SOIL SURVEY OF TALLADEGA COUNTY, ALABAMA.

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DESCRIPTION OF THE AREA.

Talladega County, Ala., is situated just northeast of the geographical center of the State. Its southern boundary lies about 7 miles north of the parallel of 33° north latitude, and the county extends northward 39 miles, with an average breadth of about 20 miles. The meridian of 86° west from Greenwich passes through the county only a few miles east of Talladega. The western boundary of the county is formed by the Coosa River, which flows in a tortuous course in a generally southwestern direction, the counties touching the river on the other side being St. Clair and Shelby. On the north Talladega County is bounded by Calhoun County; on the east by Cleburne and Clay, and on the south by Coosa. The county comprises an area of 479,808 acres, or approximately 750 square miles.

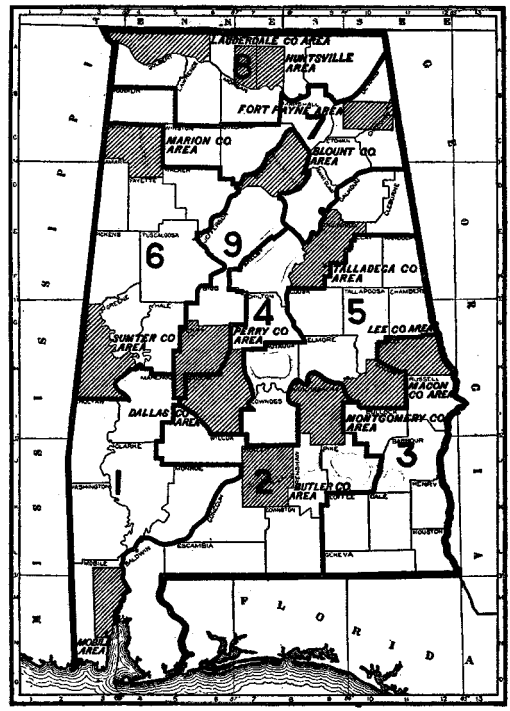

FIG. 13.—Sketch map showing location of the Talladega County area, Alabama.

The county is made up of two main physiographic regions. About one-fourth of its area, the extreme eastern part, is occupied by an extension of the Appalachian Mountain system, and consists of a much dissected plateau. The tops of the ridges have an average elevation of a little more than 1,000 feet and the narrow valleys are some 200 feet lower. Into this plateau extends a sharp mountainous ridge reaching at its highest point nearly 2,000 feet above sea level,

which is the highest point in the county. The remaining three-fourths of the county is a part of the Coosa Valley, which is really an extension of the Great Valley of Virginia. The topography here is complex, the term "valley" being applied to a general trough or depression where the surface varies from rolling to ridgy, with some elevations reaching to a height of 1,500 feet or over.

There are thus many subsidiary valleys within the county, the main ones following the courses of the larger streams and with irregularly defined boundaries, the principal of which are the Choccolocco, Talladega, Tallaseehatchee, and Cedar creeks. There is also a narrow, rather obscure, valley following along the western edge of the metamorphic belt. The central part or trough of all these valleys is gently undulating, rising to hills on the sides and often with hills and ridges within themselves.

Passing through the central part of the county to the southwest from near the point where the Chehawhaw empties into Choccolocco Creek is a monoclinal mountain ridge called the Talladega Hills, the highest point being Mount Alpine, with an elevation of 1,551 feet above sea level. At Nottingham, on Talladega Creek, it terminates, being separated by a fault from the Kahatchee Mountains, to which it was no doubt formerly connected, the connecting ridges being thrust to the east and forming the valley of the Tallaseehatchee. The Kahatchee and Katala mountains occupy a large area in the southwestern part of the county. These mountains have steep slopes on their western face while on the east they are flanked by one or two parallel lower ridges with gentler slopes. The central-west part of the county along the Coosa River is a much dissected plateau, the top of which is something like 600 feet above sea level and about 200 feet above the Coosa River. Its topography consists of steep, irregular-shaped ridges or hills with narrow intervening valleys. The Coosa River in its course along the western boundary of the county falls from about 500 feet to something less than 400 feet.

The drainage is into the Coosa River. This stream, which flows southward, is a wide, deep stream, except in its rapids or shoals. The main tributaries entering from the county are Choccolocco, Talladega, Tallaseehatchee, and Cedar creeks, the three first mentioned being large streams and having many tributaries. In most parts of the courses of these streams they have considerable fall and would afford much water power. They are utilized now to some extent in running grist and saw mills. From Riverside, or Lock No. 4, the Coosa River is navigable up to Rome, Ga., and then up its main tributaries for some distance, and flat-bottom river steamboats ply throughout the year. Below Lock No. 4 to its mouth or its junction with the Tallapoosa River to form the

Alabama it is not navigable, because of the numerous rocky shoals or rapids.

The first permanent settlement in what is now Talladega County was made between 1828 and 1830, about 6 miles southwest of the present city of Talladega, at a place now known as Mardisville. There was also a small settlement started about this time on Talladega Creek, where the Louisville and Nashville Railroad now crosses that stream. Talladega was begun in 1832, the year that Talladega County was established, though it was not until 1834 that the county was organized, and the lands, which had been bought from the Indians, surveyed and offered for sale. Until 1837 these places were considered as mere trading posts. The pioneer settlers were of English descent and came from Georgia, the Carolinas, and Tennessee. Settlement gradually extended over the county, settlers continually coming in from older communities farther north. Since the civil war a few people from Northern States have settled in this county, attracted by the climatic conditions and the comparatively cheap lands. The accessions of this class are increasing, and land values are advancing as the number of available farms grows less. There is a spirit manifest in this State, as in other Southern States, to welcome foreign immigrants, and this section will no doubt in time receive its quota. The population of the county is largely rural and is well distributed, except that the rougher and less desirable lands are sparsely settled. The Twelfth Census reported the population of the county as 35,773, of which over 5,000 was then in Talladega, the county seat. Besides this city there are a number of small towns, the largest of which has probably about 1,000 population. Until the establishment of cotton factories and iron furnaces, which has occurred in comparatively recent time, all these were dependent upon the agriculture of the county for support. Talladega now has a population estimated at 7,000. It is centrally located and the railroad center of the county, four railroads passing through it. Its manufacturing interests are the largest in the county, three cotton mills, two oil mills, and an iron furnace and other smaller plants being located there. It is also the home of the State school for the deaf, dumb, and blind, of a seminary for young ladies, and of an important college for negroes. Talladega has all the modern conveniences of a city—waterworks, sewerage, electric lights, and fire department. Recently it has improved its sidewalks by laying over 14 miles of cement walks. Sylacauga, situated in the southeastern part of the county, at the junction of the Louisville and Nashville and the Central of Georgia railroads, is the next largest town, with a population of about 1,000 within its corporate limits. It is a thriving business place, and it is here that the Fourth Congressional District Agricultural School is located. Childersburg,

in the southwestern part of the county, is also an important town. Other towns of importance are Sycamore, Lincoln, and Munford.

The transportation facilities are exceptionally good. The county is traversed by the Birmingham and Atlantic Railroad and important branches of the Southern, the Louisville and Nashville, and the Central of Georgia systems. These roads have been in operation twenty years or more. The Rome and Selma division of the Southern and the Anniston and Calera branch of the Louisville and Nashville traverse the county from north to south, each reaching Anniston and affording connections with Atlanta, Ga., Chattanooga, Tenn., Birmingham, the largest city in the State, and Montgomery, the State capital. Another division of the Southern Railway crosses the northern part of the county, connecting Chattanooga, Tenn., with Birmingham. The Columbus, Georgia and Birmingham division of the Central of Georgia Railroad crosses the southern part of the county, reaching Birmingham and south Georgia points. The Birmingham and Atlantic crosses from Talladega westward to Pell City, in the adjoining county, connecting with the Southern Railway, and at Coal City with the Seaboard Air Line for Birmingham, and to the east with Chattanooga and Atlanta. It also enters an important coal field, known at the Coosa field. The Atlanta, Birmingham and Atlantic Railroad, which crosses centrally through the county and is nearly completed, will give direct connection between Atlanta and Birmingham and also reach the seaport town of Brunswick, Ga. There have been a number of narrow-gauge roads in operation in the past for transporting lumber, and one made standard gauge is still in operation in the southern part of the county, extending into Coosa County.

The wagon roads, especially the more important ones, are kept in fairly good condition. There is plenty of rock material at hand for macadamizing the roads, and no one thing would do more to improve agricultural conditions than systematic road improvement.

Cotton, the leading farm product, is sold in the local market towns of the county and adjoining counties. The market of the future for farm products other than cotton will undoubtedly be largely Birmingham, for with the development of the iron industries and coal mining this city is growing rapidly and in time will draw upon a large section of the surrounding country for its supplies. The demand for vegetables and poultry products is increasing as manufacturing establishments increase, and such products find a ready sale locally at the present time.

The principal manufacturing industries represented in the county are cotton mills, of which there are six; two oil mills; iron furnaces, of which there are three in operation; and numerous sawmills. These

make a large demand for labor, which, for the most part, except in the cotton mills, is negro.

The rural free delivery of mail is in operation practically in all parts of the county. A few rural telephone lines are also in operation and lines are gradually being extended.

CLIMATE.

