Alexandria.

The building of cotton mills, iron furnaces, and various public works have in recent years attracted large numbers of people from the rural districts to the cities and towns, where they obtain employment. The desire for better school facilities and the scarcity of labor have also been reasons for the desertion of the rural districts by the larger landowners. A large percentage of the present rural population is made up of tenants and small farmers.

With the profits obtained from stock raising, dairying, and more intensified methods of farming, new settlers are being attracted to the better sections of the county, and they are improving the land which was formerly run down and had been largely turned over to tenants.

More encouragement should be given immigrants seeking to establish homes in the rural districts by dividing the large landholdings.

Anniston, founded in 1872 by the erection of the first iron furnace in the county, is by far the largest commercial center, and (1909) has a population estimated at 18,000. It has all the modern conveniences—waterworks, sewerage, electric lights, street railway, fire department, public libraries, paved streets, and cement sidewalks. The water supply is obtained from a battery of springs, located at Coldwater, 7 miles out, having a flow of 22,000,000 gallons a day of clear, pure water. This doubtless accounts for the healthfulness and low death rate of the city. Besides several iron furnaces, car shops, pipe works, etc., the manufacturing plants include six cotton mills. Its educational institutions include, besides the public school, Noble Institute, Anniston Female College, and the Alabama Synodical College for men. One of the State normal schools is located at Jacksonville, while Oxford College, one of the oldest institutions in the State, is located at Oxford. Piedmont also has a high school, and each of these places has a large cotton mill in operation, giving employment to several hundred hands.

The first railroad built in the county included the extension of what is now the Rome and Meridian Division of the Southern Railroad, which was built from Talladega to Blue Mountain shortly after the close of the civil war. This road was soon extended through Jacksonville and Piedmont to Dalton and later to Rome, Ga., where it connects with the Southern Railway from Atlanta to Chattanooga and Cincinnati. The East and West Railroad, now operated by the Seaboard Air Line, was built in 1884. This line crosses the northern half of the county and gives ready access to the markets of Birmingham, Ala., and Atlanta, Ga. The Alabama Mineral Division of the Louisville and Nashville runs north from Anniston to Birmingham, and passes through the center of the county, crossing the Seaboard Air Line at Wellington. The Calera branch of the same road furnishes connection at Calera with the main line of the Louisville and Nashville Railroad leading to Montgomery, New Orleans, and Birmingham. The Atlanta and Birmingham division of the Southern Railroad crosses the southern portion of the county from east to west. Transportation facilities are also afforded by the Coosa River, which is navigable from Lock 4 in Talladega County to Rome, Ga., and flat-bottom steamers ply between these points the year round.

There are 850 miles of public road in Calhoun County, some of which have been macadamized, and there is an abundance of material at hand for improving the rest of the roads. A sample road built by the United States Government, connecting with the main street in Anniston, shows the possibilities for good roads. Con-

siderable attention has been given to road building within the past few years and in many instances the latest improved road-building machinery has been employed.

Better school facilities are being established in rural sections. The extension of rural telephone lines and the rural free delivery of mail to all sections of the county are some of the more recent improvements. Before the advent of the railroads the marketing was practically all done at Wetumpka, Ala., and Rome, Ga., but at present the exchange of commodities is through Atlanta, Ga., Chattanooga, Tenn., Birmingham, Montgomery, and Mobile, Ala., and New Orleans, La. Considerable exports are shipped via Savannah, Ga., and Charleston, S. C. The two chief staples, cotton and corn, are sold locally, a large percentage of the cotton being consumed by the local mills. Very little of the feed stuffs raised is marketed outside the county, as the demand far exceeds the supply. Atlanta, Ga., and Birmingham, Ala., with their rapidly growing populations, will furnish increased demands for the excess of such farm products as fruit, truck, butter, eggs, and poultry, most of which at present is consumed in the area.

CLIMATE.

The climate of Calhoun County is mild and equable, with relatively short winters and long growing seasons. The summer heat is tempered by mountain breezes, so that oppressive days and sultry nights are of rare occurrence. The mean annual snowfall is less than 3 inches, and snow never remains on the ground longer than one or two days. The mean annual temperature is about 62° F., ranging from 44° in winter to 77° in summer. The extreme temperatures of winter and summer are −10° and 103° F., respectively, but these are of rare occurrence, and 95° to 100° F. in summer and 10° to 70° F. in winter are conservative extremes. The average date of the first killing frost is October 20, and very little damage occurs from this source after April 15. The mean annual precipitation is slightly less than 50 inches, and is well distributed throughout the growing season. The least precipitation occurs in the fall, making it especially favorable to the gathering of cotton and other crops.

The climatic conditions are favorable for the growing of winter forage crops and pasture is available practically all the year round. Shelter for stock should be provided at night, especially in winter and during the rainy season. The cold snaps, or "northers," as a rule never last longer than from one to three days, and are not severe enough to cause the ground to freeze more than 2 or 3 inches, which usually thaws in a day or two. The long growing season, from April to October, gives ample time for the maturity of all crops,

and a succession of some crops can be harvested from the same field in a single season. The long season is especially favorable for trucking.

On account of the healthfulness and pleasant summer climate, many resorts have been established in the mountains, which attract tourists from various sections of the North and South. These are usually located with reference to mineral springs, which are highly valued for their medicinal properties. Aside from these, the county is amply supplied with pure, clear limestone and freestone spring water. Many of the springs have a flow of thousands of gallons a day.

The following table, compiled from data gathered by the Weather Bureau station in Anniston, located in the southern part of the county, shows the prevailing climatic conditions:

Normal monthly, seasonal, and annual temperature and precipitation at Anniston.

Month.	Temperature.			Precipitation.			
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount for the driest year.	Total amount for the wettest year.	Snow, average depth.
	°F.	°F.	°F.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
December	44	75	7	3.7	4.7	2.3	0.6
January	44	73	7	5.2	4.1	7.1	0.4
February	44	75	−10	4.9	3.8	2.1	1.7
Winter	44	.....	.....	13.8	12.6	11.5	2.7
March	55	84	12	5.4	3.5	6.9	0.3
April	61	88	27	4.6	2.6	3.8	0.0
May	69	94	36	4.0	2.7	10.6	0.0
Spring	62	.....	.....	14.0	8.8	21.3	0.3
June	76	100	44	4.0	4.1	7.6	0.0
July	78	102	56	5.3	4.2	4.1	0.0
August	78	103	56	3.9	1.0	5.1	0.0
Summer	77	.....	.....	13.2	9.3	16.8	0.0
September	73	98	36	2.4	2.5	2.3	0.0
October	63	92	30	3.0	1.5	2.7	0.0
November	51	82	16	2.7	3.8	1.5	0.0
Fall	62	.....	.....	8.1	7.8	6.5	0.0
Year	62	103	−10	49.1	38.5	56.1	3.0

Average date of first killing frost in autumn, October 20. Average date of last killing frost in spring, April 2. Earliest killing frost, October 6, and latest, April 20.

AGRICULTURE.

In the early days the marketing of the area was done largely at Wetumpka, Ala., and Rome, Ga. Produce was hauled to these markets by wagon, which made it unprofitable to grow many crops

or to practice diversified farming as it is now understood. Whatever the pioneer produced was mainly for home consumption. Corn was the principal crop, but wheat, potatoes, and other truck crops were grown. The little cotton grown was ginned by hand, which, together with the wool obtained from the sheep, furnished the raw material out of which the homespun clothing, etc., was made. Some hogs of an inferior grade were allowed to roam in a half-wild state through the county. Wild game was plentiful and was the chief source of meat supply. Through the introduction of the cotton gin and the establishing of better market facilities and by the building of railroads the agriculture of the area developed rapidly.

In 1860 there were 125,306 acres improved and 246,619 acres unimproved farm land in the county, the total valuation being $2,709,394. In 1870, the farmers not yet recovering from the ill effect of the civil war, the number of acres in improved farms decreased to 68,234, but by 1880 there was an increase of 27,097 acres and in 1900 the acreage of improved farm land had increased to 100,622 acres. The value of live stock decreased from $812,766 in 1860 to $326,008 in 1880. By 1890 it had increased to $435,190 and in 1900 to $501,277. The acreage in wheat in 1900 was 5,673, the production being one-fifth what it was in 1860. From 1860 the production of oats has steadily increased until 1890 when the census, reporting for the year 1899, give the output as 101,338 bushels. However, in 1900 the crop decreased to 27,330 bushels. Corn decreased from 655,193 bushels in 1860 to 239,451 bushels in 1870. In 1900 it had increased to 453,280 bushels. The production of cotton has steadily increased from 3,038 bales in 1870 to 11,764 bales in 1900. The yield in 1906 was 14,525 bales, an increase of 2,761 bales. While these fluctuations may in part have been due to seasonal differences influencing the yield of crops, they may be taken as indicating broadly the general trend of agricultural development in the county.

Cotton and corn are the staple crops at present and as large an acreage of these is grown as can be with the available labor. Some attention is being given to crop rotation and the planting of winter cover crops, but the practice is largely confined to the smaller farmers who cultivate their own farms. The tenants follow almost exclusively the "one-crop" system, the only rotation ever practiced being the occasional substitution of corn for cotton. Sometimes a few cowpeas are planted with the corn, but the practice is not general. The productiveness of the soil is maintained almost exclusively through the use of commercial fertilizers, for which $30,000 is annually spent. The census reports, however, for the past twenty or thirty years show a considerable reduction in the quantity used, which is no doubt due to the better methods of cultivation and the

increased production of hay and feed stuffs among the more progressive farmers. Some barnyard manure is used, but very little care is taken in its conservation.

The production of oats and wheat should be greatly increased, since they serve as winter cover crops and are excellent for forage in the early spring. Johnson or Bermuda grass could be grown with profit upon areas which usually lie idle for lack of labor, the amount of labor required to harvest the hay crop being small where improved machinery is employed. Although as much as 5 tons of hay in 5 cuttings are obtained in favorable seasons, the production seldom equals the demand, which would be vastly increased if more attention were given to raising mules, horses, and cattle. Where Johnson grass is properly cultivated and not allowed to become "sod bound" it makes excellent pasture. The spreading of the grass to the cultivated fields has been the objection to its culture, but this can be overcome largely by careful management. If the grass is properly turned up and a sufficient number of hogs allowed to graze upon it to root out the grass thoroughly, it can be killed when it is desired to cultivate the fields afterwards. Its greatest good would be to prevent washing upon those fields which are usually not properly cultivated. Bermuda grass also makes an excellent hay crop and could be grown for pasture and hay upon the heavier soils along the bottoms which are subject to overflow. Millet and Hungarian grasses are coming into more general use. Cowpea and velvet bean hay is a valuable asset to stock raisers, and its use should be extended. It is especially valuable as a source of nitrogen, and the humus supply of the soil could be built up largely through the growing of these legumes.

In the vicinity of the larger towns dairying, trucking, and fruit growing have been successfully conducted. These products are largely consumed in local markets. Strawberries, raspberries, and blackberries command a ready sale and the supply very seldom meets the local demand. Blackberries and huckleberries grow wild. Watermelons, cantaloupes, and cucumbers can be successfully and profitably grown, but the local demand is seldom satisfied. Sorghum is grown mostly for sirup, but it is a valuable forage crop and should be grown more extensively for this purpose.

The average size farm, as given in the Twelfth Census, is 74.5 acres. In the census classification each tenant holding was counted as a distinct farm, and the average holding is therefore much greater than the figure given. There are a good many holdings containing from 1,000 to 3,000 acres or more. In some cases several square miles are owned by some of the mineral land companies, but most of this land is in native timber, and large areas are unsuited for general farming purposes. The land values in the county have slightly advanced in the last few years and are continuing to advance steadily.

