

# SOIL SURVEY OF CASWELL COUNTY, NORTH CAROLINA.

By **W. EDWARD HEARN**, of the U. S. Department of Agriculture, and **FRANK P. DRANE**, of the North Carolina Department of Agriculture.

## DESCRIPTION OF THE AREA.

Caswell County lies in the northern part of the State of North Carolina and about midway from the coast to the western boundary of the State. It is bounded on the north by the Virginia state line; on the east by Person County; on the south by Alamance and a small portion of Orange counties; and on the west by Rockingham County. The county is nearly a square, having a width of about 20 miles north and south and about the same east and west. It contains 256,000

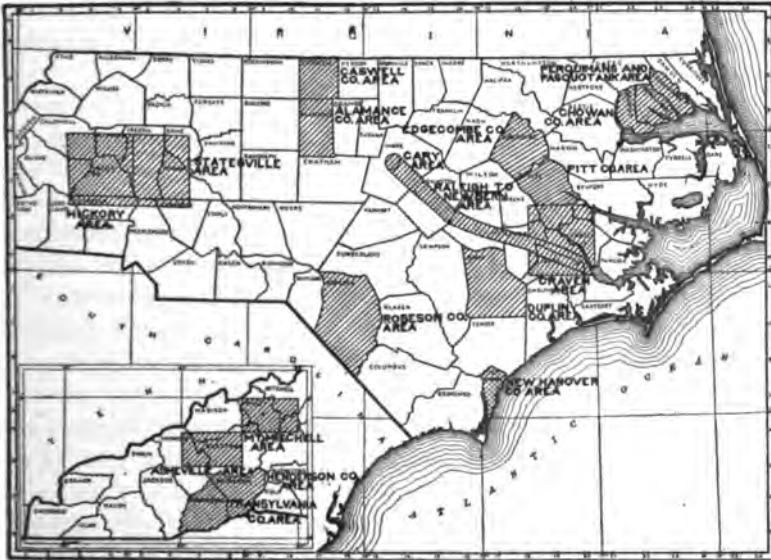


Fig. 7.—Sketch map showing location of the Caswell County area, North Carolina.

acres, or 400 square miles. Yanceyville, the county seat, is located very near the center of the county.

The general slope of all the county is to the northeast and north, except a small section in the extreme southwest corner, which is to the south. The highest elevations are found on the western side of the county, around Ashland and Quick, and along the southern boundary around Jericho, Baynes, Corbetts, Prospect Hill, and Ridgeville, while the lowest elevations occur along Dan River, in the north end of the county.

The topography consists of a high upland plateau, which has been badly dissected and eroded in many places, thus presenting undulating, rolling, and hilly surface features throughout. Some of the more level and undulating areas occur around Jericho, Baynes, Frogsboro, Semora, Cherry Grove, and Cobbs Shop. There are many large, gently rolling, and rolling interstream areas running in a southwest and northeast direction across the county, which are admirably suited for farming purposes, but which become rolling and hilly as the streams are approached. The roughest areas follow the streams, and perhaps the most rolling and broken bodies of land are developed along Country Line Creek.

Practically all the streams have cut deep, narrow valleys, and bordering these in many places are steep hillsides, which have become badly eroded and gullied. Most of the streams are swift flowing, and on account of the surrounding rolling country the rainfall rushes rapidly into them and they become swollen soon after a heavy rain. Some water power is developed along the creeks and is used in grinding corn and wheat. Considerably more power could be used on these creeks, and a large amount could be developed on the Dan River, near Milton.

Caswell County, on account of its rolling topography, possesses excellent natural surface drainage. The Dan River enters the county on the north and swings around on the northern end, leaving the county at Milton. Hogan, Moon, Rattlesnake, Country Line, and Hyco creeks flow across the county in a northeasterly direction, and all empty into the Dan River, except Hyco Creek, which flows out of the county just south of Semora. Stony and Toms creeks in the southwest corner flow toward the south. The river and these tributary streams and their numerous branches water the county well and furnish the best of drainage.