The appended tables, showing the mean monthly and annual temperature and precipitation and the dates of last killing frosts in the spring and the first in the fall, were compiled from the records of the voluntary observer stations of the Weather Bureau at Talladega and at Lock No. 4. Both these stations are located within the county, the former centrally and the latter on the Coosa River, in the extreme northwestern part. The observations extend over a period of sixteen years for Talladega and nine years for Lock No. 4. As shown by the table the mean for the summer season is slightly over 79° F. and the winter mean about 45° F. The temperature falls below zero occasionally, and rises sometimes to 100° F. The cold spells, however, are short, and are most likely to occur the latter part of February or the first of March. They are sometimes attended by light snowfalls. The mean annual precipitation is 48.54 inches at Talladega and 50.65 inches at Lock No. 4, the heaviest rainfall occurring during the winter months and in July and August, while the least occurs in September and October.

The average date for the last killing frost in spring is April 4, and for the first in the fall November 1. The actual dates for a series of years are given in the table. Six months is the average length of the growing season, which is sufficient for the maturing of all crops.

Normal monthly and annual temperature and precipitation.

Month.	Talladega.		Lock No. 4.		Month.	Talladega.		Lock No. 4.	
	Temperature.	Precipitation.	Temperature.	Precipitation.		Temperature.	Precipitation.	Temperature.	Precipitation.
	°F.	In.	°F.	In.		°F.	In.	°F.	In.
January	44.5	4.51	41.6	5.60	August	79.3	5.06	79.7	4.18
February	45.8	6.11	42.0	5.68	September	74.3	2.46	74.0	2.19
March	56.6	6.22	54.7	5.55	October	64.2	2.41	63.3	2.78
April	62.1	3.26	59.1	4.27	November	52.1	3.08	52.4	2.88
May	70.5	2.91	70.7	3.87	December	44.1	4.08	42.8	4.43
June	78.4	3.85	77.2	4.14					
July	80.4	4.59	80.3	5.08	Year	62.7	48.54	61.5	50.65

Dates of first and last killing frosts.

Year.	Talladega.		Lock No. 4.		Year.	Talladega.		Lock No. 4.	
	Last in spring.	First in fall.	Last in spring.	First in fall.		Last in spring.	First in fall.	Last in spring.	First in fall.
1897.....	Mar. 26	Nov. 17	Mar. 26	Oct. 30	1902.....	Apr. 2	Oct. 29	Mar. 20	Nov. 28
1898.....	Apr. 9	Oct. 23	Apr. 8	Oct. 27	1903.....	Apr. 6	Oct. 25	Mar. 2	Oct. 25
1899.....	Apr. 8	Nov. 4	Apr. 8	Nov. 3	1904.....	Apr. 4	Oct 23	Mar. 16	Oct. 23
1900.....	.....	Nov. 8	Apr. 1	Nov. 9	Average..	Apr. 4	Nov. 1	Mar. 25	Nov. 3

AGRICULTURE.

In the early days Charleston, S. C., and Augusta, Ga., were the nearest markets to Talladega County. At a later date products were rafted down the Coosa River at high water to Wetumpka, which is just above where this stream joins the Tallapoosa to form the Alabama River. From Wetumpka the river was navigable to Mobile, where trading could be done. But rafting was hazardous and never followed extensively. Under these conditions whatever the pioneer produced must of necessity have been mainly for home consumption. The principal crop was corn, which continued to be the leading staple until 1880. Some cotton also was grown, and this, with a little wool—sheep having probably been introduced soon after settlement—was used in the manufacture of homespun clothing. Cotton production must have greatly increased, for about 1840 the first power gin was in use. In 1850 the census showed a production of 8,509 400-pound bales for the territory now included in Talladega and Clay counties, though the latter was so sparsely settled as to be a negligible factor in the production. Ten years later the production had reached over 18,000 bales.

According to the census of 1850 there was about 380,000 acres in farms, one-third of which was improved. At this time a number of new field crops had been introduced. Besides corn and cotton—the production of the former being about 716,000 bushels—the next two important crops were oats and sweet potatoes. The production of oats was 114,550 bushels. Other cereals were also grown, which in order of importance were wheat, rice, and rye. It is interesting to note that by the next census the production of oats had decreased nearly one-half, while that of wheat and rye had greatly increased, and that over 3,000 bushels of barley was produced. The production of sweet potatoes was also less, but this may have been simply a seasonal fluctuation. The production of Irish potatoes increased, being in 1860 about 12,000 bushels, which was three times that of 1850. Peas and beans were also reported as important field crops in 1850. In that year the value of the live stock was placed at a little over half a million dollars, and by the close of the next decade at nearly

double that figure. By 1860 large plantations were common. It is said that the farms were kept in good condition, the lands being prevented from washing, and crop rotation being practiced quite extensively. In the late fifties railroad construction had begun, and in 1859 what is now a part of the Southern system was in operation between Selma and Talladega, and ten years later this line was extended to Anniston. As settlement advanced, county roads were established connecting the different places, and transportation was greatly facilitated.

During the civil war farming operations were to a great extent suspended in this county, and at its close, there being little capital at hand, the work could not be resumed on the former scale, so that production was necessarily curtailed. Since 1870 the conditions have gradually improved. The following twenty years marks a period in which all the railroads, with the exceptions previously mentioned, were built and put in operation. These railroads have been an important factor in opening up and developing the resources of the county. After the war the price of cotton, which had gone as high as 60 cents a pound, began to decline, though it continued at a remunerative figure for a long period of years. Although an important crop before 1860, cotton became still more important after the war, the acreage being only limited by the labor to be had or the ability of the planters to cultivate and gather the crop. The subsistence crops were subordinated and thus, as in many other sections, the one-crop system became the almost universal practice. By 1880 the production of cotton had nearly reached its former proportions, and by 1890 the acreage slightly exceeded that of corn. In the next decade there was an increased acreage of both corn and cotton, the increase in the former being about 10,000 acres, making a total acreage in 1900 of approximately 48,000 acres, while the acreage in cotton exceeded that of corn by 12,000 acres, the total being 60,781 acres, which produced 21,563 bales of 500 pounds each. The acreage now in cotton probably greatly exceeds that reported for 1900. Next to cotton and corn in importance is the oat crop, which is grown on most farms and is cut green, cured, and fed as hay. The wheat crop is limited to the northern part of the county. According to the census the average yields are low, but large yields are reported in some instances—as high as 45 bushels per acre being claimed. The acreage in rye should be greatly increased, since it is an excellent winter cover crop and affords forage in early spring. Aside from the oat crop, some grasses and other forage crops are cut for hay. Some Johnson grass is gathered, and gives from three to five cuttings in a season, yielding as high as 5 tons to the acre. It is a nutritious hay and stock eat it readily. Though it makes large yields and brings good prices in the market, it is considered by many as an objection-

able crop. Where it is grown it is the usual intention of the planter to keep the field for that purpose and no other. It makes a good pasture grass, provided the fields are plowed up every two or three seasons, so as to start new growth, as it becomes "sod bound" if left longer.

Bermuda grass is common, but no extensive areas are devoted to it. Broomsedge is to be seen everywhere, springing up in the old fields and open woodland. Millet, Hungarian grasses, and field peas are grown to some extent and some cowpea hay is made. This last crop should receive more attention. It is the most certain to yield well, gives a fine forage, and has a beneficial effect on the soil. Irish and sweet potatoes are produced on small areas on each farm. The former are not as generally grown as the latter, and their production is limited to home needs. Potatoes succeed best on the stony silty to fine sandy soils.

Sorghum is grown in patches on nearly all the farms. Besides supplying the family with sirup, it is a valuable forage crop and should be more extensively grown. Of the tree fruits, peaches receive the most attention. There is a number of small commercial orchards, which yield the growers fair profits in fruit years. They succeed well on the stony upland soils and the fruit is of good quality. The Elberta is the favorite variety. Some apples are grown, but receive no care and do not succeed well. It is probable that they would do well, too, in some of the higher locations, if suitable varieties were planted and proper care were given them. A few pears are produced. Of the small fruits, the blackberry is locally the most important, the wild ones being common everywhere. Huckleberries are also common in the woods on the higher situations. Strawberries are not grown extensively. The supply is hardly sufficient to supply the demand and more should be grown, since they can be profitably produced and meet with a ready sale.

The value of the live stock on the farms is a little in excess of that reported in 1860. The farmer as a rule keeps one or two cows to supply milk and butter for family use. The animals with but few exceptions are the ordinary grades. Cows with some Jersey blood are in favor. The work stock consists of horses, mules, and oxen. The mule is by far the most important and the most satisfactory. Oxen are in common use, both in the woods and on the farms. They are owned mainly by negro farmers.

Until a few years ago the product of the forest was of great importance for a considerable period. It was to get out the timber that the first railroads were built, and lumbering operations on a large scale followed. Particularly important were the longleaf pine forests, but at the present time there is a comparatively small amount of any kind of merchantable timber in the county. There is, how-

ever, a large area in second growth which will in time become valuable, and much land in the county should never be devoted to anything else but forestry.