The hill lands range in price from $2.50 to $10 an acre and the valley lands from $10 to $40 an acre, some of the more desirable bottom lands bringing as high as $60 to $70 an acre when improved.

Less than one-third of the farms are operated by the owners, most of the farming being done by tenants under three principal systems, differing mainly in the method of paying rent. In some instances a fixed cash rent is determined upon, ranging from $2 to $3 an acre, or from 1 to 2 bales of cotton to the one-horse farm, which on a valuation of $10 to $20 an acre gives a better profit than is generally obtained from the use of money in other investments. When the crop is worked on shares the landlord usually furnishes half the fertilizer and seed and in addition furnishes the mule and farm implements. Clothing, food supplies, and other necessaries are usually advanced to the tenant through the season and a lien taken on the crop to pay for them.

The tenant is allowed as much land as he can successfully cultivate, but usually not more than 15 or 20 acres are planted in cotton, the remainder being planted in corn. Almost no attention is given to seed selection. The plowing is usually shallow and the cultivation done at irregular intervals without reference to the moisture conditions, no precautions being taken to conserve the moisture. The fertilizers used are generally of low grade, and phosphates are applied at the rate of 150 to 300 pounds to the acre, the application usually being made at the time of planting, except when corn is given an extra top dressing of nitrate of soda at the time of "laying by" the crop.

With the prevailing high price of cotton and corn, the tenants have been fairly prosperous, but a large percentage of them carry some indebtedness from year to year. With the small farmers, however, who own and tend their farms, better conditions prevail, as shown by the general character of improvements on their farms.

The farm labor is furnished almost exclusively by negroes, who receive from 50 cents to $1 a day, with board or rations in addition. The demand in recent years for this class of labor on public works has greatly increased the cost to the farmer. Cotton is usually picked at a stipulated price, ranging from 50 to 75 cents per 100 pounds. The labor, while not as efficient as is frequently desired, meets the usual requirements of the methods of cultivation most generally practiced, but improvements in farm management must come largely through the owners who operate their own farms, as the tenant's lease usually expires after the crop is made. By keeping more live stock and utilizing the barnyard manure the fertility of the soil could be increased and the expenditures for commercial fertilizers greatly reduced. In this connection, oats and cowpeas for hay are probably the most economical and profitable crops that can be grown. In addition to supplying nitrogen and humus to the

soil, they have a high feeding value and meet with ready sale in the markets. Where these have been introduced into the rotation of crops striking results have been obtained.

The raising of beef and dairy cattle and the grazing of sheep and goats would doubtless prove profitable, especially upon the rougher, mountainous areas. The steady increase in value of timber land should encourage the use of second-growth land for forest purposes, particularly upon the higher and stonier soils, or upon those not generally suited to agriculture. Wide areas of land occur throughout the county which should never be used for any other purpose, and upon which a high grade of longleaf and shortleaf pine can be grown in from fifteen to twenty-five years.

The mild climate and long growing season, together with the variety of soils, makes it possible to grow a wide range of crops. In so doing the farmer becomes more independent of price fluctuations, and his income is more uniform and certain. His expenditures are less, because he can raise most of what be consumes, and he can manufacture to a large extent his own fertilizers.

In preparing the soil for cotton the stalks of the previous year are usually broken down either with a hand flail or by dragging a log over the field. In recent years the stalk cutter has been introduced by some of the more progressive farmers. This not only breaks down the stalks, but cuts them into fine pieces so that they can be more readily turned into the soil. The land is usually given a shallow plowing, either in the fall or spring, and the soil thrown into ridges, their crests being between the rows of the preceding year. If the ridging is done in the spring the fertilizer is usually added in the first furrow and the ridging done on top. In case the soil is broken twice the fertilizer is added in the first furrow of the second breaking. The seed is planted either the latter part of March or the early part of April, being dropped along the tops of the ridges, usually with a one-horse cotton planter, which opens the furrow, drops the seed, and covers it in the same operation.

Somewhat the same method is followed in the preparation and planting of corn land, although the breaking is more often done broadcast either in the fall or early spring. As in the case of the cotton land, however, the breaking is seldom deeper than 2 to 4 inches. Oats rank next in importance to corn and cotton. This crop is usually sown in the fall, between September 15 and November 15, but it is best to sow it in September or October. By the use of grain drills both fertilizer and seed are put down in the same operation, and the use of the drill is commended in that it insures a more even distribution of the seed and fertilizer and a better preparation of the seed bed, because it is necessary to break and harrow the soil before the seed can be drilled. About the same practice should be

followed in sowing wheat. The most common method of cultivating cotton and corn consists in running a shovel plow or "scooter" next to the rows and following it up throughout the middles, while the subsequent cultivation is done with "sweeps," a larger size being used for each succeeding cultivation which insures a fairly flat cultivation. The use of the "scooter" next to the rows often injures the plants by pruning the roots too severely and does not conserve the moisture as well as a light cultivation.

The period during which any crop can be grown successfully and economically without rotation depends largely upon the character of the soil and the conveniences for cultivating it. The common practice is to grow corn, oats, and wheat on the lower bottom lands, or second bottoms, and the cotton upon the uplands. The hill soils are used for all the crops, except where basins occur, and here corn is more often grown. These are also used for growing apples, while the higher slopes and tops of the ridges are more often used for peaches. Tobacco for home use is also frequently grown upon the hill lands.

Deeper breaking and more thorough tillage, preferably in the fall, including frequent harrowing to conserve the moisture until planting time, followed by shallow cultivation, which should be continued longer than is ordinarily practiced, is recommended for the uplands. Instead of plowing the corn and cotton the first time with a "scooter" a better practice would be to give these crops level, shallow cultivation of 2 or 3 inches, using a harrow-tooth cultivator for the first two cultivations, followed by the larger sweep. This gives a more thorough cultivation of the surface without injury to the roots, and the destruction of weeds is equally as effective as by the other method, besides the moisture is more surely conserved and the soil is left in a much more favorable condition for the absorption of rainfall. Where crop rotation is practiced the various legumes, cowpeas, peanuts, clover, velvet beans, etc., should be grown as often as possible. In a three-year rotation of cotton, corn, and oats, one of these crops, preferably cowpeas or velvet beans, should be sown broadcast or in rows between the corn rows. Oats should always be followed by one of these crops after they are harvested. When cotton is grown year after year on the same uplands it is recommended that crimson clover, bur clover, or oats or rye with vetch be sown in the middles to prevent washing and to absorb the plant food as it becomes available, at the same time providing winter pasture. Clover, as a rule, does not make a start for the first year or two without inoculation, but if the practice is continued for a few years the soil seems gradually to become inoculated and the growth becomes luxuriant, furnishing a source of excellent hay and pasture and adding a store of nitrogen to the soil.

The selection of crops best suited to the soils and the breeding of varieties of cotton which show a special adaptation to the soils and climate and the selection of better seed are equally important factors in increasing the return of the farm. Where the shipping facilities are adequate, strawberries, raspberries, blackberries, peaches, apples, pears, plums, prunes, potatoes, tomatoes, watermelons, cantaloupes, cucumbers, etc., could be grown with profit for shipment to the northern markets, and better returns obtained from the land than in the continuous growing of cotton and corn. The valley lands afford excellent opportunities for raising horses, mules, and cattle, being well supplied with perennial streams, the bottoms along which afford excellent pasture. These valley lands produce heavy yields of grain and hay when properly handled. Little dairying is practiced in the county, but it could be carried on profitably either alone or in connection with truck growing, especially in the vicinity of Anniston, Oxford, Jacksonville, and Piedmont, if these places were supplied with creameries to manufacture the milk into butter, cheese, and other products.

The use of more improved machinery is especially recommended to those who cultivate the flat, moderately rolling valley lands. It has been shown that the wide variation in the earning capacity of farmers in various sections of the country is due mainly to the ratio of horsepower to the number of laborers employed. In some of the Northern States the farm worker produces $600, and about four horses for each worker is used. In the Southern cotton-growing States each farm worker produces about $145 and about two laborers to each mule are employed. The use of labor-saving machinery also makes the farmer less dependent upon labor. On the whole the agricultural conditions in the county are encouraging and more demands are being made on the farmers for their products by the increase of the nonagricultural population engaged in manufacturing and developing the mineral resources of the area. The rapid growth of the larger cities of northern Alabama will also make great demands on the farms of Calhoun County for their food supply and feed stuffs.

SOILS.

The materials which go to form the various soil types encountered in the survey of Calhoun County are derived largely from the underlying geological formations.[a] Eight different geological formations occur, extending from the Archæan through the Cambrian, Silurian, Devonian, and Subcarboniferous to the Carboniferous age. These

[a] Data relative to the geology of Calhoun County were kindly furnished by Dr. Eugene A. Smith, state geologist of Alabama. Use was also made of his Report on the Valley Regions of Alabama.

formations represent the different deposits which were spread out over the ocean floor at different peroids, and later when this region was elevated and became a land area the different deposits became solidified and in some cases metamorphosed. The depositions thus made include conglomerates, sandstones, limestones, and shales of varying degrees of purity, hardness, and color. Calhoun County forms a part of the Appalachian Mountain system, which extends from central Alabama to northeastern Pennsylvania. In the processes of elevation or mountain building the rocks were so distorted, crumpled, and folded that they now outcrop at various angles at the surface and give rise to a great variety of soil conditions. These soil conditions were assembled into groups, and within each group the materials having similar origin, texture, topographic features, color, and agricultural value were separated and mapped as types.

The rough broken character of the surface of the area is not due entirely to the uplift of the various formations, but is also due to the processes of erosion. The eroded materials have been transported and laid down along the various streams and this has given rise to a certain class of soils. In the rough mountainous country, south and east of Choccolocco Valley, the crystalline rocks, probably Lower Cambrian in age, give rise to the soil type mapped as Talladega slate loam. The rocks from which this type is derived exhibit a variety of colors, from dark green to lustrous pearl. The shales have a greasy talcose feel, and this is also characteristic of the soil and subsoil. Accompanying the shales and interbedded with them are conglomerates, quartzites, and veins or lenses of quartz, fragments of which frequently occur upon the surface.

The most important geological formation of the county includes the purer limestone and cherty siliceous limestone known as the Knox dolomite, which, upon weathering, gives rise to the Decatur clay loam, Decatur loam, Decatur stony loam, Clarksville loam, Clarksville stony loam, and Clarksville gravelly sandy loam. The members of the Decatur series are the most productive upland soils in the area and are derived from the purer limestones, while the Clarksville soils are more siliceous or cherty, the size and amount of chert fragments being the main difference between them. These are fairly productive soils and are used extensively for general farming, except upon the rough stony areas.

Derived from the shale formations, including interstratified sandstone, are the Dekalb loam, Dekalb shale loam, Conasauga clay, and Montevallo shale loam. All but the last-named type are classed with the flat woods and are known locally as "post-oak lands," and represent some of the less productive, easily eroded soils. From the Weisner sandstone and conglomerate formations are derived the Dekalb stony loam, Dekalb sandy loam, and the greater portion of the

Rough stony land, which usually occur as mountain types, and with the exception of the Dekalb sandy loam are not used extensively for general farming purposes.

The Huntington fine sandy loam and Huntington silt loam occur as first and second bottom lands along the several branches, creeks, and the Coosa River. They are formed from sediments transported long distances or washed in from the surrounding uplands. These soils are frequently lacking in drainage, which is usually supplied through open ditches.

The following table gives the name and extent of each of the eighteen types of soil found in Calhoun County:

Areas of different soils.