The area now included in Caswell County was once Orange County. Caswell and Person counties were formerly one county, and Caswell was finally cut off from this area in 1777. Prior to the civil war Caswell County was one of the richest and best in the State, and was one of the three counties to have a bank. It built a court-house in 1858 which would be a credit to any county. Yanceyville, Milton, and Leasburg were flourishing towns, being larger than at the present time. These towns were tobacco markets, and much tobacco was manufactured in them and hauled over the country and sold. Caswell was one of the large slave-holding counties. Most of the citizens in the county are of English and Scotch-Irish descent. There are fewer negroes in the county now than there were slaves before the war. The citizenship of Caswell County has greatly changed since the war, as many of her people moved away, but it is good.

Most of the population of Caswell County is distributed on the farms. Perhaps the most thickly settled sections are found around Ridgeville, Prospect Hill, Baynes, Ashland, Quick, Locust Hill, Gatewood, Purley, and Estelle. In these localities and also in a few other sections, the farm houses are large and commodious, some being of recent construction, but most of them the fine old antebellum houses. Some of these places have been kept in good repair; many of them have been neglected and present a somewhat dilapidated appearance. Though parts of the county are fairly thickly settled, there yet remain large undeveloped areas, some of which were cultivated before the war and have since been abandoned on account of labor conditions. The county could easily support many times the present population and not be crowded in the least.

The largest towns in the county are Milton, Yanceyville, the county seat, Leasburg, and Pelham, while Semora and Blanch are shipping points on the railroad. Blanch is the nearest station to Yanceyville, it being about 9 miles distant, while Leasburg is about the same distance south of Semora.

The main line of the Southern Railway crosses the northwest corner of the county, while the Norfolk and Danville branch of the same system swings into the northern end of the county, following the valley of the Dan River. Caswell County is somewhat isolated so far as railroad transportation is concerned, and with good railroad facilities through the interior it would develop rapidly. The lands would enhance in value, the towns would become good markets, and business enterprises and manufactories would spring up.

The dirt roads are not kept in as good repair as they should be, and are rough and badly washed in many places. Graded and macadam roads could be built cheaply in all parts of the county, as there is an abundant supply of rock material on hand.

Rural free delivery of mail is in operation in the northern and western parts of the county and in a few other places. Post-offices in other parts are served by the star routes.

Danville, Va., which is located about  $3\frac{1}{2}$  miles north of the state line, is the main market for the tobacco produced in Caswell County. A small amount of the tobacco, however, is sold at Milton, and some is carried to Roxboro, Reidsville, and Durham. Most of the produce, such as eggs, chickens, vegetables, potatoes, and beef cattle, is sold in Danville, the remainder being consumed by the small towns in the county.

#### CLIMATE.

As there is no Weather Bureau station in Caswell County the table giving temperature and precipitation is compiled from the records of the two nearest stations outside of the county. The data, as recorded at Roxboro, 10 miles distant from the eastern boundary, and Reids-

ville, 11 miles distant from the western boundary of the county, represent fairly well the local climatic conditions. These show a fairly uniform distribution of the rainfall throughout the year. It is heaviest during the growing season and summer months, and lightest during the fall months. There are usually about 12 inches of snow each winter.

Caswell County possesses a healthful climate. The winters are not severely cold, and, owing in part to elevation, the summers are not excessively hot. The spring and fall months are very pleasant. The average date of the last killing frost in the spring is about April 10, and the first in the fall about October 24. This gives a long growing season for the ordinary crops. The amount of rainfall during the growing season greatly influences the quality and yield of the tobacco crop. In a wet season the yield is heavy and the leaf is dark and somewhat stocky, while in a dry season the yield is light in weight, with a bright colored leaf. However, the distribution of the rainfall is such that in most years the quality of the crop is satisfactory.