It is recognized that the lighter silty and sandy soils of the uplands are better adapted to cotton, producing a better fiber, which is less liable to damage by stain than on the heavy red soils. Corn succeeds better in lower situations, as in bottom lands. On farms containing both bottom land and upland, the former is used exclusively for corn and the latter for cotton. Therefore, a rotation of crops is not practiced, the productiveness of the land being kept up by fertilization. There is said to have been a marked improvement in cultural methods in the last few years, due to the introduction of the two-horse turning plow and the disk plow, the latter being generally favored on the heavy red valley lands. The disk harrow, as well as the common peg-toothed or smoothing harrow, is used to some extent; and the two-horse sulky cultivator and the single-horse cultivator having a number of teeth are also coming into use. The small tenant farmers use an improved one-horse turning plow, and this is used also to make the beds for cotton. The plowing is shallow, and this holds true even for the larger turning and disk plows, but though it is shallow, there is at least fairly thorough surface preparation. The practice formerly was, and to some extent is yet, to make the cotton bed while plowing, turning the old row over into the furrow and the next season back again, alternating thus year after year. The better practice, which is followed by many, particularly on the heavy valley soil, is to plow the land during the winter and harrow it, and then just before planting time to make the beds, thus giving the land two workings. Where oats or wheat are to be sown the surface is put into as good condition as possible, using the disk and smoothing harrows. The grain is sown broadcast and harrowed in. In planting cotton a furrow is broken out in the top of the bed, and the fertilizer is put in, generally hand dropped through a long tin funnel, fertilizer distributors not being common. The seed is then sown by a planter, which covers the fertilizer with a little soil upon which the seed drops, and is covered by a board dragging behind, smoothing the surface of the bed. Cotton is given two hoeings, in both of which thinning is done, and is cultivated several times, the number depending on the conditions. The idea is to keep cotton fields clear of weeds. Corn is not given so many workings. The tendency is toward level cultivation rather than the continuance of hilling up or ridging. A practice to be commended, and one which is general, is that of following the contour of the slope in cultivation in order to minimize or prevent washing. Hillside ditches are also employed and some terracing has been done with the same end in view.

The use of commercial fertilizers is general throughout the county. The Twelfth Census shows that in 1899 the expenditure for fertilizers was $63,490, and that amount no doubt has been annually exceeded since that time. In general only small quantities per acre are used and the fertilizers are generally of low grade, although there is a present tendency to use better grades. The cotton crop is with rare exception always fertilized, the usual application being from 150 to 200 pounds to the acre. For corn very little fertilizer is used. It is usually applied after the plants are well started rather than at planting time, the object being to hasten maturity. Some fertilizer is used with wheat, but practically none with oats. Generally oats are grown on the poorest fields, but it is said in good seasons fair crops are made without the use of fertilizers.

One planter has found that by turning under a crop of cowpeas and using moderate amounts of fertilizer he can obtain a yield of 65 bushels of oats to the acre, and that following this plan another season still further increases the yields. It is generally recognized that cowpeas greatly benefit the soils. With but few exceptions no efforts are made to make and save barnyard manure, though its use always brings good crops. Lime would also prove beneficial, on the heavier soils particularly, but it is not used. It is claimed that the soils are deficient in phosphorus and therefore the fertilizers used are phosphatic. The proportion of potash in the fertilizers is low and is supplied mostly from kainit.

Dependence is placed almost entirely on negro labor to carry on the farming operations. Very little farm help is hired, men having families prefer becoming tenants and making what they can. The negro women and children are used in the fields in hoeing and particularly in picking cotton, being paid in the latter case by the quantity picked. On the whole, the labor, while not in all cases as efficient and reliable as could be wished, still understands the cultivation of cotton and enables the planter to make a good profit when prices are normal. The farmer who hires labor must pay nearly as much as is given on public works, though an allowance is made because board or rations are usually included. Work on the railroad has made a temporary demand for unskilled laborers and the current wages have increased somewhat on this account.

According to the Twelfth Census there are nearly 300,000 acres in farms in the county, about one-half of which is improved. The average size of the farms is given as 72.4 acres.[a] The range in size of farms varies greatly. There are many of several hundred acres. Most of the farms owned by white planters range from 100 to 400 acres. Of the total number of farms in the county only 28.6 per cent

[a] This is too low, as each tenancy is classed by the census as a separate farm.

are operated by the owners, or, in other words, nearly three-fourths of the farms are operated by tenants.

There are three principal kinds of tenancy, differing mainly in the method of paying the rent. Under one system a cash rent is exacted, under another a fixed quantity of cotton, and under the last a certain proportion of the crop, whatever it may yield. In the first two instances the tenant furnishes everything but the land, in the last the landlord frequently furnishes everything except half the fertilizer and half the seed, in which case the crop is divided equally. In any case there are variations in the contract, dependent upon the productiveness of the land and the ability of the tenant.

The cash rent ranges from $2 to $3 an acre; the "standing" in cotton from 1 bale to 2 bales for each unit of 25 acres (one-horse farm). The average is about 1½ bales, and with the ruling prices of cotton this equals a cash rental of $2 to $4 an acre, which, on a valuation of $15 an acre, a fair average for the county as a whole, is certainly a good rate of interest on the investment.

Usually the tenant is at liberty to plant what crops he chooses as long as the acreage of cotton is sufficient to guarantee the rent. Fifteen acres of cotton is the general rule, the remainder of the area being mainly used for corn. The average tenant will secure from the 15 acres from 4 to 10 bales of cotton; the average per acre yield in 1899, according to the census of 1900, was one-third bale.

The value of farm lands varies widely over the county. The rough, hilly, stony lands range as low as $1 an acre, and there is much land still belonging to the State that can be entered for a merely nominal price. The better valley farms bring as high as $40 an acre, depending upon nearness to town and character of improvements. Leaving out the extremely rough or undesirable lands, the average value of farming land is probably $10 to $15 an acre.

With the prevailing high prices of cotton and other farm products the conditions within the county are prosperous and improving. The wages of labor have increased, but even with this added expense the last few years of good prices have enabled many of the planters to clear up debts and accumulate a surplus. More improvements in general are being made on the farms. More attention is being given to the selection of seed for planting, particularly cotton, thereby increasing the yields and quality of crops. There is also more attention being paid to the use of better fertilizers and, as has already been stated, to the improvement in cultural methods through the introduction of modern farm implements. The improvement of live stock is also receiving attention. Though there has been and continues to be a tendency to general improvement of the existing conditions, there is, however, room for initiative in broader and more fundamental

questions, with a consequent betterment of the conditions as a whole. The present one-crop system of farming is admittedly not the best for the soil, nor is it defensible economically.

A diversity of farm products makes the farmer more independent of price fluctuations and renders his income more certain from year to year. Diversification is also desirable from the standpoint of maintaining the productive power of the soils at the least possible outlay, through the practice of suitable crop rotations. With its mild climate and variety of soils the county could produce a wide range of crops, and all the crops that can be grown and marketed at a profit should be produced on most of the farms of the county. Among the crops grown, those that have a particularly beneficial effect on the soils—the legumes, such as cowpeas, vetch, and clover—should find an important place. Cowpeas do well, and not only improve the soil but give a hay that has a high feeding value. The peas themselves also bring high prices at the present time, and would materially increase the income from this crop. A cereal crop should also be included in crop rotation. Oats and rye are successfully produced. There should also be a grass crop and along with it an increase in the number of live stock, although forage and hay at the present ruling prices would be remunerative and in many cases even more profitable than cotton, considering the fact that they could be produced at less cost. Orchard grass is a valuable hay crop, and does particularly well in moist situations. It could be made to give good yields upon all the heavy valley soils, with good preparation of the soil before planting. The few meadows of Johnson grass have, when properly handled, proved profitable to the growers.

By keeping more live stock and utilizing the barnyard manure the soils could be brought up to a better condition, and at the same time the expenditures for commercial fertilizers reduced. Aside from general farming there is probably no better opportunity than the development of dairying, a class of farming which is very little practiced in the State. The production of beef and the grazing of sheep and goats, the last two on the rougher mountainous lands, could in all probability be made profitable ventures.

Forestry might well be taken up in the case of second-growth land, or even upon lands requiring replanting. A great deal of land that should never be utilized for anything else would be especially suited to the longleaf pine, the lumber from which is steadily increasing in value.

On the whole the outlook for the farming class in this area is encouraging. The mineral resources of northern Alabama are being rapidly developed; the nonagricultural population is increasing, and there is bound to be an increasing demand for all farm products from

the farming sections; and Talladega County, in addition to producing a share of the country's cotton, being close to this region, must be more and more benefited by meeting a part of this demand.

SOILS.

The soils of Talladega County are intimately associated with the underlying rocks, as they have been derived wholly or in part from them. As there is a great variety and diversity in the geological formation, so there is a corresponding variety and diversity of soils. There are two main groups of rocks represented. One group is composed of old metamorphic rocks, extending in a belt from 3 to 8 miles wide along the eastern boundary of the county and known as the metamorphic belt. The second consists of folded sedimentary rocks of more recent origin, which form the remainder of the county, including the Coosa Valley region.

The metamorphic belt of rocks consists of hydro-mica to imperfectly crystalline slates of greenish color, with interbedded sandstones, conglomerates, quartzites, and veins and lenses of quartz. These give rise to three soil types. In the western part of the belt the rocks are more shaly and slaty, and the resultant soil is silty and has a greasy feel, due to the small smooth flakes of the weathered rock. There also remain larger slabby pieces on the surface, with occasional areas covered by quartz fragments. In the eastern and southern parts of the belt the formation becomes more siliceous and here gives rise to a distinct soil type, the top soil being generally sandy, with a large proportion of quartz and other rock fragments on the surface. In this region occasional ledges of the weathered slate are exposed. In the vicinity of Chandler Springs a stony loam type is developed. There the rock approaches a serpentine, to which no doubt is due its unproductiveness. The mountainous ridge in the formation is so steep and stony as to come under the miscellaneous class known as Rough stony land. The topography in general of these soils is so rough and stony that as farming lands they are undesirable, and consequently only a small area is under cultivation, the region remaining practically a wilderness. The best use of such lands would be systematic forestry.