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Clarksville stony loam	91,840	23.1	Clarksville gravelly sandy loam	11,648	2.9
Rough stony land	42,368	10.7	Montevallo shale loam	9,600	2.4
Dekalb stony loam	40,256	10.1	Holston gravelly sandy loam	7,680	1.9
Huntington silt loam	32,832	8.2	Holston fine sandy loam	6,208	1.6
Dekalb loam	30,208	7.6	Dekalb sandy loam	1,024	.3
Decatur clay loam	29,120	7.3	Conasauga clay	704	.2
Decatur stony loam	28,032	7.1	Clarksville loam	704	.2
Talladega slate loam	20,032	5.0			
Dekalb shale loam	17,600	4.4	Total	397,440	
Huntington fine sandy loam	14,528	3.7			
Decatur loam	13,056	3.3			

DECATUR CLAY LOAM.

The soil of the Decatur clay loam, to a depth of 4 to 8 inches, with an average depth of 5 inches, is a chocolate brown to dark-red heavy loam or clay loam. In the depressed or flat areas, where organic matter accumulates more rapidly, the soil is deeper and of a deep-brown to black color. Eroded areas frequently occur which give the soil a spotted appearance. The subsoil is more uniform than the soil, in color and texture, being a dark-red, rather stiff silty to sandy clay. It is more sandy where the soils from the mountains have entered in part into its composition. It contains sufficient sand to be friable or brittle when dry, but when wet it is quite plastic. The surface soil is sometimes sandy, and where such areas were of sufficient size they were separated and classed with the Decatur loam.

The occurrence on the knolls of a small amount of quartz, chert, and sandstone fragments, some of which are rounded, would seem to indicate that the derivation of the surface soil was probably to some extent influenced by materials reworked by stream action or possibly by the breaking down of conglomerate. Partially disintegrated chert and bowlders of limestone were occasionally observed buried in the

subsoil, but in general it is quite free from stones or gravel, the weathering having taken place to considerable depths.

This type is strictly a valley soil, and it is most extensively and typically developed in the Alexandria and Jacksonville valleys. Other less extensive areas occur in the vicinity of McFall, Piedmont, Bynum, Anniston, and along the courses of Choccolocco, Chattaquilla, and Nancy creeks.

Where the type occurs in the vicinity of the Choccolocco and Coldwater mountains, the soil and subsoil are lighter or more sandy in texture, but have the same characteristic dark-red to brown color. The texture of the soil in these areas is somewhat similar to the Decatur loam, but the depth is seldom more than 5 inches, and if plowed to a depth of 6 to 8 inches it develops more of a clay loam texture. In addition to being better drained, it is a warmer and easier soil to cultivate.

The Decatur clay loam, being the heaviest soil in the county, is naturally the most difficult to handle, especially during wet seasons or seasons of prolonged drought. It is a tough and hard soil when dry, and if too wet it does not readily scour. When plowed in this condition it forms clods. This is due in part to the lack of humus. The best results have been obtained by the use of the revolving disk plows, which, however, require more horsepower to operate than is available to the average tenant.

Except for a few sidehill areas, this soil has a fairly uniform, gently rolling surface, and over the greater portion of it the most improved labor-saving tools and machinery can be used. If not properly cultivated the soil easily erodes. Terracing, however, is not generally needed, but deeper plowing and the growing of winter cover crops should be more generally practiced.

The surface drainage is usually sufficient, although small basins occur throughout the type which would be materially benefited by artificial drainage. The stiff character of the subsoil and the shallowness of the soil is naturally conducive to a low water-holding capacity. The precautions suggested to prevent erosion will also increase the power of the soil to hold water and insure better yields, both in times of drought and of excessive rainfall. Subsoiling, the addition of organic matter in the form of barnyard manure, and the growing of legumes should be more generally practiced.

The Decatur clay loam was formed by the breaking down or weathering of the Aldrich (Beaver) limestone, the siliceous Knox dolomite, and chert, which belong to Cambrian and Silurian periods. The rock that has entered most into the formation of this soil type consists of the purer and less siliceous strata. Occasional outcroppings of the Knox dolomite were observed along stream courses.

The original material seems to have contained a relatively large quantity of iron compounds, as pockets of iron ore consisting of limonite and red hematite have been mined at various places. The oxidation of this high content of iron in the soil is the source of the deep-red color, which is its distinguishing feature.

The Decatur clay loam is the strongest soil in the county and is capable of being made the most productive. With the usual methods practiced, however, the Decatur loam is about equally productive. The original growth upon this type was largely hardwood, although considerable pine has been removed. Practically all of this land has been cleared, and most of it is under cultivation. Where badly eroded, it is allowed to grow up in briers, wild plum, and field pine, which protects the soil from washing until a new soil is made, after which it is reclaimed as "fresh land."

This soil type is particularly adapted to intensive and diversified farming. The higher and better drained areas are well suited to cotton and cereals. Cotton yields from one-third to 1 bale per acre, wheat from 15 to 25 bushels per acre, and oats from 20 to 30 bushels per acre. Corn is best suited to the lower lying, darker soils in the basins, yielding from 25 to 30 bushels per acre. Although cotton produces a rank growth in these basins, the bolls often fail to mature. Where cotton is allowed to make a stand in these areas, attention should be given to "chopping," so as to give the individual stalks more space in which to mature their fruit. Wheat was grown quite extensively upon this soil when it was first cleared, but for more than half a century cotton and corn have been the staple crops, and in some instances cotton has been grown almost exclusively. Besides the crops above mentioned this soil would be well suited to stock raising and dairying, as Johnson and Bermuda grasses and other forage crops, such as cowpeas, vetch, clover, etc., do well. Many large springs have their origin in or near bodies of Decatur clay loam, and with the large creeks in close proximity or passing through these areas there is an assurance of plenty of water for stock the year round.

This soil is largely leased to tenants whose contracts expire after the crop is made, and it is the exception to find one who remains longer than one or two years upon the same tract of land. Cotton is usually stipulated as the basis for rental, so that crop rotation is not generally encouraged. Where the soil is handled by the owner, more attention is usually given to tillage and to the rotation of crops, the result being that within a few years the yields are frequently doubled. With better methods of seed selection, proper rotation, and the addition of sufficient humus, the soil should yield on an average 1 bale of cotton per acre and from 40 to 60 bushels of corn.

By the addition of organic matter the benefits resulting from the use of commercial fertilizer would be increased, as these give their maximum returns only when the soil is well stocked with humus.

This type is not generally listed on the markets, but when offered for sale it brings from $15 to $40 or $50 an acre, depending on the location and improvements.

The following table gives the results of mechanical analyses of samples of both soil and subsoil of the Decatur clay loam:

Mechanical analyses of Decatur clay loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20159	Soil	0.4	6.6	5.4	12.9	23.3	31.3	19.7
20160	Subsoil	.3	4.5	4.1	8.7	15.9	27.7	38.3

DECATUR STONY LOAM.

The interstitial material of the soil of the Decatur stony loam consists of a brownish or reddish fine sandy loam, or loam having an average depth of about 6 inches, but varying from 4 to 8 or 10 inches in depth. The surface soil is usually quite dark. The subsoil is a dark-red or brick-red sandy clay. The color is generally more pronounced and the texture heavier in the lower depths. Scattered over the surface and throughout the soil and subsoil are varying quantities of subangular and angular chert, quartzite, and sandstone fragments, but these rarely interfere seriously with cultivation.

The Decatur stony loam is one of the most widely distributed types in the area. It is extensively developed in the vicinity of De Armanville. It also occurs near Oxford, Anniston, Bynum, Weavers, Jacksonville, Piedmont, White Plains, Ironcity, and in smaller areas in almost every section of the county.

This type is derived largely from the residual materials left after the solution and disintegration of impure limestones, chiefly the Knox dolomite and to some extent from formations belonging to the Subcarboniferous. Some shale has also entered into its composition. Where this type occurs in the vicinity of Coldwater and Choccolocco Mountains, displaced materials have entered largely into its origin, as is shown by the occurrence of rounded sandstone and quartzite bowlders throughout the soil profile. This phase of the type probably represents materials of both sandstone and limestone origin, and is closely allied to the Upshur stony loam, as mapped in other areas.

The Decatur stony loam usually occupies the lower slopes and foothills of the mountains. It also occurs as isolated ridges, hills, and

table-lands throughout the broader valleys. Its topography in some instances is similar to the Decatur loam and clay loam, but for the most part it is hilly and broken or eroded. The drainage is sometimes excessive, and it is always sufficient for seasons of average rainfall. Very little of the type requires artificial drainage. The stones in the soil act as a mulch to conserve the moisture, so that it does not suffer from drought, as do the heavier equally well drained soils.

The native vegetation upon this soil type consists of longleaf and shortleaf pine, hickory, white, red, and black-jack oak, persimmon, dogwood, chestnut, and various species of shrubs. The marketable lumber has practically all been removed and a large percentage of the type has been cleared and is under cultivation. It is classed with some of the most productive soils in the area, and is especially well suited to cotton and fruit culture. Cotton yields from one-half to three-fourths bale per acre, and with the use of fertilizers corn yields from 10 to 20 bushels per acre and oats from 20 to 40 bushels per acre. Clover does well also. Alfalfa has been tried with some success, but generally not enough attention has been given to this crop to make the test effective. Liberal applications of lime and a thorough preparation of the seed bed are essential to the successful culture of alfalfa upon this soil. The type is well suited to peaches, blackberries, raspberries, currants, gooseberries, and plums; also to the usual truck crops. The lighter soils on the lower slopes of the mountains are best suited to peaches, which are especially valued for their high color and fine flavor, but thus far very little attention has been given to this industry upon a commercial scale. The trees usually not being properly cared for, become diseased, and in a short time the entire orchard is infected. What fruit is grown is disposed of in the local markets, and in many instances no provision is made to supply home needs. The introduction of home canneries would encourage the growing of more fruit.

This land is valued at $8 to $20 an acre, depending, of course, on the location and nearness to markets.

The results of mechanical analyses of fine-earth samples of the soil and subsoil of this type are shown by the following table:

Mechanical analyses of Decatur stony loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20165	Soil	0.5	8.1	7.3	24.5	13.1	26.4	19.5
20166	Subsoil	1.1	5.9	5.5	15.7	13.5	25.2	32.9

DECATUR LOAM.

The surface soil of the Decatur loam is a brown, medium-textured, sandy loam, or light loam, or a silty to fine sandy loam, varying in depth from 4 to 8 inches, with an average depth of 7 inches. The soil generally is quite uniform in texture, and the color becomes more reddish in the lower depths. The subsoil is a reddish sandy clay or clay loam, which in the lower depth is very dark red, being similar to the subsoil of the Decatur clay loam, and where erosion occurs it has a spotted appearance. A few areas of dark-brown silt loam, underlain by a deep-red silty to fine sandy clay, are included with this type. These occur in close proximity to the Montevallo shale loam.

This type is widely distributed over the county, but does not occur in large areas. It is found in the vicinity of Tredegar, Piedmont, Anniston, Alexandria, and in smaller areas in all the larger limestone valleys. The surface features are moderately rolling and the drainage excellent. The sandy nature of the soil, acting as a mulch, retains the moisture, and crops suffer little from drought, and better returns are shown from the use of commercial fertilizers.

The Decatur loam is derived largely from the solution and disintegration of limestone. The occurrence of rounded quartzite and sandstone pebbles upon the steeper slopes and knolls would indicate that a portion of the soil either represents materials reworked by water and spread over the surface or derived from the breaking down of a conglomerate.

The native vegetation consists of longleaf pine, oaks, persimmon, etc. Most of this type is cleared and under cultivation. It is well suited to both corn and cotton, and produces from one-third to 1 bale of cotton per acre and from 15 to 20 bushels of corn per acre. It is one of the easiest soils in the area to cultivate, but it is seldom plowed deep enough. Large yields of cowpea hay are produced, which net good returns, besides enriching the land. This practice should be extended. It is also well adapted to stock raising, dairying, fruit growing, and trucking—tomatoes, peas, beans, cantaloupes, and Irish and sweet potatoes doing especially well. Clover also does fairly well. Very little attention is given to the growing of winter cover crops, which would prevent washing during the rainy seasons, besides furnishing winter pasture.