*Normal monthly, seasonal, and annual temperature and precipitation.*

Month.	At Roxboro, N. C.							At Reidsville, N. C.	
	Temperature.			Precipitation.				Tem- perature.	Precipi- tation.
	Mean.	Absolute maxi- mum.	Absolute mini- mum.	Mean.	Total amount for the driest year.	Total amount for the wettest year.	Snow, average depth.		
° F.	° F.	° F.	Inches.	Inches.	Inches.	Inches.	° F.	Inches.	
December.....	40	69	0	3.1	3.1	5.6	3.0	37.4	3.09
January.....	37	73	0	3.1	2.5	2.2	3.7	33.0	2.44
February.....	38	71	-7	4.6	5.6	1.1	4.8	37.2	3.80
Winter..	38	.....	.....	10.8	11.2	8.9	11.5	.....	.....
March.....	50	86	11	4.1	4.3	3.8	0.5	48.4	3.27
April.....	57	91	22	3.7	6.2	6.2	0.2	54.4	3.03
May.....	67	95	35	5.1	2.6	9.2	0.0	66.7	4.34
Spring...	58	.....	.....	12.9	13.1	19.2	0.7	.....	.....
June.....	74	100	42	3.5	2.0	1.9	0.0	72.1	5.54
July.....	78	100	52	5.6	6.7	5.7	0.0	75.6	4.12
August.....	76	100	48	4.0	0.8	11.9	0.0	75.4	4.46
Summer.	76	.....	.....	13.1	9.5	19.5	0.0	.....	.....
September....	70	100	35	3.8	1.5	5.5	0.0	70.2	2.47
October.....	58	88	25	3.4	2.7	1.3	0.0	57.8	2.06
November.....	49	79	13	2.6	2.8	1.7	Trace.	47.3	2.51
Fall.....	59	.....	.....	9.8	7.0	8.5	Trace.	.....	.....
Year....	58	100	-7	46.6	48.8	56.1	12.2	56.3	42.05

## AGRICULTURE.

The early agriculture in Caswell County consisted of growing corn, wheat, and oats as the principal crops, with tobacco as the secondary crop. More cattle, hogs, and sheep were raised than at the present time, and much wool was shorn. Sweet potatoes were grown in considerable quantities and rye, flax, peas, beans, and hay were produced to a small extent. Larger yields of grain were secured then than now, partly because the land was new and partly because larger quantities of barnyard manure were made and applied to the land. Moreover, subsoiling and deep plowing were practiced to some extent, and these aided in securing the good results. It was naturally a good grass and clover region, and these furnished excellent pasturage. Land values were high. All the home supplies were produced on the farm. The wool and cotton were manufactured into clothing. A dark, heavy-leaf tobacco was produced, the yield being as high as 1,500 pounds per acre. The tobacco was at first sold in Petersburg, Va., and at other outside points, and later at Milton, Yanceyville, and Leasburg. Its production increased until it became one of the main crops with corn, oats, and wheat, while cotton, potatoes, and rye were crops of less importance. The production of crops, except cotton, gradually increased till 1860. Land greatly increased in value between 1850 and 1860 and many improvements and advancements were made. This was the most prosperous era in the history of Caswell County; there was more land under cultivation and better methods of cultivation were practiced than at any previous time. Many fine country homes were built and the financial standing of the county was the best of any county in North Carolina.

Then came the war, with its disastrous effect upon economic conditions. The freeing of the large number of slaves could not but disorganize, temporarily at least, the agriculture of the country. Many of the large plantations were partly abandoned and some of the land has not yet been entirely reclaimed. Immediately following the war the production of grain crops decreased and tobacco began to be more extensively grown as a money crop. Cotton finally ceased to be grown, although there are certain varieties which could be produced here to advantage.