The sedimentary rocks of the Coosa Valley consist of a great variety of limestones, shales, and sandstones, and their metamorphic forms, slates, quartzite, and marble, the most important being the limestone formation known geologically as the Knox dolomite. It has a wide range, varying from a pure limestone, more or less magnesian, to a cherty siliceous limestone. The lower member of this formation—the purer part—has given rise to three types of soil, all in the Decatur series, the principal one being the red clay loam. In

this soil weathering has gone on to great depths and stones or rock outcrops rarely occur. This type of soil, which has been mapped as the Decatur clay loam, forms the most productive and most desirable land in the county. The other two types, the Decatur loam and Decatur stony loam, appear to have a surface deposit of sedimentary origin over the residual subsoil. That they have been covered by water at some past time is evidenced by the rounded waterworn gravel found on the surface and in the soil. In some localities, however, the surface material may be residual, in whole or in part from interbedded sandstones in the dolomite, and it is possible that the gravel has been left from the breaking down of a conglomerate which formerly overlay the dolomite. In some localities, too, close to mountains, the surface may be material washed from the slopes. These soils are all highly ferruginous, as evidenced by the dark-red color and the presence of iron bodies in many places of sufficient extent to be mined. These soils are similar to soils already found in other sections in north Alabama and in Tennessee.

The cherty and siliceous members of the Knox dolomite formation give rise to soils of lower productivity, rougher topography, and more stony character. The processes of weathering in these rocks have been similar to those breaking down the purer limestones, that is, chemical processes, through the solution of the carbonates of lime and magnesia in water charged with carbon dioxide. Besides Rough stony land the residual material gives rise to three types, all of which belong to the Clarksville series. The principal type is the Clarksville stony loam, showing the typical surface accumulation of chert and siliceous fragments of the limestone. The Clarksville loam also occurs and is a soil similar to the foregoing, except in the less quantity of stony material present. The other variation is similar to that found in the purer limestone, and consists of the presence of gravelly material, evidencing the action of water during some stage in the process of soil formation. These are all less desirable soils than the Decatur types, although they produce good crops of cotton. Excepting the gravelly type, which has not been mapped heretofore, the soils are similar to those found on the Highland Rim of Tennessee and in the Ozark Plateau of Missouri. They are locally known as "piney-woods land."

In the depressions and sinkholes throughout the Coosa Valley section occurs a gray or drab silty soil. The material is free from stones and the wash from the surrounding slopes. It is popularly called "crawfish land," but is shown on the accompanying map as the Guthrie silt loam.

From the shales, with the beds of interstratified sandstones or shaly sandstones, have been derived two types of soil. The one is a silt loam and quite free of rock fragments; the other, occurring where

sandstone predominates, is more sandy and stony. The material is more or less siliceous and the soil is not naturally as productive as the limestone soils. Flat areas of the silty soil are popularly known as "Flatwoods." The silty soil belongs properly in the Dekalb series as Dekalb silt loam, which has been mapped in widely separated localities in earlier surveys, while the thin, stony and siliceous type has been given a local name, Montevallo stony loam, identifying it with the Montevallo shale formation.

In addition to these residual soils, which cover by far the greater part of the county, there are two alluvial soils found along the Coosa River and the smaller streams. One of these types—the Cumberland fine sandy loam—represents sediments laid down by the river at an earlier stage, the terraces it occupies being now above overflow. The sediments are underlain by the residual material derived from limestone. The other type—the Huntington silt loam—is a strictly bottom-land development, and though variable in composition is most often a silt loam.

The name and actual and relative extent of each of the types mapped are given in the following table. The distribution of the soils is shown by color on the accompanying map.

Areas of different soils.

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Talladega slate loam	95,552	19.9	Clarksville gravelly sandy loam	5,376	1.1
Decatur stony loam	85,696	17.9	Cumberland fine sandy loam	4,864	1.0
Clarksville stony loam	82,560	17.2	Lickdale stony loam	4,416	.9
Decatur clay loam	56,064	11.7	Montevallo stony loam	4,032	.8
Huntington silt loam	39,424	8.2	Chandler stony loam	1,664	.3
Rough stony land	35,072	7.3	Guthrie silt loam	320	.1
Decatur loam	25,664	5.3			
Dekalb silt loam	17,280	3.6	Total	479,808	
Talladega stony loam	15,552	3.3			
Clarksville loam	6,272	1.4			

DECATUR CLAY LOAM.

The soil of the Decatur clay loam, locally known as "red land," varies from a dark reddish-brown heavy sticky loam to clay loam and, where washing has occurred, to stiff red clay, the latter being really the exposed subsoil. The average depth of the soil is about 6 inches, but often it is less. In places the surface covering in virgin areas may be more loamy or even slightly sandy, though the covering is so shallow that upon plowing the heavier material from below is turned up, resulting in the heavy soil described. In places, as where the material is added to by washing or little or no erosion takes place, the soil becomes nearly black and of such a peculiar consistency that it does not scour well on the plow and is locally known as "push land."

The subsoil is uniformly a heavy dark-red clay, soft, sticky, and plastic when wet, but very hard and refractory when dry. There is, however, this exception, that in the lower lying areas where the surface is more loamy, the immediate subsoil grades through clay loam into the clay. The depth of the subsoil exceeds 36 inches. In cuts it has been observed to have a depth of 50 feet, and how much farther down weathering has extended is not known. There are occasionally some stones on the surface, particularly chunks of iron-bearing rock or ore, and in the latter case the quantity sometimes becomes quite large. Bowlders of limestone are occasionally found in the subsoil, but rarely are outcrops seen, and then only along stream channels.

The Decatur clay loam is the heaviest soil in the county and requires careful handling, for if plowed when too wet it forms clods, which resist breaking down until after they have gone through a winter season. On the other hand, when dry it is very difficult to plow. The disk plow has been found to be most suitable for use on this land, as with the turning plow it does not scour or turn very well.

The Decatur clay loam is found in disconnected areas in all parts of the county. The largest areas are in the valley of Choccolocco Creek and in the Talladega Valley. All the areas are confined to valleys, of which it forms the floors. The surface of the central trough is gently undulating, but the sides rise in hills from 100 to 200 feet higher than the lower part of the valley. The hill slopes are as a rule gentle, and the land is all tillable. This in part accounts for its desirability as farming land, but it washes easily, and when proper attention is not given to cultivating the slopes great gullies are soon eroded.

The surface drainage of the Decatur clay loam is good, but the close character of the subsoil does not allow the ready percolation of water downward. The soil, on account of its shallowness and apparently low water-retaining power, dries out quickly even in ordinary dry weather, the surface baking hard and crops suffering from lack of moisture. Given a rain, the recuperative power of the soil is great and crops soon renew their growth. Some large springs occur in the formation. On reaching the main valley the large streams of the area flow throughout the year. The minor streams through the areas of this soil are small and dry up during the summer, except where fed by strong perennial springs. The water-holding capacity of the soil could be increased by deeper plowing, by subsoiling, and by the addition of organic matter, either as green manure or barnyard manure, or preferably both.

The Decatur clay loam is of residual origin, having been formed through the weathering of limestone and marble. The rock formation is known geologically as the Knox dolomite, which was deposited during the Silurian period. This is a magnesian limestone and the

formation itself is variable. The part that has given rise to the Decatur clay loam consists of the purer, less siliceous and less cherty strata. The solubility of the rock is great, and to form such a deep soil mass has required the solution of a great amount of the original rock. The weathering has been nearly complete as to surface exposures, for rarely are outcrops or even bowlders of the original rock found in the soil. There apparently is a relatively large proportion of iron compounds left in the weathering, to the oxidation of which is due the deep red color of the soil mass. Pockets of iron ore consisting of limonite and red hematite occur and have been mined to a considerable extent. The limestone affords stone for building purposes and has been used for fluxing of iron ores, but it seems to contain too much magnesia to be suitable for lime. The marble quarried is of high commercial value for building and other purposes.

The Decatur clay loam is the most productive and durable soil in the county. Originally forested with a heavy growth of deciduous trees, it is practically all cleared and most of it has been under cultivation for a long time. All the crops of the county are produced upon it and give the largest yields obtained. It is expected to produce on the average fully one-half bale of cotton to the acre, though it makes much higher yields where better methods are used. One objection, however, is that the crop is damaged by staining when dashing rain occurs. Corn usually does well. The average yield is about 25 or 30 bushels per acre, though double or treble this quantity has been secured in several instances. When wheat was grown quite generally throughout this county the highest yields were reported on the Decatur clay loam, as high as 45 bushels per acre being reported. Occasionally these large yields are now obtained, and with ordinary seasons it is expected to produce from 15 to 25 bushels. It is a soil well adapted to growing cereals and grasses. All grass and forage crops make large yields, Johnson grass yielding as high as 5 or 6 tons of hay per acre in four to six cuttings. Orchard grass also makes large yields, especially on lower lying situations, where better moisture conditions prevail. Bermuda grass succeeds, as will also the leguminous crops, cowpeas, vetch, and clovers. The first mentioned does particularly well and should be more extensively grown.

Farms on this type would be especially well adapted to dairying and stock raising, and it is believed would prove more profitable if used for general farming, including stock, than under the present one-crop system of producing cotton. On this soil, as well as all others of the county, no systematic rotation is followed, the main crop being cotton. Better cultural methods, however, are employed on the Decatur clay loam than on the lighter soils, and the example is having an influence in improving the agricultural practices generally. Many fine farm dwellings are seen on the Decatur clay loam, also good outbuildings

and well-fenced fields. The value of the farms ranges from $10 to $35 or more an acre.

The average results of mechanical analyses of typical samples of the soil and subsoil of the Decatur clay loam are shown in the appended table.

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.*
16327, 16477.....	Soil.....	1.4	5.7	3.7	11.1	9.0	38.1	31.3
16328, 16478.....	Subsoil.....	.9	3.2	2.2	5.9	4.8	30.1	52.1

DECATUR STONY LOAM.