This soil is highly valued for general farming purposes, and is not generally for sale, but its estimated value is from $12 to $25 an acre.

The results of mechanical analyses of samples of the soil and subsoil of the Decatur loam are shown by the following table:

Mechanical analyses of Decatur loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20153	Soil	0.9	8.5	5.7	13.2	10.9	47.1	13.5
20154	Subsoil	.8	5.1	4.2	8.3	12.9	35.9	32.8

MONTEVALLO SHALE LOAM.

The fine earth of the Montevallo shale loam is a purplish to brownish floury, silty loam, varying in depth from 5 to 10 inches, with an average depth of 6 or 7 inches. Upon the surface and throughout the soil profile occur varying quantities of sandstone and variegated shale fragments, the latter being one of the distinguishing features of the type as well as the source of its local name, "slaty land." The subsoil varies from a purplish to a brownish silty clay or clay loam to a mass of weathered shale, which is usually variegated, a purplish coloring predominating.

The largest connected areas of Montevallo shale loam occur in the vicinity of Weavers Station. Other areas occur in the vicinity of Piedmont, Jacksonville, Anniston, Bynum, Coldwater, and north of Alexandria, while smaller ones are scattered throughout the county. This type is generally found in close proximity to the limestone soils of the valleys.

The topography is generally hilly to mountainous, consisting of elongated ridges, with comparatively steep slopes, sharp crests, and narrow intervening valleys. The streams are mostly intermittent, and the drainage is usually excessive. Because of the loose structure of the soil, it easily erodes, and terracing must be done when the type is cultivated. Even this does not prevent frequent losses on the steeper slopes by erosion, and many of the cleared fields have to be abandoned for this reason. The growing of winter cover crops and deeper plowing in the fall will lessen the tendency to wash. The steeper slopes should be kept in forests and used for grazing.

The Montevallo shale loam is derived from the weathering of the sandstones and variegated shales of the geological formation known as the "Montevallo" of the upper Subcarboniferous. These shales rarely occur horizontally bedded, but are inclined at angles of 30° to 50°, and upon weathering surface exposures of the various strata give rise to wide variations in texture and color, as represented by the different phases of this type. Where the thicker banded, coarser grained sandstone shales outcrop the residual material is lighter colored and

coarser, and angular fragments or sandstone blocks are scattered more thickly over the surface. These are highly ferruginous, and vary in color from light brown to deep purplish red or brownish. The thin-banded, finer textured shales are usually more variegated or purplish. Upon weathering these break down into thin scales, and frequently compose the greater proportion of the soil mass where this formation comes close to or outcrops at the surface. The variegated shales and sandstones of this formation are frequently underlain by blue limestone, which no doubt gives rise to the heavier purplish-red subsoil found upon the lower slopes and in narrow valleys between the ridges. These are the most highly prized areas of the type for general farming. They are not only more fertile, but are less liable to erode and are comparatively free from rock fragments.

Only a limited acreage of this type is under cultivation, the greater proportion supporting a native forest growth of longleaf and shortleaf pine, and various kinds of oak, hickory, dogwood, cedar, chestnut, etc. The best timber, however, has been removed. The rougher portions are of very little value aside from their timber and mineral resources. The occurrence of iron ore in some sections of the county in connection with the Montevallo formation was noticed. When the slopes are not too steep they furnish fairly good range for stock. The lower slopes and valleys, when cleared and cultivated, produce from one-fourth to one-half bale of cotton per acre and from 10 to 25 bushels of corn to the acre. Cotton is usually planted on the better drained slopes, while corn is planted in depressed basins. The growing of cowpeas, clover, rye, vetch, and oats for hay and grazing, as well as for plowing under as a green manure, should receive more attention.

The Montevallo shale loam is valued at from $8 to $15 an acre.

The results of the mechanical analyses of samples of the soil and subsoil of the Montevallo shale loam are as follows:

Mechanical analyses of Montevallo shale loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20193	Soil	2.3	3.0	0.6	3.6	33.5	44.7	12.0
20194	Subsoil	1.0	1.8	.8	3.3	28.6	36.5	27.8

ROUGH STONY LAND.

The type Rough stony land includes steep escarpments, precipices, and deeply eroded ravines and cuts; also the less steep slopes and mountain tops, the surface of which is covered with rock fragments and rock outcrop. The type ranges in elevation from about 1,000 feet to something over 2,000 feet above sea level, or from 300 to 1,500 feet above the valley lands of the county.

The processes of erosion are so active that it is possible for a deep covering of soil to accumulate only on areas of very limited extent. The finer soil, or interstitial material, is so variable that only a general classification can be made, the larger percentage of it being sandy. Where these rough stony areas are associated with the Clarksville stony loam, the soil is more silty. The color of the soil is generally dark gray to brown and yellow to reddish in the lower depths.

As the soil is never very deep it is rarely possible to bore to a depth exceeding 8 or 10 inches. Small areas occur throughout this type upon the flattened hilltops and in basins where the soil is deeper and comparatively free from stones and rock outcrop, but owing to the rough, broken character of the country it was impracticable to separate them. Where accessible such areas could be used for growing fruit, especially peaches and grapes. A few areas of a rich dark loam, mapped in other sections of the Appalachian Mountain province as Porters black loam, were encountered in the smaller coves and depressions. This soil is especially adapted to apples, particularly the Albemarle pippin. Fruit trees planted upon such areas on the mountains rarely fail to make a crop. With the increased demand for fruit in the local markets and abroad, and with the increase in value of the more accessible land, these areas may be used later for commercial fruit growing. This type is also used to some extent for pasture, and its use in this way could be greatly extended, especially for sheep and goats.

The occurrence of this type is due mostly to the presence of sandstone conglomerates and quartzite strata together with other resistant formations, which have given rise to the rougher and more prominent topographical features of the country.

Rough stony land occupies about 66.2 square miles, or 10.7 per cent of the area surveyed. The largest continuous area includes the higher, stonier, steeper, and more rugged portions of the Choccolocco range of mountains and extends in a general northeast and southwest direction across the eastern half of the county from near Oxford to within a short distance of Piedmont. The next largest area includes similar conditions upon Coldwater, Dugger, and Blue mountains. Narrow strips of this type form a portion of the boundary between Calhoun and Etowah counties. Other areas occur throughout the more broken sections of the county.

This type is excessively drained, and during the rainy seasons it is seriously eroded by mountain torrents if left unprotected by the removal of the timber growth. The native vegetation was originally thickly timbered forests of longleaf pine, chestnut, oak, etc., but in recent years most of the marketable timber has been removed. Forest fires have also destroyed much of the timber. The present growth is scant and largely oak, shortleaf pine, hickory, chestnut,

etc. No better use could be made of this land than for forestry, especially since it is usually held intact in large areas by mineral land companies, the "pockets" of iron ore scattered throughout it yielding a large revenue to the owners.

The valuation placed upon this soil type is based almost entirely upon the extent of its timber growth and mineral resources. Only a very limited acreage is under cultivation. It is usually sold without the mineral rights at from $2 to $5 an acre.

CLARKSVILLE STONY LOAM.

The soil of the Clarksville stony loam, from 6 to 10 or 12 inches deep, with an average depth of about 8 inches, consists of a gray, brown, or drab silt loam or silty to fine sandy loam, containing varying amounts of chert and siliceous rock fragments throughout the soil profile and upon the surface. The soil in the lower depths is of a yellowish-gray color. The subsoil to a depth of 15 or 18 inches is a compact heavy loam or silt loam, grading into a silty to fine sandy clay or clay loam. The lower subsoil is usually characterized by a deepening of the yellow or reddish-yellow color and iron stains which occur in streaks throughout the profile, frequently giving it a mottled appearance. The occurrence of partially disintegrated limestone, in the lower depths, produces a "whitewashed" effect upon exposure in road cuts, excavations, etc. It is frequently referred to locally as "white land," "mulatto land," "gray land," "piney woods land," etc.

This soil has usually a low humus content and when cleared and put under cultivation must be fertilized after the second or third year. The occurrence of a large amount of rocks and chert fragments upon the surface and in the soil interferes to a considerable extent with cultivation. Its steep broken surface features also make it as a whole undesirable for general farming purposes. The talus slopes and more undulating portions of the type are, however, being cleared and put under cultivation, and it occasionally happens that there are areas which are comparatively free of rock fragments. Where such areas occur in large enough bodies to warrant their separation they were included with the Clarksville gravelly sandy loam.

The Clarksville stony loam is one of the most extensively developed types in the area. It occurs mainly in two large irregular bodies, one in the north-central portion of the county, west of Piedmont, and the other lying north and west of Anniston, in the southern and southwestern portions of the county. These two areas are separated by a more complicated series of soil conditions in the central portion of the county in the vicinity of Alexandria. Several minor ridges of the type dissect this part of the county, having a general northeast and southwest direction. Other smaller disconnected areas occur throughout the county, chiefly in the northern and western parts.

The native vegetation consisted chiefly of a fine growth of longleaf pine, but in recent years most of this has been "logged off," leaving a second growth of pine, black-jack, and scrub oak, and some chestnut.

The Clarksville stony loam is derived very largely from the weathering in place of the Knox dolomite formation. This consists of cherty limestone rock from which the calcareous material becomes dissolved or leached out, leaving the hard, flinty material which imparts to the soil its stony, gravelly character. The occurrence of crinoidal stems and other fossiliferous remains were observed in the formation. The residual materials of the Knox dolomite formation, including the chert fragments, are being used extensively throughout the county for surfacing roads, with excellent results. This practice should be extended. Several lime kilns are located in the section covered by this formation and the limestone is being burned for commercial purposes.

The Clarksville stony loam is well drained. In many instances, however, the drainage is excessive, in which case the soil washes badly. For this reason the steeper slopes should be devoted to forestry or seeded down to permanent pasture and more attention given to terracing. The light character of the subsoil makes it generally susceptible to drought, but the rock fragments upon the surface tend to conserve the moisture. Heavy rains cause this soil to run together where it occurs upon the more level areas.

This type usually occupies steep, broken, or choppy ridge land. The broader areas have the appearance generally of rough dissected plateaus, with irregular ridges and narrow V-shaped and precipitous valleys, having a mean difference in elevation of 250 to 300 feet. The streams are generally intermittent, although some of the finest springs in the county have their source on this type.

The Clarksville stony loam is mostly broken with a one-horse turning plow. It is better suited to corn than cotton, the former yielding from 20 to 40 bushels per acre. Cotton yields vary from one-fourth to one-half bale per acre without the use of fertilizers, but after the third year the low returns make it necessary to apply them. If cowpeas and corn were rotated with cotton less fertilizer would be required to maintain the yields, or they could easily be increased. This soil is also well adapted to wheat, yielding from 10 to 40 bushels per acre, averaging 15 to 20 bushels. The acreage of wheat has been greatly reduced in the last few years. Wheat should be sown in October, if possible, or at least by the 1st of November. The tendency at present is to follow a one-crop system of either cotton or corn. Every farmer upon this type seems to recognize the value of planting cowpeas as a soil builder, but few practice it. If more stock were raised the demand for feedstuffs would encourage the growing of cowpeas for hay. Clover does

fairly well upon this soil and should be grown more extensively. A very good grade of tobacco is grown, but none of it is marketed. The lower lying areas are well adapted to apples, plums, pears, small fruits, and vegetables, including Irish potatoes. Where the topography makes it suitable for the production of apples and peaches their cultivation is usually attended with profitable results, if accessible to markets. This type is especially adapted to peaches, and if more attention is given to developing a canning industry in the county a profitable business in peach growing could be developed. The lack of market facilities discouraged the growing of peaches in the last few years, and many fine orchards have been allowed to go to ruin for lack of attention.