At the present time bright-yellow tobacco is the most important crop grown in Caswell County. It is the money crop, and practically all business depends upon it. The crop next in importance is corn, which is grown in all parts of the county. Considerable wheat and oats are produced. Some cowpeas, clover, sweet potatoes, and all kinds of vegetables are also grown. Patches of sorghum cane are grown and sirup is manufactured for home use. Only a few cattle, sheep, and hogs are raised. There is a small output of fruit, mainly

apples, peaches, and pears. In many sections of the county are found considerable areas of white, post, and red oaks, hickory, some yellow pine, poplar, persimmon, and scattering trees of other varieties, which will make valuable timber. Many hoops are made from the white oak and sold in Danville for use in packing tobacco. Many of these hardwoods could be profitably manufactured into spokes, handles, and other useful articles, as well as furnishing splendid material for furniture manufactories.

It is recognized by the best farmers that not all the soils in the county are equally suited to all crops. It is generally believed that the Durham coarse sandy loam is the best soil for the production of bright tobacco, this soil being its original home. While tobacco is grown on all of the upland soils, it is well understood that only certain spots of Iredell sandy loam, much of the Caswell sandy loam, and large areas of Cecil sandy loam are well suited to the growing of a good grade of tobacco. The red lands, such as Cecil clay and heavy areas of Cecil sandy loam, are best adapted to corn, wheat, oats, clover, grasses, and cowpeas. The Iredell sandy loam should be seeded to grass or to oats. The Congaree loam, a river-bottom type, is an ideal corn soil.

No regular rotation of crops is practiced throughout the county. Some of the best farmers, however, plant corn one year, grain the next year, then rest the land one year and plant to tobacco. Some rotate wheat with tobacco, and occasionally corn is planted to use up the excess nitrogen remaining after the tobacco crop. Others plant corn, rye, and then tobacco. Tobacco does well on land where rye has been turned under. It is claimed by many that tobacco does not do well immediately following cowpeas, as there seems to be too much humus in the soil. Tobacco does well when following a crop of oats; and a practical rotation would be corn, sowing cowpeas at last plowing, oats, and then tobacco.

The methods of handling the tobacco seem to be fairly well suited to the present conditions. The whole stalk is cut in the field and hung in the barn for curing. The practice of stripping the leaves from the stalk as they ripen has not met with favor here.

The lands devoted to corn and grain crops are not in most cases plowed deep enough nor sufficiently pulverized prior to the planting or sowing of seed. A few farmers sow cowpeas at the last plowing of corn and some sow them after oats and wheat, thus making excellent hay and at the same time improving the soil.

Farm labor can be secured at from \$10 to \$18 a month by the year, with board, tenant house, and garden patch. The highest prices are paid near the towns and railroads. It is generally scarce, however, at any price, because of the fact that nearly all of the laboring class

would rather rent land on the share basis than work for wages. In this way the laborer can do more nearly as he desires and is not confined so closely.

While a great many of the farms, especially the smaller ones, are operated directly by the owners, the larger number are rented on a share basis; that is, for a certain part of the crops produced or a stated amount of rent. If the landowner furnishes only the land, he receives one-fourth of the crop, and in some sections he also has to pay one-fourth of the fertilizer bill. If he furnishes the land, stock, implements, and one-half of the fertilizer, he receives as his part one-half of all the crops produced.

The farms in many cases are not as large as they were formerly. There still remain a few of the large plantations here and there, but most of them have been subdivided and the farms now range in size from 100 to 500 acres. In the southeastern part of the county they vary in size from 300 to 500 acres and around Yanceyville from 150 to 300, while in the vicinity of Cobbs Shop the ordinary size is about 100 acres. In other sections there are some farms as small as 50 acres.

There is much land in Caswell County that can be bought for \$7 to \$15 an acre. Immediately south of County Line Creek farms may be purchased at prices ranging from \$4 to \$7 an acre. Some improved lands with large buildings, located near Yanceyville, Milton, and Blackwells, are held at \$7 to \$20 an acre. The highest priced land is in the southeast corner of the county. On a basis of actual productiveness, land values are very low at the present time.