The surface soil of the Decatur stony loam varies from a dark-brown silty loam or loam to a medium to fine sandy loam. The soil is generally shallow, averaging not over 6 inches, and only in rare instances exceeds a depth of 10 inches. The subsoil is for the greater part a dark-red heavy clay loam grading quickly into stiff, plastic dark-red clay, the material being the same, or practically the same, as that underlying the Decatur clay loam. In some places, however, the subsoil is of yellowish-red color, and sometimes has a more or less greasy feel where shales have entered into its formation. Upon the surface and in the soil are always found some stones, the quantity varying from 10 per cent to conditions where the surface is completely covered and only a small proportion of interstitial material is found. The stones consist for the most part of subangular and rounded sandstone fragments, varying in size from small gravel to pieces several inches in diameter. There is also more or less quartz and quartzite present, and in places slabs of siliceous limestone.

Occasionally some chert is found, and in this case the type approaches in character the Clarksville stony loam, which is derived from siliceous and cherty limestones. Some stones are found in the subsoil, but usually in veins or strata. They consist of siliceous limestones of a chalky appearance, shaly sandstones and shales, and in areas next to the mountains the subsoil includes stones interstratified with the fine-earth material and evidently largely wash from the mountains. This type in some localities includes areas in which the soil is more clayey and of reddish or reddish-brown color, but which are so stony and of so little importance agriculturally that they could be classed with it.

The Decatur stony loam is extensively developed in all parts of the county. It occupies the lower slopes of the mountains and the low foothills and the tops and slopes of valley ridges. For the most part, especially in the larger areas, the topography is rather hilly and

rough. This character of surface insures good drainage. The loamy soil with the stones strewn over the surface is favorable to the retention of moisture, and crops do not suffer so much from drought as on the heavier limestone valley soils.

The material forming this soil type is probably derived from two sources. The subsoil is residual, representing mainly the detritus from the purer strata of the Knox dolomite, although shales may have also to some extent been a factor in its formation. The surface soil appears to be transported material, for the most part a wash or talus from the mountain slopes spread over the residual material. On the valley ridges the soil may be residual in part, derived from strata of sandstone in the original limestone beds, but even in this case it seems evident that the material has been reworked in water, the stone and gravel being more or less grounded. All the crops grown in the county are found on this soil type. Excepting the rougher and more stony areas, it is held in high esteem because of its friable character, resistance to drought, and general productiveness. It is well adapted to cotton and corn. Cotton yields as much as 1 bale per acre, and corn gives as good yields as are obtained from any of the upland soils. It is well adapted to fruit growing, and the commercial peach orchards of the county are found upon it. Apples also do well, as do the different kinds of berries.

The tree growth is mostly deciduous, black jack and white oak being prominent species. There is also some pine. The value of the land averages about $10 an acre, but nearer towns it brings much better prices. On the whole it rents for practically as much as the heavier limestone valley lands, because of its adaptation to cotton and corn.

The average results of mechanical analyses of samples of the soil and subsoil of this type are given in 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.*
16313, 16469.....	Soil.....	3.1	8.9	5.7	13.4	4.9	44.1	19.6
16314, 16470.....	Subsoil.....	1.5	5.1	2.4	6.4	2.1	38.0	44.5

DECATUR LOAM.

The soil of the Decatur loam varies from a brown, silty, heavy fine sandy loam to a dark-brown friable loam. Analyses show that the soil contains all grades of material, the silt predominating and in some cases comprising more than 50 per cent of the soil mass. The soil ranges in depth from 4 to 10 inches, the average being about

6 inches. In most areas it is shallow enough to allow the subsoil to be turned up in plowing, and the plowed fields have a spotted appearance due to this cause. When dry the soil has a grayish color and a rather ashy character.

The subsoil is generally a bright-red or yellowish-red clay loam or in some cases a dark-red clay loam, grading into stiff, sticky, dark-red clay. The upper few inches of this subsoil usually contains enough sandy material to give it a gritty feel and to make it more friable. Generally the type is free or nearly free from stone, but occasional gravelly areas occur, especially near stream courses.

The Decatur loam is not so generally distributed over the county as the Decatur clay loam and the Decatur stony loam. The largest areas occur along the Coosa River, one in the northern part of the county and another in the central-western part. Other smaller areas are scattered in the northern and southern parts of the county. The surface features consist of low hills with practically no steep slopes, so that all the type is suitable for cultivation. Its position gives good surface drainage and yet the drainage is not rapid enough to make washing a serious problem, as in the case of some of the other soils. It is not a droughty soil, the surface favoring the absorption of the rainfall and the close subsoil its retention. It also shows lasting effects from the fertilizers applied to it, a characteristic of all the limestone soils with clay subsoils.

Like the Decatur stony loam, the Decatur loam is without doubt derived from two sources and may be considered the stone-free phase of the former type, the subsoil being residual from limestone and the soil evidently a sedimentary deposit reworked by water and spread over the residual limestone material. There are exceptional areas, however, where the surface soil is probably the result of wash from mountain slopes, and some where both soil and subsoil are residual in places, the top soil being derived either from fine-grained sandstone beds or from the more siliceous layers of the limestone itself.

The Decatur loam is adapted to the growing of cotton and corn, making average yields that compare favorably with the best in the county. This soil should also be admirably adapted to small fruits, to the tree fruits, and to truck gardening, particularly the heavy truck crops, such as Irish and sweet potatoes.

The natural vegetation consists of mixed forests of pine and hardwood species of trees, but land of this type is largely cleared and under cultivation. The value of such land ranges from $10 to $20 an acre.

The average results of mechanical analyses of the soil and subsoil of the Decatur loam are given in the table following.

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.*
16240, 16473.....	Soil.....	0.3	6.7	7.4	19.9	10.8	45.8	9.2
16241, 16474.....	Subsoil.....	.3	3.3	4.2	11.2	6.5	44.2	29.9

CUMBERLAND FINE SANDY LOAM.

The soil of the Cumberland fine sandy loam consists of a light-brown to yellowish or grayish silty fine sandy loam, with a depth varying from 8 to 15 inches and averaging 12 inches. The surface soil is underlain by a thin layer of yellowish-red to red gritty clay or clay loam, which changes quickly into a dark-red stiff clay. Occasionally some rounded gravel occurs on the surface and in the soil.

This type of soil occupies only a small area in the county, occurring in the bends of the Coosa River and along Choccolocco Creek. It occupies rolling and sloping terraces and excepting the lower-lying portions is above high-water mark. Included with the areas of this soil is a narrow band, not exceeding a few rods in width, forming a natural levee along this river and consisting of fine sand to a depth of several feet. This strip is subject to overflow and is so narrow that it was not practicable to make it a separate type of soil on the map.

The drainage of the Cumberland fine sandy loam is excellent though not excessive. As in case of the Decatur stony loam and Decatur loam, the Cumberland fine sandy loam is residual in the lower and sedimentary in the upper part of the profile. The subsoil is derived from limestone weathered in place, while the soil is evidently a deposit of the river when it flowed at a higher level than now. The light sandy character of the surface soil makes this type very easy to cultivate. The subsoil is retentive of moisture, enabling crops to withstand droughts. It gives average yields of the crops grown, to all of which it is well adapted. It would also be an excellent soil for strawberries and other small fruits. It is all cleared and under cultivation.

The results of mechanical analyses of typical samples of soil and subsoil are given in the following table:

Mechanical analyses of Cumberland 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.*
16157.....	Soil.....	0.6	2.2	4.6	36.5	29.4	20.1	6.5
16158.....	Subsoil.....	.4	1.2	3.0	20.6	8.3	44.8	21.4

CLARKSVILLE STONY LOAM.

A profile section of the Clarksville stony loam shows 6 to 12 inches, with an average of 8 inches, of fine-textured ashy silt loam or silty fine sandy loam, with which is mingled cherty and siliceous rock fragments. The color of the surface soil for a few inches is gray, drab, or sometimes light brown, changing to a light yellow. When dry the surface has a whitish appearance and an ashy feel and the land is called generally "white land" or "gray gravelly land," though another term, "piney-woods land," is also in common use. The rock material, which is concentrated in the surface foot, consists of angular fragments ranging in size from fine gravel to blocks a foot or more in diameter, though the average diameter of the larger stones is from 3 to 6 inches. These occur in the soil and upon the surface, the quantity varying considerably, say from about 15 per cent of the soil to a mass of rock fragments without interstitial material, the latter condition occurring on the tops of hills and narrow ridges.

The subsoil, which varies but little throughout the extent of the formation, consists of a yellow heavy silt loam to clay loam, changing with depth to reddish yellow and then to yellowish red and grading at a depth of 30 inches or more into a red silty clay. Very few cherty fragments are found, though occasionally bands of weathered and broken siliceous limestone occur. For the most part the subsoil is free from stone, and except on tops of hills and ridges very deep.

The Clarksville stony loam is one of the extensive soil types of the Coosa valley portion of the county, the largest areas being along the Coosa River from Choccolocco Creek to the vicinity of Childersburg; at these points its continuity is broken. Scattered areas occur in other parts of the valley region. It occupies the valley ridges and hills and in most cases the topography is rough. The broad areas along the Coosa River appear to be a much dissected plateau, having irregular ridges with narrow tops and sides sloping steeply to narrow valleys lying from 100 to 300 feet below. The streams in the smaller of these valleys are intermittent.

The topography of the Clarksville stony loam causes rapid surface drainage. In fact the soil, because of its surface features, stony character, texture, and open structure, is apt to be droughty. Even in ordinary dry spells crops suffer greatly for moisture, the soil having low water-holding power. When very wet the soil in cultivated fields becomes like mortar. This soon dries and forms a crust, which, however, breaks up readily upon cultivation.