Most of this type is held in large tracts by mineral land companies, who frequently sell the land but retain the mineral rights. Fairly rich deposits of limonite ore occur throughout the type, and its present valuation is based largely upon its mineral prospects, timber, and use as pasture. It is generally valued at from $3 to $10 or even $20 an acre.

The results of mechanical analyses of fine-earth samples of the soil and subsoil of the Clarksville stony loam are shown in the following table:

Mechanical analyses of Clarksville stony loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
19119.....	Soil.....	5.2	8.3	3.9	9.3	5.2	54.0	13.1
19120.....	Subsoil.....	4.0	7.9	3.9	9.2	4.9	53.0	18.0

CLARKSVILLE GRAVELLY SANDY LOAM.

The soil of the Clarksville gravelly sandy loam is a dark-gray or light-brown silty loam or fine sandy loam from 6 to 12 inches deep, with an average depth of 8 inches. The soil contains, in addition to the fine-earth material, a rather high percentage of small chert and shale fragments, but only a few of these were large enough to be classed as rocks or bowlders. The chert fragments occur chiefly upon the ridges and knolls, while the narrow valleys and depressions are comparatively free from them. The subsoil to a depth of 15 or 20 inches is a grayish to yellow heavy loam or clay loam underlain by a yellow or reddish silty clay, the latter occurring upon the knolls and ridges, while the yellow subsoil is more often associated with the flat or depressed areas.

Although this type covers but a few square miles it is widely distributed over the county. It generally represents the level to gently rolling "gray lands" which occur as talus slopes or basins

in the Clarksville stony loam. A few isolated areas, however, were mapped in the valleys, but these were not associated with the stony loam type. The largest single area occurs about 3 miles northwest of Piedmont and extends to the Cherokee County line. Other small areas were mapped along the route of the Seaboard Air Line from Piedmont to Wellington. An elongated area covering a little more than 1 square mile occurs about 3½ miles southwest of Alexandria. Areas of less extent are found in the vicinity of Mink, De Armanville, and Bynum, and elsewhere throughout the county.

The surface topography is flat to moderately rolling, usually occupying the lower hills and slopes of the broken areas covered by the Clarksville stony loam. The type is generally well drained, with the exception of the smaller depressions and narrow winding valleys which receive the drainage from the higher elevations. These areas, however, are usually drained by open ditches and are mostly used for the production of corn, sorghum, hay, or pasture. Upon the steeper slopes the soil is easily eroded and must be terraced when used for general farming. A better use of this phase of the type would be to sod it in Bermuda or orchard grass for hay or pasture. Cotton does fairly well on these slopes, but on account of their location the soil washes badly, carrying away the fertilizer and making it an expensive crop to cultivate. Corn yields from 10 to 15 bushels per acre, but it is more often grown upon the flat or depressed areas, where larger yields are obtained.

The native vegetation consisted largely of longleaf and shortleaf pine, oak, hickory, dogwood, and other deciduous trees. Most of the land, however, has been cleared and is under cultivation. On account of its gently rolling surface and its position upon the slopes and in basins and valleys it is better suited to general farming than the Clarksville stony loam, and it is easier to cultivate, being comparatively free from rocks and bowlders. It is more susceptible to drought than the stony loam and is also more affected by periods of wet weather.

This type is especially adapted to apples, plums, pears, raspberries, strawberries, blackberries, and other small fruits and vegetables. It is well suited both to Irish and sweet potatoes, yielding from 75 to 100 bushels or more per acre. Oats, wheat, rye, and barley also do well, but these have not been grown to any extent in recent years. More attention is given to oats, which are usually sown in October, than any other small grain. After these are harvested in the spring they should be followed by cowpeas, grown either for hay or to be turned under to supply the soil with humus. Rye with vetch or crimson and burr clover would also make excellent winter cover crops. Some difficulty might be experienced the first year in obtaining a stand of clover without inoculating the soil, but if repeated for

a year or two the clover itself would eventually inoculate the land and produce large yields of hay and also make excellent pasture. This type is especially adapted to sorghum, from which a very fine light-colored and mild-flavored sirup is obtained. This soil is probably best suited to corn. Yields of 10 to 25 bushels per acre are obtained by the use of fertilizers, which are generally applied at the rate of 200 pounds to the acre. Cotton yields on an average from one-fourth to one-third bale per acre. A few small patches of tobacco were observed upon this type, but it is grown exclusively for home use. This industry can be profitably extended if its culture is given sufficient attention to command a market. Where this type occurs in the vicinity of railway stations, towns, or cities it will probably yield larger returns from dairying, trucking, and fruit growing than from general farming. It is well suited to Bermuda grass, which makes an excellent hay crop and pasture. Running water is generally found in the valleys throughout the year, making it suitable for stock raising.

The Clarksville gravelly sandy loam is generally valued at $5 to $15 an acre. It is often held in conjunction with other types in large tracts by the mineral land companies, who dispose of the agricultural rights but retain the mineral rights.

The results of mechanical analyses of fine-earth samples of the soil and subsoil of this type are shown in the following table:

Mechanical analyses of Clarksville gravelly sandy loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20141	Soil	2.7	15.1	12.6	20.6	7.6	29.5	11.5
20142	Subsoil	2.6	13.4	12.3	21.3	8.3	26.6	15.3

CLARKSVILLE LOAM.

The soil of the Clarksville loam from 6 to 10 inches in depth, with an average depth of 8 inches, is a dark-gray to brown loam, resting upon a grayish to light-yellow clay loam 18 to 20 inches deep, which in turn is underlain by a bright yellow or reddish clay.

This type is of limited acreage in the county and occurs chiefly around Mink, and about 3 miles north of Zula. Smaller areas occur in the southern portion of the county, where they join the same type of soil mapped in Talladega County.

The surface features are flat to gently rolling. The drainage is usually adequate for most crops during seasons of average rainfall, but in wet seasons crops are frequently damaged by rust and standing water.

The Clarksville loam is derived from siliceous limestone of the Knox dolomite formation. It is comparatively free from chert fragments, which formed the basis of separation between this type and the Clarksville gravelly sandy loam. In the lower lying areas the soil has been formed partially by wash from the surrounding hills of the Clarksville stony and gravelly sandy loam, but usually these areas are of very limited extent and are used mostly for corn. Apples, plums, and pears also do well upon these low places. The soil is probably best suited to grasses, such as Bermuda, orchard, and Johnson grass, for pasture and hay. Clover does fairly well and is grown to some extent. Very little cotton is grown upon this type, but a few small patches of tobacco for home use were observed.

This land is valued at $5 to $15 an acre according to location.

DEKALB LOAM.

The surface soil of the Dekalb loam to a depth of 4 to 9 inches, with an average depth of 7 inches, is a light-brown or grayish loam or silty loam, containing sufficient gravel and sand of various grades to make it "gritty." On the knolls the soil is often not more than 3 or 4 inches deep and frequently small patches of shale outcrop appear. The subsoil is a yellow or reddish clay loam 12 or 15 inches deep, underlain by a brownish or reddish stiff mottled clay. The subsoil is usually stiffer, more plastic, and of a darker red color upon the knolls, where the soil is better drained, while on the slopes and in the depressions it is more often yellowish and of a lighter texture or less plastic.

The Dekalb loam occurs chiefly in the northern and western portions of the county in irregular broken areas. The greater proportion is found in the Coosa Valley proper, associated with the Dekalb shale loam and other Dekalb and Holston soils. It is found in the vicinity of Piedmont, Jacksonville, Weaver, Alexandria, and Ohatchee. The largest body occurs about 4 miles northwest of Wellington.

The surface relief of this type is gently undulating to rolling. The drainage is ample upon the ridges and knolls, but it is lacking in the narrow valleys or depressions which receive the drainage waters from the more elevated areas. These, however, can easily be drained by open ditches leading into the deeper cuts and gullies that form the stream beds. The level areas are sometimes damp and cold, except in dry seasons, when the soil suffers from drought so that crops are often late in starting. If the ridges and knolls have steep sides they are inclined to erode, even when terraced, and they should be kept in forest growth or sodded with Bermuda or Johnson grass. They should never be left without some protecting crop in winter to prevent washing.

This type is derived from the weathering of yellowish to gray argillaceous shales, sandy shales, and fine-grained sandstones, which occur in alternate layers and outcrop at various angles to the surface. When the shales appear perpendicularly at the surface they are usually shattered off into flakes, forming the shale loam. On the sides of the slopes the soil is generally deeper, unless acted upon by erosion. In this case the flat or depressed areas receive the deposits of sediment washed from the slopes. Some of this type may have been derived from the weathering of siliceous limestone or dolomite, since fragments of chert are occasionally found upon the knolls. The shales usually occur embedded at depths varying from 3 to 6 or 8 feet, as shown by road and railroad cuts.

In the vicinity of Wellington and occupying little more than 1 square mile the soil varies somewhat from the typical description. Here the immediate surface soil is a dark-brown loam, grading into a light shale loam at 30 to 36 inches. The subsoil is generally mottled in the lower depths. Occasionally the partially weathered rotten shales are encountered at a depth less than 3 feet, but generally these occur at from 5 to 6 feet, or more, below the surface. This phase of the type is derived from the weathering of dark-brown to black, thinly laminated, fine-textured, rotten shales. The bedding plane of these shales rarely occupies a horizontal position, being slightly inclined to almost perpendicular.

The Dekalb loam is generally called "post-oak land," from the large number of trees of this species that grew upon it. Longleaf and shortleaf pine, black-jack, sweet gum, and other deciduous trees and shrubbery were also original growths. Broomsedge produces a rank growth in abandoned fields.

This is an easy soil to cultivate where the moisture conditions are favorable, but if plowed when wet it clods and does not scour easily. The best returns are obtained by the use of the revolving disk plow, the soil being turned in the fall or early winter. The tendency of the soil to run together could be remedied largely by the turning under of legumes and winter cover crops. This would not only increase the supply of humus, in which the soil is generally deficient, but would also conserve the moisture and prevent washing.

For the first two or three years after the soil is put under cultivation very good yields of cotton and corn are obtained, but the yields rapidly diminish after the third year unless the crops have been grown in rotation and commercial fertilizers have to be applied to maintain the productiveness. Wheat and oats do well upon this type, especially upon the highly fertilized areas which had been previously planted to cotton or corn. The yields of wheat range from 20 to 30 bushels per acre and of oats from 30 to 50 bushels per acre. Very little wheat is at present grown, having been abandoned in recent years on account of rust. Where it is possible to grow it, this crop

should be included with other crops in rotation with corn and cotton. Deeper plowing is generally needed so that the crops will not be so susceptible to drought, while shallow and frequent cultivation will help to conserve the moisture already taken up by the soil. Barnyard manure, usually in the form of compost with pine straw and cotton seed, is used to some extent, but the supply is never sufficient and commercial fertilizers have to be added. Cowpeas make a vigorous growth, especially when fertilized with phosphate, and yield from 1 to 2 or more tons per acre. The value of cowpeas as a soil builder is quite generally recognized, but on account of the land being rented to tenants very little cowpea hay is made. Sorghum does especially well in the lower lying areas having light-colored subsoils, producing a sirup of light color and high quality. Raspberries, blackberries, strawberries, apples, plums, pears, and grapes do fairly well. The pears blight, but this disease may be kept in check by proper spraying and vigorous pruning of the trees. Large tracts of this land have been allowed to remain idle for lack of labor to tend the crops. If these areas were sodded down in Bermuda or Johnson grass and cut for hay, using improved machinery to handle the crop, they could be made to yield profitable returns with but little labor and attention and at the same time they would furnish excellent pasture. The fields would also be protected from erosion, which is causing serious damage. Corn and cotton are the principal crops grown. The former yields from 10 to 20 bushels per acre, while cotton yields from one-fourth to one-half bale per acre.

The farmhouses on this type are frequently two-roomed structures made of logs or rough siding. The outbuildings are of the same general character, being made of poles covered with clapboards. The farms, if fenced, are usually inclosed with rail fences, although wire fencing has come into use in some sections within the last few years. The scarcity of labor and the desire for better school facilities have caused some of the farmers to desert their farms and move to town, where they obtain employment upon public works or in the factories.

This soil type is valued at $5 to $15 an acre.

The results of mechanical analyses of the soil and subsoil of this type are shown in the following table:

Mechanical analyses of Dekalb loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20171	Soil	7.1	12.5	4.9	11.4	11.2	41.7	10.7
20172	Subsoil	4.5	7.4	3.1	6.6	7.3	37.5	33.6

DEKALB SHALE LOAM.

The soil of the Dekalb shale loam is a brown to yellowish loam or heavy silty loam 6 to 8 inches deep. On the slopes where the shales are lighter in color and coarser in texture the soil is more sandy, while on the sheltered slopes and in depressions where the flaky brown shales prevail the soil is deeper and more silty. The subsoil consists of a heavy yellow to reddish clay loam, the clay content sometimes increasing with depth to 18 or 24 inches where the less disintegrated shale mass is encountered. In the more level areas a stiff rather plastic clay overlies the shales.

Upon the surface and scattered throughout the soil and subsoil are found shale fragments which increase with depth, the subsoil always resting upon the underlying broken shale. Where the steeper slopes occur the soil is removed nearly as rapidly as it is made, the remaining formation being nothing more than a mass of weathered or broken shales. The texture of the soil of the large, unbroken area of this type which occurs in the southwestern part of the county is considerably coarser than the interstitial material of other areas of this type. This is due to the fact that the shales from which this area is derived are of the quartz-veined phase of the Conasauga or Flatwoods shales. The soil in this section is thinner and lighter than in any other part of the county.

In the northwestern part of the area, parallel to the Green Mountain range, a steep broken phase of the Dekalb shale loam is found having a brown silt loam soil 6 to 8 inches deep. The subsoil is a yellowish-brown fine sandy loam to 24 inches, where unbroken shales are usually encountered. The surface is covered with flat brown flagstone shales or shales of a fine sandy texture about one-half to 1 inch in thickness.

The Dekalb shale loam occurs in this county usually in bodies varying from small patches to areas of 1 to 3 square miles in extent. The largest continuous body of this type occurs in the southwestern part of the county along the Coosa River and extends from Fombys ferry to the intersection of the Talladega County line. The next largest area occurs around Sulphur Springs Church, about 1½ miles northeast of Alexandria. Other areas are found near Francis Mill, Boiling Spring Church, and Ohatchee. Smaller patches are scattered over the western half of the county.

The topographic features of this type, like those of similar shale formations, consist of a series of rounded hills or knolls of fairly uniform height, with sloping sides and smooth contour lines. Between these hills or knobs are narrow winding valleys, which are usually dry except in wet seasons, and very little bottom land is found along the streams. The phase of this type lying parallel to

Green Mountain presents a much steeper and more rugged topography than is common to this type in other sections of the county. It occurs in long, narrow, steep ridges.

The hilly topography and the steepness of the slopes afford rapid removal of the water from the soil and subsoil. In most cases the subdrainage of the Dekalb shale loam, owing to the presence of shale fragments, is excessive, causing the soil to be droughty.

The Dekalb shale loam is a residual soil derived from the underlying shales. These shales vary from argillaceous to sandy, are thin to thick bedded, and more or less calcareous. During the uplifts and subsidences which occurred the valley formations were turned end upon end and were greatly distorted and shattered. The processes of weathering have been carried on both by chemical and physical forces to a considerable depth. The surface features produced by the distortion of this formation are such as to cause the removal of much of the weathered material as soon as formed. Where conditions are such that there is a chance for accumulation, the complete weathering of the shales results in a heavy yellow clay.

The native vegetation upon this type generally consists of scrub pine, chestnut, and scrub post oak. From the last-named timber growth the type gets the name "post oak slaty land" by which it is generally known. The principal crops are corn and cotton. Wheat was grown upon this type until four or five years ago, when it was practically abandoned on account of rust. The average yield of wheat was from 8 to 10 bushels per acre. Cotton does fairly well, yielding from one-fourth to one-third bale per acre with the use of commercial fertilizers. For the first few years after this type is cleared this yield is obtained without the use of fertilizers, but the humus is soon leached out and the yields rapidly decline. Corn yields from 8 to 10 bushels per acre with the use of fertilizers. The coarse texture and droughtiness of the soil make it a poor one for corn. Almost no attention is given to crop rotation upon this type.

The steeper slopes should be reserved for forestry or planted to grasses for grazing or hay. Cowpeas grow well, and in addition to producing fair yields of hay they build up the soil very materially. Lime would be beneficial, but none is used. Deep plowing is recommended, as it enables the crop better to withstand drought. Conditions would be greatly improved if more live stock were raised and the manure produced turned back into the soil. The turning under of green manure would also greatly improve the physical conditions, increasing the moisture-holding capacity.

The farmers living on the "slate lands," as this type is locally called, are not as prosperous as those on some of the more productive soils. The houses often consist of two-room log or frame buildings. The barns and other outhouses are usually built of pine poles. The

fences are frequently in poor condition, but this is sometimes due to the scarcity of timber from which to obtain posts and rails. Many farms have been abandoned within the last few years, the owners moving into the larger centers of population to work in factories. The fields are often allowed to grow up in broomsedge, field pines, etc., and where this protection is inadequate to hold the soil together erosion often follows with serious results.

The farms usually contain about 40 acres and as a rule are valued at from $6 to $15 an acre.

The following table gives the average results of mechanical analyses of the soil and subsoil of the Dekalb shale loam:

Mechanical analyses of Dekalb shale loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
19831, 20179.....	Soil.....	10.1	13.5	5.1	10.3	10.2	36.5	14.1
19832, 20180.....	Subsoil.....	6.0	9.0	3.3	6.7	7.9	31.4	35.7

DEKALB STONY LOAM.

The soil of the Dekalb stony loam consists of a grayish or brown fine sandy to silty loam, or sandy loam, varying in depth from 5 to 12 inches and having an average depth of about 6 inches. It is underlain by a yellow to reddish heavy sandy loam or sandy clay subsoil. Upon the surface and scattered throughout the soil and subsoil are varying quantities of sandstone fragments and conglomerate.

The type occupies mainly the lower slopes and foothills of the Coldwater Mountains west of Oxford and the Choccolocco Mountains, extending from Anniston to Piedmont, and irregular broken areas along both slopes of this range. It also occurs along a part of the northern boundary of the county, and another area of considerable extent is found in the northwestern part of the county, about 2 miles north of Ohatchee. Smaller areas occur in other parts of the county.

The surface of this type is usually rough and broken and badly dissected by erosion, but upon the talus slopes the surface is more gently undulating and better suited to agriculture. The drainage is usually excessive, except upon the lower slopes, where it is adequate for all purposes. The streams are mostly intermittent, but during the rainy seasons they become very rapid and gushing, since they serve to give outlet to the mountain torrents.

The Dekalb stony loam is derived from the weathering of the Weisner sandstone and conglomerate and coal measures, which occur in the northwestern portion of the county.

This type formerly supported a heavy growth of longleaf pine, but the greater percentage of it has been cut for lumber or burned by forest fires. The more recent growth consists of shortleaf pine, black-jack, hickory, and red and white oak.

The Dekalb stony loam is not generally suited to agriculture, though it may be used for grazing, but upon the lower slopes some fields have been cleared which produce fairly good yields of cotton and corn, being best suited to the latter. The largest area under cultivation occurs along the border of the mountains, between Oxford and White Plains, where the slopes are longer and admit of easier cultivation. This soil is well suited to peaches, yielding fruit of excellent color and flavor. Very little attention, however, is given to pruning and spraying. The soil is also well suited to trucking, especially watermelons, cantaloupes, cucumbers, peas, beans, and potatoes.

This type is naturally well supplied with humus from the decay of leaves and other forest vegetation, but after it is cleared and put under cultivation the humus is rapidly consumed or leached out and commercial fertilizers have to be used. The growing of legumes, including cowpeas, velvet beans, clover, rye, and vetch, would assist in maintaining the supply of humus, and deeper plowing is also needed. The rougher areas should be kept in forest and used for grazing purposes. Land of this type is valued at from $5 to $20 an acre, depending upon the location.

The following table shows the average results of mechanical analyses of the soil and subsoil of the Dekalb stony loam:

Mechanical analyses of Dekalb stony loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20173, 20177.....	Soil.....	1.7	7.1	7.3	24.9	15.8	27.8	15.5
20174, 20178.....	Subsoil.....	1.5	5.6	3.0	20.1	17.2	27.6	24.3

DEKALB SANDY LOAM.

The surface soil of the Dekalb sandy loam is a dark-gray or brown medium sandy loam, having an average depth of about 8 inches. The color becomes lighter or more yellowish below 2 or 3 inches, as the amount of organic matter present in the soil becomes less. Small patches of gravel and stones occur throughout the type, but not in sufficient numbers to interfere with cultivation or to warrant establishing a distinct soil. The subsoil is a yellowish to yellowish-red heavy sandy loam or sandy clay. In some instances it has a distinctly red color in the lower depths.

The Dekalb sandy loam is an easy soil to cultivate. Having a loose, open structure, it is always well drained, but it is not droughty, nor is it seriously affected by wet weather if proper methods are employed in making the seed bed deep and loamy. By frequent and shallow cultivation the moisture is conserved for the use of the plants. This also makes the soil desirable for trucking purposes.

The type has only a limited acreage in the county, its occurrence being confined to isolated areas upon the lower foothills or level plateaus bordering the Choccolocco and Coldwater mountains. Its topography is gently rolling to hilly.

The Dekalb sandy loam is of the same origin as the Dekalb stony loam, being derived from the underlying Weisner sandstone formation. Owing to its position at the foot of the mountains some additional materials have been added by wash from the higher elevations.

For the first few years after this soil is cleared and put under cultivation the yields obtained are often equal to those obtained from the valley lands. The principal crops are cotton and corn, but without the addition of more humus to the soil the yields are soon reduced. This soil is not well suited to clover, but cowpeas make a vigorous growth, and it is urged that more attention be given to the growing of this crop. Its value in supplying nitrogen and humus to the soil is quite generally understood, but it is rarely practiced upon this soil. The Dekalb sandy loam is a warm, early soil. It is well suited to light trucking and fruit growing. It is better suited, however, to the growing of peaches than apples. Its use for watermelons, cantaloupes, cucumbers, sweet potatoes, etc., is recommended.

The value of this type of soil ranges from $10 to $20 or $30 an acre, according to the location.

The following table shows the results of mechanical analyses of this type:

Mechanical analyses of Dekalb sandy loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20183	Soil	1.6	13.2	9.7	23.0	16.5	24.5	11.2
20184	Subsoil	1.0	11.2	8.9	20.0	14.3	21.5	22.6

CONASAUGA CLAY.

The Conasauga clay, from 4 to 10 inches deep, with an average depth of 7 inches, is an ash-gray to brown heavy silt loam or clay loam, underlain by a silty clay or clay loam to 15 or 20 inches, below which it grades into a stiff, plastic clay. The color of the subsoil varies from light yellow to reddish, being mottled in the lower depths. The type is generally known as "flat woods" and is extensively

developed in both Etowah and Cherokee counties, but is not very typical in Calhoun County.