The Clarksville stony loam is of residual origin, being derived through weathering from the cherty and siliceous limestones known as the Knox dolomite and of Cambro-Silurian age. This is a variable formation, ranging from practically pure limestone or dolomite in its lower part to siliceous limestone with cherty layers, this latter phase

giving rise to the type under discussion. The process of breaking down in the rock has been largely by the solution of the lime and magnesium carbonates in meteoric water charged with carbon dioxide. The less soluble residue has been concentrated for the most part on the surface as a mass of angular gravel, stones, and silty material. The weathered fragments of chert are mainly white, though some, particularly the larger blocks locally called hornstone, are dark-colored. The formation is highly magnesian and to this is believed to be due in part the low productiveness of the soil.

The Clarksville stony loam is considered one of the poorest soils of the county and with its rough topography, large stone content, and droughty condition is not desirable as farming land. But a small proportion of it is cleared and cultivated and the cleared areas are only found in the better parts. It is said, however, to do fairly well for cotton, the quality being good. It requires heavy fertilization at present to produce any crops. The soil is lacking in organic matter and no doubt if managed in such a way as to increase this constituent could be made much more productive. On lower slopes, where better moisture conditions prevail, fairly good crops of corn are produced.

This soil would probably prove very well adapted to fruit culture, if proper care were given to the trees and to fertilization. On a similar soil in more northern localities, in Missouri, for instance, fruit growing has proven profitable.

The typical forest growth on this soil is the longleaf pine and because of this the land has become known generally as "piney-woods land." In the extremely cherty areas the black-jack oak flourishes. Because of its poor yields, as compared with other soils, the value of the Clarksville stony loam is low. The land is worth more as a source of pine than for any other product except for occasional deposits of iron ore, and should be devoted to systematic forestry.

The average results of mechanical analyses of fine-earth samples of the soil and subsoil of this type are given 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.*
16155, 16461	Soil	4.0	6.8	4.9	11.6	9.0	51.2	12.8
16156, 16462	Subsoil	1.9	4.0	3.1	8.5	5.3	48.8	28.6

CLARKSVILLE GRAVELLY SANDY LOAM.

The soil of the Clarksville gravelly sandy loam consists of a light-brown, grayish, or yellowish medium to fine sandy loam, with an average depth of 8 inches, and carrying a large percentage of fine and coarse rounded quartz, sandstone, and chert gravel. The finer

material has an ashy feel, which is due to the relatively large proportion of silt which it contains. The subsoil is a gritty or sandy yellow clay loam, changing into yellowish red and grading into clay which is very stiff in the lower depths. It contains some small sharp fragments, and these impart a gritty feel. It is an easy soil to cultivate; the gravel, though often completely covering the surface, does not seem to interfere much with farming operations. In appearance and in the way the soil acts under cultivation it is much like the Clarksville stony loam and is known locally by a similar name, "gray gravelly sandy land."

This type of soil is not extensively developed in the county, occurring only in comparatively small areas, generally near stream courses. It occupies hilly areas, but the slopes are not steep and can all be cultivated. This character of surface insures good drainage, and in this respect the type is much like the Clarksville stony loam. It is droughty and deficient in organic matter.

This type is not entirely of residual origin. Evidently the soil at least has been reworked by water in the past, and from the presence of rounded sandstone gravel some of the material must have been transported. The subsoil is evidently residual, having been derived from a siliceous member of the limestone or dolomite formation. The subsoil, though, from its gritty character, may have been to some extent influenced by the action of water, the sandy material in it being the result of such action. The Clarksville gravelly sandy loam is a poor type of soil, but in good seasons if properly fertilized makes fair crops of cotton. The natural forest vegetation is like that of the Clarksville stony loam. The longleaf pine with some deciduous trees are found on this type.

The mechanical analyses of a fine-earth sample of the soil and subsoil of this type are given 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.*
16457	Soil	5.4	25.4	12.4	19.1	14.1	17.4	5.6
16458	Subsoil	4.1	14.7	8.5	12.3	9.9	23.6	26.1

CLARKSVILLE LOAM.

The soil of the Clarksville loam to an average depth of 8 inches varies from a silt loam or silty loam to a silty fine sandy loam, and in places is still somewhat coarser, resembling in texture the fine earth of the Clarksville gravelly sandy loam. It lacks the gravel found in the type just mentioned, but contains some cherty and siliceous limestone and quartz fragments and occasionally a few

larger stones, but never enough to hinder cultivation. Its color is light brown, light yellow, or gray. The surface has a gray appearance and the soil generally a somewhat ashy feel. The subsoil is a heavy yellow silt loam grading into reddish-yellow silty clay loam and this at about 36 inches or less into dark-red silty clay loam or clay. It contains some sandy material, making it usually friable, although in places it becomes more plastic.

The Clarksville loam is confined largely to the valley areas in the northeastern part of the county. It occurs in several large irregular-shaped areas with other smaller scattered bodies. The topography as a rule is gently rolling to hilly. It also occupies the bottoms and lower gentle slopes below the Clarksville stony loam areas. It has good surface and subsurface drainage and like the Clarksville stony loam and Clarksville gravelly sandy loam is somewhat inclined to be droughty.

The Clarksville loam is a residual soil type, derived from siliceous limestone or dolomite, and weathered fragments of the rock together with some chert and quartz are occasionally found in the surface soil. It appears to be a less stony condition of the Clarksville stony loam and like that soil is one of the less productive types, though more desirable than the Clarksville stony loam, because it lacks the high stone content and is more easily cultivated. It produces fairly good yields of cotton. The natural forest growth is longleaf pine, but the most of the type is cleared and under cultivation. Its value is fairly high, the prices ranging from $10 to $20 an acre.

The average results of mechanical analyses of typical samples of the soil and subsoil of the Clarksville loam are given in the following table:

Mechanical analyses of Clarksville 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.*
16453, 16455.....	Soil.....	3.9	8.6	7.4	15.2	13.0	43.5	7.9
16454, 16456.....	Subsoil.....	2.0	4.7	4.2	9.5	8.6	48.5	21.8

GUTHRIE SILT LOAM.

This is an unimportant type occurring in small areas in the limestone formation, being found in the depressions or large sinks. It consists of about 8 or 12 inches of gray or drab compact silt loam, underlain by drab to yellow, heavy, compact, silt loam. This soil becomes hard during dry spells and acts much like a clay, yet it is not a clay. It is known as "crawfish land." It is evidently a wash from the surrounding slopes, and from its position is generally wet and poorly drained. During very rainy spells water stands upon

it, and some parts of it are truly swampy. Because of this undrained condition it is of practically no value. The sweet gum is a characteristic growth upon it and the drier areas support longleaf pine.

LICKDALE STONY LOAM.

The Lickdale stony loam consists of a gray to light yellowish ashy silty loam to silty fine sandy loam, with a depth of 6 inches, underlain by yellow silt loam or loam carrying noticeable quantities of fine sand. In some places, however, the subsoil is somewhat heavier and when of reddish color is a silty clay loam. Rarely could the soil auger reach beyond a depth of 24 inches because of stones. These consist of subangular fragments, from small gravelly particles to large stones, and are found both on the surface and throughout the soil profile. The quantity is often sufficient to interfere materially with cultivation. In fact in some areas they completely cover the surface.

There are only two areas of the Lickdale stony loam shown on the map, a narrow strip occurring on the lower northwest slope of the Talladega hills, extending their whole length, and the other occurring on the slopes of a small mountain in the south-central part of the county near Weewokaville. The Lickdale stony loam is formed entirely from the debris or talus from the mountains spread over the other formations. The material is several feet deep and not influenced by the underlying rock formation.

Occurring as it does in the mountain slopes the drainage of the type is excellent, but the texture of the soil is such that it is not retentive of moisture or fertilizers and is droughty, and with its stony nature is of very little agricultural value. It is not under cultivation, but is covered by a light growth of pine and oak, with an undergrowth of huckleberry bushes.

The results of mechanical analyses of a fine-earth sample of the soil and subsoil of the Lickdale stony loam are given in the following table:

Mechanical analyses of Lickdale 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.*
16262	Soil	2.2	7.2	5.0	12.1	17.0	44.6	11.9
16263	Subsoil	1.3	4.9	3.9	10.3	14.6	43.7	21.2

DEKALB SILT LOAM.

The soil of the Dekalb silt loam to an average depth of 8 inches consists of a light brown or rather gray ashy-textured silt loam or silty fine sandy loam changing with depth to a light-yellowish color. This material is underlain by a heavy yellow silt loam, which becomes heavier with depth and in places is a silty clay loam or clay. In

some areas the deep subsoil is of a reddish-yellow or even dark-red color, and in such cases is much heavier in texture. The larger part of the type is free from stones, but small areas occur on knolls and hills where are to be found shaly fragments or flakes of argillaceous to sandy shale, and there are small areas which could be classified as a shale loam. Most of the rock in such locations, however, consists of sandy shale and shaly sandstones, the pieces varying in size from small chips to fragments several inches in diameter, the larger ones generally being angular. The Dekalb silt loam for the most part is an easy soil to cultivate, although in the level and wet areas the soil compacts and clods badly.

The Dekalb silt loam occurs in several large, continuous, narrow strips in the Coosa Valley section of the county, the boundaries being rather irregular. It occurs in level, undulating, and knobby or hilly areas, the hills or knobs being rounded—the characteristic topography of the soils derived from shale formations. The entirely flat areas are not extensive, and are locally known as "flatwoods." They are poorly drained, and for the most part are covered with pine, sweet gum, and other trees. The higher parts of the type are covered by longleaf pine.

The Dekalb silt loam is a residual soil derived from the disintegration of shales—mostly fine-grained and sandy—and shaly sandstones and fine-grained sandstone. In some places possibly siliceous limestone or dolomite may have a part in the formation of this soil. The low, flat areas, too, may be, in part, a wash or sedimentary deposit.