This type occurs chiefly along the northern border of the county in the vicinity of the intersection of Etowah, Cherokee, and Calhoun counties. The areas are of limited extent and are similar to the Dekalb loam except for the higher percentage of silt and clay in the soil. A small area occurs about one-half mile west of the Cochran Springs school, in the northwestern part of the county.

The Conasauga clay is derived from the weathering of the underlying shales and siliceous limestone, as shown by the frequent occurrence of chert fragments upon the surface. The shales were observed in cuts at depths of 6 to 8 feet below the surface.

The topography is generally flat to slightly rolling, but owing to the stiff, impervious nature of the subsoil the drainage is usually inadequate and has to be supplemented with open ditches. It is subject to drought and in wet seasons it is difficult to handle. The best results are obtained from the use of the revolving-disk plow, but generally the one-horse breaking plow, which turns up from 2 to 3 inches of soil, is used. Deeper plowing and shallow cultivation should be practiced and more attention given to the growing of cowpeas, clover, grasses, oats, etc., to diversify the crops and increase the supply of humus in the soil.

The native timber growth consisted of oaks, hickory, sweet gum, dogwood, and pines. Most of the merchantable timber has been removed, but only a small percentage of the type is under cultivation. It produces from one-fourth to one-half bale of cotton per acre and from 10 to 15 bushels of corn per acre. The land is valued at $5 to $10 an acre.

HOLSTON FINE SANDY LOAM.

The soil of the Holston fine sandy loam to a depth of 8 to 12 inches, with an average depth of 10 inches, is a gray to brown fine sandy loam, containing a high percentage of very fine sand and silt. On the knolls the soil is shallower, in some instances being only 4 inches deep, and some exposures of a reddish-yellow fine sandy clay were observed. The subsoil is a yellow fine sandy clay, becoming slightly mottled with red at 30 inches in depth. Below 3 feet it is red, as shown by road cuts.

This is an easy soil to cultivate, being loose and friable and free from rocks or gravel. It occurs scattered over the western half of the county in bodies varying in size from small patches to areas of 1 to 3 square miles in extent. The largest continuous area extends from Cochran Springs schoolhouse, along Ottery Creek, to the Coosa River. The second largest body is found 1½ miles west of Boiling Spring Church, extending north from Cane Creek along the Coosa River to within a mile of Ohatchee Creek. Smaller areas occur near

Francis Mill and about 1 mile west of Sulphur Springs Church and 1 mile east of Fombys Ferry. Other small patches are scattered over the western half of the county.

The topographic features of the Holston fine sandy loam are level to gently rolling. The area occurring in the vicinity of Cochran Springs schoolhouse is more rolling than that occurring north of Cane Creek. The gently rolling surface of the Holston fine sandy loam affords ample drainage, and in some cases it is excessive, causing the soil to become droughty.

The Holston fine sandy loam seems to be of both alluvial and residual origin, the soil being more or less alluvial and the subsoil apparently residual, being derived in part from the underlying shales and sandstones.

The native timber growth upon this type is oak, persimmon, hickory, and longleaf pine. From the latter growth it derived the name "sandy piny-woods land."

The principal crops at present grown upon the Holston fine sandy loam are cotton and corn. With favorable seasons cotton yields from one-fourth to one-third bale per acre and corn from 10 to 12 bushels per acre. Wheat and oats are grown in small patches, yielding from 10 to 12 bushels per acre. Sorghum does not yield as many gallons as on some of the other types, but the color of the sirup is much lighter and it sells for a higher price.

This type is well adapted to trucking. Besides being loose, loamy, and well drained, it is a warm soil, which permits the crops to make an early start and quick growth when properly fertilized and cultivated. Watermelons, cantaloupes, tomatoes, sweet and Irish potatoes, turnips, and nearly all vegetables produce good yields. Fruits on the Holston fine sandy loam give good results when properly sprayed and pruned, apples, plums, apricots, Scuppernong grapes, blackberries, raspberries, and strawberries all doing well. Peaches are often damaged by late frosts. The lack of transportation facilities to markets hinders, at present, the full development of the trucking industry and the possibilities of the soil. Cowpeas make good returns of hay and are a valuable source of adding humus to the soil, in which it is lacking. Red clover produces fairly good yields. Besides furnishing excellent pasture, it is also valuable as a green manure to be turned back into the soil. Crab, orchard, and Bermuda grasses grow well, and when cut for hay produce from 1½ to 2 tons per acre, and, in addition, furnish excellent pasture.

Deep plowing is very beneficial to this type and should be more generally practiced, as it enables the soil to withstand drought much better. The turning under of green manures by adding humus to the soil is very helpful. The raising of more live stock and in turn putting the manure on the fields would be profitable.

The houses are usually two or three room frame buildings. The outhouses, barns, etc., are usually built of logs. The fences are only in fair condition, owing to the fact that material for their construction is scarce. The soil type is valued at from $8 to $15 an acre.

The following table gives the results of mechanical analyses of samples of soil and subsoil of this type:

Mechanical analyses of Holston fine sandy loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20147	Soil	0.5	6.4	8.3	23.4	18.1	34.2	8.4
20148	Subsoil	.2	4.0	5.9	18.6	17.8	31.2	21.8

HOLSTON GRAVELLY SANDY LOAM.

The finer soil of the Holston gravelly sandy loam to 8 inches in depth is a brown medium to fine sandy loam, and from 8 to 12 inches a gray fine sandy loam. The surface is strewn with fine and coarse rounded quartz, sandstone, and chert gravel, including some angular fragments. A few small patches were found where the finer material had an ashy feel, this property being imparted to the soil by the relatively large amount of silt which it contains. The subsoil is a yellow fine sandy clay or yellow clay loam containing much coarse material and small, sharp fragments which impart a gritty feel. In the lower depths the subsoil becomes mottled red and yellow, and sometimes it is yellowish red.

The Holston gravelly sandy loam is usually easy to cultivate. Although the rounded gravel may entirely cover the surface, it does not interfere with cultivation.

The largest continuous body of this type extends from Ohatchee, bordering on Ohatchee Creek, to the Coosa River. The second largest area extends from Fombys Ferry along Acker Creek and the Coosa River to within a short distance of Cane Creek. The third largest body occurs about 1 mile west of Anniston. Smaller areas occur in other parts of the western half of the county.

The topographic features of the Holston gravelly sandy loam are similar to those of the Dekalb shale loam, in that the hills or knobs are rounded, which causes the water to run off very rapidly. The knolls of the Holston gravelly sandy loam are, however, more flattened on top and the slopes steeper. In most cases the drainage is excessive, so that in general the soil is inclined to be droughty, but it is not as subject to drought as the Holston fine sandy loam or Dekalb shale loam.

The Holston gravelly sandy loam is not wholly of residual origin, as it seems from the rounded quartz gravel that it was transported by

water. The subsoil may be residual, being derived from a siliceous member of the limestone or dolomite formation, or partially from shales, and reworked to some extent, as the gritty material found in it is often rounded and appears to be riverwash.

The native vegetation was longleaf pine, and in the more gravelly spots black-jack oak grows in abundance. Farming is not pursued to a very large extent on this type, as only about one-third of it is under cultivation. Cotton and corn are the principal crops, and in favorable seasons cotton produces from one-fourth to one-third bale per acre and corn from 10 to 15 bushels per acre. Small fruits do well on this soil. Apples give good yields, as do plums and grapes, but peaches do not yield as well.

The planting of cowpeas is very beneficial. They not only yield very good crops of hay, but add humus to the soil, in which this type is deficient. Deep plowing is also advisable, as it enables the soil to withstand drought better.

The farmhouses and outbuildings on this soil type are usually built of logs, the houses generally containing from two to three rooms. There are a few frame houses, however, which are built of undressed lumber. Land of this type sells for $10 to $15 an acre.

The following table gives the results of mechanical analyses of soil and subsoil of the Holston gravelly sandy loam:

Mechanical analyses of Holston gravelly sandy loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20149	Soil	2.1	11.1	8.1	15.2	10.9	36.6	15.7
20150	Subsoil	2.9	8.7	5.2	9.1	4.7	36.9	32.4

HUNTINGTON SILT LOAM.

The Huntington silt loam is the most extensive bottom-land type in the area. Its surface soil from 6 to 10 or 12 inches in depth, averaging about 8 inches, is a gray to brown silt loam. The texture is fairly uniform over large areas, but where it occurs in narrow bottoms along the smaller streams the soil is largely made up of materials which have been washed in from the adjacent uplands and is always more variable in color and texture. The slightly depressed or poorer drained areas which occur throughout the type have a darker colored soil, because of the accumulation of more organic matter. In the eastern portion of the county, where the soil occurs along with the Talladega slate loam and receives the washings from the hills of the latter, it is of a uniformly fine silty texture, containing but a very small percentage of coarse material.

Where it occurs along with the Clarksville stony and gravelly sandy loam, in the central and western parts of the county, chert fragments are frequently encountered in the soil profile.

The subsoil of the Huntington silt loam is a yellow to yellowish-brown heavy loam or compact silt loam about 15 or 18 inches deep, which grades into a silty to fine sandy friable clay or clay loam. In the depressed, poorly drained areas it is more often of a dark-gray color and more plastic. In a few localities the subsoil is a stiff, tenacious, bluish-gray clay, and the presence of iron stains in the lower depths gives it a mottled appearance.

When this type is adequately drained it is generally considered an easy soil to cultivate, but if plowed when wet it clods and bakes. Better results are obtained when the soil is plowed in the fall, but if it is covered with water for any considerable period during prolonged wet seasons it runs together and must be replowed in the spring.

The Huntington silt loam is most extensively and typically developed in the present flood plains of Choccolocco Creek, in the southeastern portion of the county. It occurs, however, as the main type of first bottom lands along the creeks and branches in almost every section of the county, varying from a few rods to 1 mile or more in width.

The topography is comparatively level, so that frequently the drainage is inadequate. In some instances open ditches have been constructed to drain depressions and semiswampy areas, but almost no attention has been given to a systematic drainage of this soil. The yields on this type could be greatly increased if more attention were given to thorough drainage.

The Huntington silt loam is composed of an intermixture of sand, silt, and clay, representing colluvial materials which have been washed in from adjacent uplands or depositions of finer alluvial materials which have been carried long distances during floods. The coarser materials usually occur deposited in the sharper bends adjacent to streams where the current is swift. These areas were mapped separately and correlated with the Huntington fine sandy loam when they occurred in sufficiently large bodies.

This type is used mostly for the production of corn, to which it is probably best adapted, and yields of 30 to 50 or 60 bushels per acre are obtained. When properly drained this soil produces large yields of wheat and oats. As high as 100 bushels of oats per acre have been obtained, and 40 to 60 bushels can be made without the use of fertilizers. Wheat is not grown to any extent at the present time, but where the fields are not subject to overflow it should be included in a definite crop rotation, to which not enough attention is given. In many instances it is cropped exclusively to corn. Cowpeas should always be sown in the corn when this system is followed.

The better-drained areas of Huntington silt loam have been used to some extent for growing apples, one large orchard in the southeastern portion of the county upon this type yielding profitable results. The apples were mostly made into cider and vinegar.

This type is also well suited to grasses and makes good pasture land. Yields of from 1 to 2½ tons per acre of Johnson grass are obtained. Cotton is frequently damaged by overflow and is not well suited to this soil. Deep tillage, better drainage, and a more systematic crop rotation are essential to obtain the largest yields from this type.

Very little of the Huntington silt loam is listed for sale. It is held at $20 to $100 an acre, depending on location and improvements.