This is a cold soil, particularly in the flat, poorly drained areas, and crops are late in getting started unless the season is particularly favorable for growth. The soil needs more organic matter and is generally considered one of the less desirable soils. Excepting the drier portions, it is not adapted to cotton, but does best with corn. Only small yields of any crop can be expected. There are some small farms on this type. Though classed among the cheap lands of the county, the soil, if properly drained and carefully managed with a view to increasing the content of organic matter, would bring good returns for the labor expended. The value of the land ranges from $5 to $10 an acre.

The average results of mechanical analyses of two typical samples of the soil and subsoil of the Dekalb silt loam are given in the following table:

Mechanical analyses of Dekalb 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.*
16311, 16467.....	Soil.....	2.0	3.9	1.7	5.6	5.0	66.1	15.6
16312, 16468.....	Subsoil.....	.7	1.9	1.3	3.8	2.8	61.5	27.4

MONTEVALLO STONY LOAM.

The interstitial material of the soil of the Montevallo stony loam consists of a light brown or gritty gray silt loam, tending in places to the texture of a silty sandy loam or sandy loam. The average depth of the soil is about 5 inches. On some cultivated slopes the soil has been largely removed, and the plow turns up the reddish subsoil, giving the surface a reddish cast and heavier texture. The subsoil consists of a yellow or reddish-yellow greasy silty clay loam, changing to stiff plastic red silty clay. The subsoil usually does not exceed 24 inches in depth and is underlain by a mass of broken rock. The surface of the Montevallo stony loam is, for the most part, covered with rock fragments varying from small shaly chips to blocks of shaly sandstone or sandstone several inches in diameter. On the tops and slopes of the higher, steeper hills the stones are larger, consisting of angular standstone 3 to 6 inches or more in diameter. The parent rocks outcrop in some places or are at most covered only with a thin mantle of soil, and in cuts along roads and streams the weathered sandy shale and shaly sandstone are frequently exposed.

The topography of this type of soil consists generally of hills with smooth contours and of irregular-shaped ridges with narrow tops and steep slopes. The areas near the Coosa River are extremely broken, while to the east the hills become lower, the slopes less steep, and better suited to cultivation.

The character of the soil and subsoil and the broken condition of the rocks underlying the Montevallo stony loam allow rapid passage of the water downward, yet with heavy rains washing results on the steep and less stony slopes. The small streams forming the minor drainage channels for this soil are intermittent. There are only a few areas of the Montevallo stony loam. The main area occurs in the extreme southwest corner of the county. There is also an area in the northwest and a number of others in the central part. The type is of residual origin, being derived from the degradation of variegated sandy shales, shaly sandstones, sandstone, and probably some limestone of the Montevallo. All rocks are more or less ferruginous, which gives to the subsoil its red color. The greater part of the type is derived from the most recent geological formation in the county, the Upper Subcarboniferous. Some other areas have arisen from the breaking down of the older sedimentary rocks of the valley region correlated with the Cambrian age.

Owing to its steep slopes and stony character, but little of the soil is under cultivation. It is covered for the most part by forest growth, mainly longleaf pine, with a scattering of deciduous trees. The original forest growth was rather heavy. The rougher portions are of no value except for their timber, but on the better portions the

land is fairly productive. It is a much stronger soil than the hilly parts of the Dekalb silt loam.

The average results of mechanical analyses of the fine-earth samples of the Montevallo stony loam are given in the following table:

Mechanical analyses of Montevallo 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.*
16463, 16465.....	Soil.....	6.4	6.2	2.3	5.3	31.5	34.4	13.9
16464, 16466.....	Subsoil.....	4.3	5.3	1.7	4.1	8.4	44.6	31.8

TALLADEGA SLATE LOAM.

The surface soil of the Talladega slate loam consists merely of a shallow mantle, rarely 6 inches in depth and probably not averaging over 4 inches, of a shaly or slaty dark-gray or light-brown silt loam having a soft greasy or soapy feel. The soil texture, however, is variable, and in some places becomes quite sandy and coarse, but only in narrow streaks following variations in the underlying rock. The subsoil, which rarely exceeds 20 inches in depth, is a uniform slaty dark-red clay loam or clay, having the peculiar greasy feel that is so characteristic of the soil. This textural feature is due to the presence of decomposing hydro-mica slate fragments contained in it. Occasionally the subsoil is yellow and quite sandy, being influenced, as is the soil, by the variation in the rocks from which derived. The parent rock in a fragmentary mass is found at an average depth of 20 inches.

Upon the surface and scattered throughout the soil mass are varying quantities of shaly or slaty fragments in a state of partial decomposition. In places the small flaky fragments may cover the surface and occupy the greater part of the soil mass. Again, where weathering has gone further and less erosion has taken place, these fragments are much less in evidence. There also occur upon the surface large slabby pieces of the slate and fragments of quartz and quartzite, and the amount of rock material is sufficient to give the larger part of the type a stony character. The quantity of quartz and quartzite increases in the eastern part of the metamorphic belt, where in places it becomes sufficient, together with a change in the interstitial material, to form another type of soil.

As stated, the soil covering is shallow, and on cleared hills it has been largely eroded, or being shallow is incorporated into the upper few inches of the subsoil, thus giving rise to a heavier surface material or greasy clay loam and changing the color to grayish red.

The Talladega slate loam is the most extensive soil type in the county. It occurs as a broad belt which in its narrowest place is not less than 3 miles wide and extends in a northeast-southwest direc-

tion along the whole eastern part of the county and a large part of the southern boundary. The topography is rough. The whole belt is really a deeply eroded plateau, the average elevation of which is between 900 and 1,000 feet above sea level, with the higher parts reaching to nearly 1,100 feet and the bottoms of the stream valleys 200 to 300 feet lower. The higher elevations are to the east and north, the upper portion forming the crescent-shaped ridge known as the Kentuck Mountains. From the east the slope is gradual to the west and southwest. Erosion has greatly dissected the plateau, resulting in narrow irregular-shaped ridges, hills, and knobs, apparently without arrangement, and having a uniform elevation and steep slopes, but generally smooth contour, although some precipitous cliffs occur, and the valleys are narrow and V-shaped.

The drainage of the Talladega slate loam area is exceedingly rapid, the seams in the slate allowing the water to pass down readily rather than off the surface, and resulting therefore in numerous creeks and branches which carry water throughout the year. These streams are clear and rapid flowing, and would afford much water power.

The Talladega slate loam is a residual soil, derived from imperfectly crystalline and hydro-mica slates. The soil is the result of the breaking down of these rocks by both chemical and physical agencies. The weathering, however, has not been complete, as shown by the great quantities of small and large fragments still found in the material. The quartz and quartzite in the soil are derived from veins penetrating the slate formation. The former have persisted because of their hardness and great resistance to weathering and have played little or no part in the formation of the soil itself. A feature of the weathered slate is the small pearly flakes left in the soil formation, having a greasy feel and imparting this characteristic to the soil and subsoil.

Because of its rough and stony character, this type of soil is not well adapted to agriculture and but a small part of it is under cultivation. By far the greater part is in forest, consisting of a variety of trees. Of the deciduous species the oak predominates. There is also considerable pine, mostly longleaf pine. The original forests, however, have been largely removed and the timber standing is mostly smaller second growth and of very little present value.

The cultivated areas are mainly confined to the western edge of the belt. An important area lies east of the Blue Ridge Mountains in the vicinity of Chandler Springs. The crops grown are chiefly cotton and corn, but the soil is not well adapted to these crops and large yields are not expected or obtained. It is much better adapted to small grains and grasses. Heavy export tobacco has been tried on this soil and is said to have yielded well. The best use for the type, however,

is forestry, and it should be kept in forest, at least until the demand for land is much greater than at present.

The most of this land is held by a mineral and land corporation, which, after the original timber growth is removed, sells it for from $1 to $3 an acre, the latter price being for the more desirable locations and where the second growth is fairly good. In the northern portion of this belt and particularly along the railroads some areas bring as high as $10 an acre.

The average results of mechanical analyses of fine-earth samples of the soil and subsoil of this type are given in 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.*
16246, 16479.....	Soil.....	3.9	6.1	3.9	11.5	5.9	46.0	22.6
16247, 16480.....	Subsoil.....	1.8	4.9	2.8	8.9	4.1	39.4	38.1

TALLADEGA STONY LOAM.

The interstitial soil of the Talladega stony loam consists of a gray, ashy, silty fine sandy loam from 8 to 15 inches in depth, with an average depth of 12 inches, mingled with varying quantities of quartz fragments. Below 5 inches the soil changes to a light yellowish color. Between the soil and subsoil there is a sharp line of demarcation, the latter being, like that of the Talladega slate loam, a dark-red clay loam to clay, having the peculiar greasy feel, though not to quite so pronounced a degree, and carrying stone fragments. The subsoil is friable when dry, and when wet is puttylike, but not sticky. In places the subsoil varies, the upper part becoming yellowish-red in color and somewhat less clayey, but changing to the typical deep-red color lower in the profile. The depth of the subsoil generally exceeds 36 inches. The quartz fragments are found on the surface and in the soil in varying quantities, ranging in size from small gravelly particles to irregular angular blocks several inches in diameter, and the quantity is generally sufficient to make the soil a gravelly or stony type. In the subsoil are to be seen occasionally bands or strata of more or less weathered shale or slate.

The Talladega stony loam is found in the metamorphic belt. It is not an extensive type. The largest unbroken area occurs in the extreme southeastern part of the county. Four other considerable bodies lie about midway of the eastern boundary of the county.

This soil is found on the tops of the broader ridges in the metamorphic belt, but in the large areas it has a topography distinctly its own, consisting of rather high hills of gentle and smooth slope. Here it is all suited to cultivation. Though the drainage is good, the fairly

heavy subsoil tends to conserve moisture, and the type is not so droughty as the ashy nature of the surface soil would lead one to expect.

The Talladega stony loam is of residual origin, derived from the same class of rocks as the Talladega slate loam, with the exception that it occurs in those parts where the sandstone, quartz, and quartzite exist in greater quantities and have had a predominating influence upon the soil, giving it the light silty to fine sandy texture. This is considered a particularly desirable soil for growing cotton, and is devoted largely to that crop, making about the same average yield as the other desirable soils of the county. It is a warm soil and easy to cultivate, and at least a partial crop of cotton is assured even in a very unfavorable season. Corn also does fairly well on this upland soil. The tree fruits would undoubtedly succeed, and strawberries would thrive on the less stony situations. The soil could be greatly improved by growing and turning under leguminous crops occasionally, as it lacks humus matter. Such treatment would make it capable of holding more water and would also increase its productivity in other ways. Considering the location, there is no better crop for this purpose than cowpeas. The native vegetation on this soil was largely longleaf pine, but a good part of the growth has been removed. The soil is held in higher esteem than the other soils of the metamorphic belt, and prices are somewhat higher.

The results of mechanical analyses of a typical sample of the soil and subsoil of this type are given in the following table:

Mechanical analyses of Talladega 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.*
16244	Soil	7.5	11.6	4.8	7.3	14.9	43.5	10.5
16245	Subsoil	.8	2.1	1.8	3.7	6.0	31.4	53.4

CHANDLER STONY LOAM.

The soil of the Chandler stony loam is a light-brown, grayish, or yellowish stony silt loam, fine sandy loam, or silty fine sandy loam, 3 to 6 inches in depth, underlain by a yellow compact silt loam or clay loam which becomes heavier with depth. The subsoil does not generally exceed 24 inches in depth, as at that point the more or less broken parent rock is found. The subsoil in some areas has a red color, and this is accompanied usually by a somewhat marked increase in the clay. Sometimes the surface of the fields shows this red tinge where erosion has brought the subsoil within reach of the plow.

Upon the surface and in the soil occur small fragments of the underlying rock. In some places the quantity is sufficient to cover the surface and form the larger part of the mass of the surface soil. There also occur larger slabby pieces of rock and, in places, bowlders. The proportion of the larger fragments varies from a small per cent to quantities completely covering the surface and practically precluding cultivation.

The Chandler stony loam occurs in only one area in the eastern part of the county, and that not very large, extending from Chandler Springs in a belt southwest and on out of the county. The topography in the vicinity of Chandler Springs is that of a low ridge, while to the southwest it becomes higher and hilly. The drainage is on the whole good, although small flat areas or glades occur where water stands, the subsoil being more or less impervious in these places.

The Chandler stony loam is a residual soil derived from a metamorphic rock, in the main of a greenish color, schistose structure, and a very fine sandy texture. It breaks into slabs upon weathering, the surface having a slightly smooth feel. Some of the rock, however, appears to have a more crystalline structure, is much harder, and weathers into bowlders. This phase is probably nearly a serpentine, and this may account for the poorness of the derived soil.

Its stony character and general low productiveness makes it one of the less desirable soils to cultivate, and in fact very little of it is cleared and under cultivation. It is covered by forest growth, consisting largely of oaks, among which the black-jack oak is prominent. There is also some pine, and the chief value of the land lies in its timber.

The results of mechanical analyses of a fine-earth sample of the soil and subsoil of this type are given in the following table:

Mechanical analyses of Chandler 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.*
16451	Soil	6.1	6.1	2.5	3.6	5.1	61.7	15.0
16452	Subsoil	1.8	5.3	3.1	6.5	6.0	53.8	22.7

ROUGH STONY LAND.

The term Rough stony land is applied to those areas too steep and stony for agricultural purposes and fit only for forestry and grazing. The soil, what there is of it, has the character of the formations in which it occurs, i. e., the interstitial material may approximate the fine material of any of the typical stony soils. The areas occupy the tops and upper slopes of the mountains and rougher stony ridges and hills. Their occurrence is due mostly to the presence of sand-

stone, conglomerates, and quartzite strata, which are especially resistant to weathering and have persisted to form the rougher, more prominent topographic features of the region. The most extensive areas of Rough stony land form the Talladega Hills and the Kahatchee and Katala mountains, and the ridges and mountains which probably formerly connected them. The land is at present of no value except for the forest growth. This has, in most instances, been fairly heavy, the principal growth having been longleaf pine.

HUNTINGTON SILT LOAM.

The Huntington silt loam consists of 10 inches of drab to light-brown silt loam, underlain by yellow or brownish-yellowish compact silt loam, which sometimes becomes a silty clay loam, and extends to depths exceeding 36 inches. In places the soil becomes more sandy, owing to the difference in deposits occurring nearest the streams, and in small areas the soil is sometimes brown or even reddish in color, being influenced by wash from the immediate slopes of areas of the red limestone soils.

The Huntington silt loam is an alluvial soil and subject to those minor variations usual in this class of soils. It has been deposited in the present flood plains of the various streams and represents materials from the immediate slopes and those transported long distances during floods, all mingled in complex though variable arrangements. Areas occur scattered over the county along the streams. They vary from a few rods to as much as a mile or more in width, the largest being found in the middle courses of the larger streams.

The Huntington silt loam is the best corn soil of the county, and is largely devoted to that crop. Yields of from 25 to 50 bushels per acre are obtained, and these could be increased by better cultural methods. The type also makes good grass and pasturage land and produces large crops of Johnson grass wherever the grass is allowed to grow. It does not answer so well for cotton. The crops are subject to damage by floods, as all the areas are overflowed during high water. Land of this type has been in cultivation for a long time, but practically no fertilizers are used nor does there appear any necessity for their use at present. These bottom lands are highly prized and as a rule are not on the market.

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

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.*
16159, 16242.....	Soil.....	0.1	0.5	0.6	2.2	6.1	70.3	20.4
16160, 16243.....	Subsoil.....	.0	.3	.5	1.9	6.1	58.8	31.9

SUMMARY.

Talladega County, Ala., is situated above the parallel of 33° north latitude and to the northeast of the geographical center of the State. It comprises an area of 479,808 acres, or 749.7 square miles.

Its surface features are diversified, ranging from undulating valleys to hills, ridges, and even mountains. The elevations above sea level range from 400 feet where the Coosa River leaves the county to 1,919 feet on the highest point of the mountainous ridges on the eastern boundary of the county.

The drainage of the county is effected by Choccolocco, Talladega, Tallasseehatchee, and Cedar creeks and their tributaries. These streams flow into the Coosa River, which forms the western boundary of the county.

The settlement of the county was begun between 1828 and 1830. The settlers were of English descent and came from Georgia, the Carolinas, and Tennessee. The population now represents practically all sections of the country, though the descendants of the early settlers are still in the majority. There is also a large negro population. According to the last census the population of the county was 35,773. The city of Talladega, with about 7,000 population, is the county seat. Other principal towns are Sylacauga, Childersburg, Sycamore, Munford, and Lincoln.

The transportation facilities are exceptionally good. Two railroads traverse the county north and south and three east and west, while another now building will afford connection with the larger towns and cities of this and adjoining States and with the Gulf and Atlantic seaports.

The market for all products of the farm is found in the local towns. The principal product sold is cotton. Poultry and eggs are also important items sold to the local markets and for shipment.

The rock formations underlying this area are varied. Intense geologic activity at some past time, by which the section was submerged and elevated, folded and faulted, has rendered the geology complex. Two groups of rocks are represented—old metamorphic rocks, consisting of hydro-mica and imperfectly crystalline slates of the Appalachian Mountain system, and sedimentary rocks of the Coosa Valley, consisting of a great variety of limestones, shales, and sandstones, some of these in small part metamorphosed to slate, quartzite, and marble.

The soils were derived for the most part directly from the underlying rocks, but the surface material has been deposited or modified in some instances by water in past geologic time. Exclusive of Rough stony land, which covers all areas in soil types too steep and stony to cultivate, 15 types of soil were recognized and mapped. The soils

derived from the purer limestones are much stronger, durable, and productive than those resulting from the more siliceous and cherty limestones, the shales and sandstone, or the metamorphic slates.

The value of the lands varies from $1 an acre for the rougher, stony, and less productive areas to about $40 an acre for the heavy red clay land of the valleys. The average value of arable farm lands for the county is from $10 to $15 an acre.

The one-crop system is followed, cotton being the main and money crop. It is grown on all soils, with an average yield for the county of one-third bale per acre. In 1899 the yield of cotton was 21,563 bales. The next important crop is corn, with a production of 530,100 bushels in 1899. Some oats, rye, wheat, and potatoes are produced. The acreage of crops for hay and pasture is small. No systematic crop rotation is followed, but dependence is placed upon commercial fertilizers to keep up the productiveness of the soils. Cultural methods are receiving more attention, however, and some improvement is taking place. The farm labor is mainly negro. The tenant system is universal.

There is need of a diversification of crops and of a systematic crop rotation planned to bring about a general improvement of the soils. To this end more cereals and grasses should be grown and more live stock kept. Dairying and stock raising would no doubt prove profitable as well as beneficial. A systematic forestry should be introduced, a large area of the land being adapted chiefly for this use. On the whole, the agricultural conditions of the county are good and the prospects for general betterment are encouraging. As the mineral resources of the region develop and population increases, a greater demand must arise for farm products of all kinds and the farmers will profit thereby.

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