The following table gives the results of mechanical analyses of samples of the Huntington silt loam:

Mechanical analyses of Huntington silt loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20185	Soil	0.0	1.0	1.6	6.3	7.9	62.0	21.2
20186	Subsoil	.0	.7	3.4	10.4	6.5	45.0	34.0

HUNTINGTON FINE SANDY LOAM.

The surface soil of the Huntington fine sandy loam, from 5 to 8 or 10 inches deep, with an average depth of 7 inches, is a brown to light-brown or yellowish fine sandy loam. The subsoil is a yellow to yellowish-gray heavy loam, grading into a light-yellow to reddish-yellow silty to fine sandy clay. This is also a bottom-land type, but it is not so extensively developed in the county as the Huntington silt loam. Where it occurs along the Coosa River the subsoil is lighter or more sandy in texture and of a yellowish-red to brown color. Approaching the river banks the soil to a depth of 3 or more feet frequently has a fine sandy loam texture. Noticeable quantities of mica were also observed in both the soil and subsoil.

The surface of the Huntington fine sandy loam is practically level, with sufficient slope to give adequate drainage, and the looser structure of both soil and subsoil also contributes to its better drainage conditions. It is subject to overflow, but it is only at times of very high water that crops are damaged. It is a better drained soil than the Huntington silt loam and is easy to cultivate. This type is widely distributed over the county, being found chiefly along Ohatchee, Tallahatchee, Cane, and Choccolocco creeks and their tributaries and along the Coosa River. It is formed principally by the deposi-

tion at times of overflow of the finer grades of sand by the swift flood waters of the streams along which it occurs. Some materials have also been added as wash from the adjacent uplands.

The native vegetation consisted of post-oak, shortleaf and longleaf pine, persimmon, water oak, and occasionally gum. Most of the type has been cleared and is under cultivation. It is well adapted to trucking, especially cabbage, beets, radishes, onions, and Irish potatoes. It is also well suited to small fruits, apples, plums, pears, etc. Peaches, however, do not do so well as the other fruits. While the yields are sometimes satisfactory, the quality is never equal to those grown upon the hills and mountains. Cotton yields somewhat better than on the silt loam, but it is frequently subject to rust. Corn is the main crop grown, with yields varying from 35 to 50 bushels per acre. Oats are particularly well suited to this soil, yielding 50 to 75 bushels per acre. Grasses also do well and yields of 1 to 2 or 3 tons per acre of crab grass and Johnson grass are obtained. Millet also produces well.

To obtain large yields of hay from highly fertilized flats of this type the following is suggested: Sow the soil to wheat in the fall and cut for hay in the spring. Turn the stubble under with a two-horse breaking plow, 8 inches deep, and sow millet, cut and again reseed to millet. By this method about 7 tons per acre have been obtained. It affords the best pasture land of any soil in the area and is used quite extensively for this purpose.

The Huntington fine sandy loam, like the silt loam, is a very highly prized soil and is not generally listed for sale, but when sold the prices range from $20 to $50 or $100 an acre. When it occurs in the vicinity of larger towns it is valued quite highly, but its use for trucking purposes has not been generally recognized.

The following table gives the results of mechanical analyses of samples of the soil and subsoil of the Huntington fine sandy loam:

Mechanical analyses of Huntington fine sandy loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20189	Soil	0.0	1.7	9.1	32.7	14.7	33.2	8.7
20190	Subsoil	6.1	8.3	2.5	7.8	8.1	46.8	20.3

TALLADEGA SLATE LOAM.

The soil of the Talladega slate loam, from 4 to 10 inches deep, with an average depth of 5 or 6 inches, is a grayish to brownish silty loam, or loam containing a rather high content of lustrous shale frag-

ments. The subsoil is a yellowish to reddish silty clay or clay loam, having a greasy feel. The underlying shales are frequently encountered at depths ranging from 12 to 20 inches. These consist of greenish, bluish, purplish, pearly, or lustrous shales, with interstratified layers or lenses of quartz, and quartzite conglomerate, fragments of which frequently occur upon the surface and throughout the soil profile. Fragments of shale and slaty material are also found similarly distributed over the surface and throughout the soil and subsoil. These have a greasy feel, which is also noticeable in the finer materials of the surface soil. On the lower slopes, where erosion has been especially active, the shale fragments constitute most of the soil mass. In some instances the soil covering is shallow and quite variable in texture.

This type occurs as an unbroken irregular strip from 1 to 3 or more miles wide along the eastern and southern boundaries of the county. A few small isolated areas were also mapped in the vicinity of Choccolocco. The drainage is usually rapid or excessive, and owing to the loose, incoherent character of the materials composing the soil it is easily eroded, so that terracing is necessary to prevent washing before the land can be safely cultivated. Even these do not prevent the washing away of the soil, and frequently the fields become so badly eroded and leached as to cause them to be abandoned after a few years.

The topography is very broken, consisting of sharp and toothed ridges or knobs and narrow precipitous valleys, with elevations ranging from 1,000 to 1,200 or more feet above sea level, or 500 to 700 feet above the general level of Choccolocco Valley. It includes portions of Horseblock, Bynum, and Rattlesnake Mountain ranges, belonging to the metamorphic belt. The valleys are narrow and crooked, varying from 300 to 400 feet in depth, and are used mostly for corn and sorghum. Some of the wider valleys are used for hay and pasture, but as a rule little forage is grown.

The Talladega slate loam is formed by the disintegration or weathering of the underlying hydromica or imperfectly crystalline slates, which have a variable composition. Some materials being more easily weathered than others go to form the finer earth material, while the more resistant parts are left as fragments upon the surface and throughout the soil profile. The latter more often represents the quartz and quartzite occurring as veins or lenses throughout the slaty formation.

Owing to the rough, broken character of the country and the tendency to erode when cleared, very little of this type is under cultivation. Most of it is in native timber growth, consisting of oak, hickory, longleaf and shortleaf pine, bay, ash, and mountain laurel. The mountains are, however, rapidly being depleted of their mar-

ketable timber, and a large percentage of the timber now standing is second growth. This forest covering should be allowed to stand, especially where the land is held in large tracts, as is frequently the case. It affords fairly good range for cattle, sheep, goats, and hogs, for which it is generally used. Sheep raising is frequently rendered unprofitable by the ravages of dogs and wild animals. If steps were taken to protect the sheep a profitable industry could be built up, and land which is of little value for general agriculture could be made to yield good returns. When the soil is cleared and cultivated on the uplands it should never be left without a cover crop of some kind in winter to prevent washing. Oats, rye with vetch, and grasses would serve this purpose and at the same time make excellent forage. It is fairly well adapted to wheat and corn, but these are grown mostly in the valleys. Stock raising would probably yield the best returns, aside from the timber and mineral resources.

The Talladega slate loam is usually held in large tracts by mineral companies and at prices ranging from $2 to $5 or more an acre.

The results of mechanical analyses of samples of the soil and subsoil are shown by the following table:

Mechanical analyses of Talladega slate loam.

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
20197	Soil	0.0	2.0	10.0	28.7	13.0	31.7	14.6
20198	Subsoil	4.3	8.4	3.0	9.3	9.5	41.1	24.0

SUMMARY.

Calhoun County is located in the northeastern part of Alabama. It lies almost entirely within the Coosa Valley and contains a total area of 397,440 acres, or 621 square miles. The topography is generally rolling to hilly or mountainous, with elevations ranging from about 600 feet in the valleys to more than 2,000 feet above sea level upon the mountains. All the drainage waters of the county find an outlet through the Coosa and Alabama rivers to the Gulf of Mexico.

The transportation facilities include four railroads and the Coosa River, which is navigable from Lock No. 4, in Talladega County, to Rome, Ga.

The climate is mild and equable. The mean annual temperature ranges from 44° F. in winter to 77° F. in summer. The average dates of the first and last killing frosts are October 20 and April 2. The mean annual precipitation is slightly less than 50 inches and is evenly distributed throughout the growing season.

The climate is adapted to a wide range of diversified agriculture and is especially well suited to stock raising on account of the mild winters, which makes it possible to pasture stock practically the year round. The water supply is obtained from springs and wells.

Cotton and corn are the staple crops. The growing of cowpeas, peanuts, clover, and other legumes has done much to build up the lands, but this practice is limited to a few of the more progressive farmers, who operate their own farms. Their use should be extended. Forestry, together with stock grazing, including cattle, sheep, and goats, should be more generally practiced on the rougher mountainous lands; also more fruit and truck should be grown.

The land values in the county have slightly advanced in the last few years and range from $2.50 an acre on the hill lands to from $10 to $40 an acre in the valleys, while some of the improved bottom lands bring as high as $60 to $100 an acre.

The soils of the county are derived directly or indirectly from limestone, sandstone, and shale. Eighteen distinct types are shown in the accompanying soil map.

The Dekalb stony loam occupies the foothills of the mountains, and is derived largely from the weathering of the underlying sandstones. It is mostly in forest growth, but when put under cultivation fair yields of corn and cotton have been obtained. It is well suited to peaches and light trucking and is valued at $5 to $20 an acre.

The Montevallo shale loam is derived from the weathering of sandstones and variegated shales of the Montevallo geological formation. Its topography is hilly to mountainous. The type is largely in native timber, but these areas under cultivation yield from 10 to 25 bushels of corn and from one-fourth to one-half bale of cotton per acre. It is held at $10 to $20 an acre and is valued chiefly for its timber, mineral resources, and its use for pasture.

The Decatur stony loam is a rolling to hilly soil, with good drainage. It yields one-half to three-fourths bale of cotton, 10 to 20 bushels of corn, and 20 to 40 bushels of oats per acre, and is well adapted to fruit. Its valuation is from $8 to $20 an acre.

The Decatur loam is of limestone origin and occupies moderately rolling valley lands with excellent drainage. It is well suited to corn, cotton, oats, clover, cowpeas, fruits, and vegetables, and is valued at $12 to $20 an acre.

The Decatur clay loam is one of the strongest soils in the area and is derived from the underlying limestones. The topography is usually flat to gently undulating and the soil is well suited to the use of labor-saving machinery. Being one of the heavier types, it is difficult to handle, but when properly managed it yields one-half to 1 bale of cotton per acre and 30 to 50 bushels of corn per acre. It is practically all under cultivation, and is valued at $15 to $50 an acre.

The Holston gravelly sandy loam is partly of alluvial and partly of residual origin. Cotton and corn are the principal crops, the former yielding from one-fourth to one-third bale per acre and the latter 10 to 15 bushels per acre.

The Holston fine sandy loam has a gently rolling surface and is well drained. Cotton and corn are the chief crops. It is also adapted to hay and early truck. This type is valued at $5 to $50 an acre, depending on location.

The Dekalb loam, Dekalb shale loam, and Conasauga clay are derived from shale. They are easily eroded and are difficult to handle, but when first cleared and put under cultivation fair yields of cotton and corn are produced. They are well suited to cowpeas, Johnson, orchard, and Bermuda grass and should be used more for these crops. It is usually necessary to construct terraces to prevent washing. This could be prevented largely by the growing of winter cover crops. They are valued at $5 to $10 an acre.

The Clarksville stony loam, gravelly sandy loam, and loam are all derived from the weathering of the more siliceous or cherty limestones. The stony loam type is usually more rugged and less suited to general farming purposes than the other members of the series. It is well adapted to peaches. The gravelly sandy loam and loam are adapted to apples, plums, pears, and small fruits. They are also well suited to hay and pasture and are valued at $2.50 to $10 an acre.

The Huntington fine sandy loam and the Huntington silt loam are of alluvial origin and are formed from materials transported long distances or washed in from the surrounding upland. They are well adapted to corn, hay, wheat, oats, and pasture, but are rarely used for cotton, except the better drained areas of the Huntington fine sandy loam, which is also well suited to truck. These soils comprise some of the most highly prized soils in the county and are valued at $20 to $100 an acre.

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