All of the heavier soils, especially the Cecil clay and the heavier portions of the Cecil sandy loam, should be plowed deeper, subsoiled, and better prepared before the crops are planted. There should be a greater diversity of crops. More corn, oats, wheat, clover, grass, and cowpeas should be grown. The soils are well adapted to these crops, and they can be produced with profit. Red clover should be seeded on the hillsides. This would make excellent hay, give good pasture, and prevent the land from washing. Caswell County should produce more of all the crops than is needed for home consumption and should be an export county of other products besides tobacco. More hogs and cattle could be raised cheaply, if more grain and hay were produced. The growing of cowpea vines for hay should be more generally practiced, as these would furnish the needed feed for stock and at the same time supply the soil with humus and nitrogen for succeeding crops, thus avoiding the necessity of buying so much fertilizer.

The rolling, broken, and hilly areas should be seeded to grass with a mixture of 10 pounds of orchard grass, 5 pounds of redtop, and 5

pounds of Canadian bluegrass to the acre and annually dressed with bone meal. This seeding will make excellent pastures and cattle raising could be profitably carried on upon areas not as well adapted to other uses. The raising of spring lambs in this dry, high country would pay handsomely, as the lambs could be put on the market in the early spring, at which time they sell for fancy prices. Near the railroads, where the transportation facilities are good, dairying would be profitable, and also poultry raising and the growing of truck crops, apples, peaches, pears, cherries, and grapes.

#### TOBACCO.

The tobacco industry and its development constitute one of the most important chapters connected with the agriculture of Caswell County. Tobacco has been grown in this county since about 1793, and its production has gradually increased. In 1840 there were more than 3½ million pounds grown in the county, while in 1860 the production reached more than 4½ million pounds. It was about 1850 that tobacco became of considerable importance in North Carolina. The first tobacco raised, and even up to 1852, was a dark, heavy tobacco which was cured in open air and shade, closely packed in barrels or hogsheads, and hauled to distant markets, mostly to Petersburg, Va., some being carried to Fayetteville, N. C., and other markets.

Before the war a large amount of tobacco was manufactured at Yanceyville, Milton, and Leasburg, and hauled in wagons over the South and sold. Much of this tobacco was cultivated on the Cecil sandy loam, Cecil clay, and Caswell sandy loam. Larger yields per acre were secured then than now, and occasionally 1,500 pounds to the acre was produced. The tobacco had a thick, heavy leaf and was dark in color.

In 1852 bright yellow or lemon leaf tobacco was grown for the first time in Caswell County by Eli and Elisha Slade. Its peculiarities were attributed particularly to the methods of curing it by artificial heat, which had not been used prior to this time. This method of curing gave a brighter colored and a sweeter and more attractive leaf. This type of tobacco at once became popular in the foreign as well as home markets. It increased the consumption of tobacco and displaced, to a large extent, the darker types. The immediate effect of the introduction and the popularity of this new leaf, used for plug filler and wrapper, was to send land values in this region high and the poor, sandy soils, which had been considered practically worthless for general farming, were found to be peculiarly adapted to this grade of tobacco. The bright tobacco at first sold for fancy prices—much higher than at the present time—and the great demand, coupled with high prices, caused the extension of its cultivation to the sandy soils throughout the county, especially to the Durham coarse sandy loam,



upon which good farm houses and barns were built. The great increase in its production in this and other regions, combined with other conditions, later caused a decided decline in prices.

Immediately after the war Danville, Va., became the main market for the tobacco grown in Caswell County and the adjoining region in North Carolina and Virginia, and it is to-day the largest loose-leaf tobacco market in the world. According to the best information, Caswell County produces more than 6,000,000 pounds of tobacco annually.

Bright tobacco is used principally for pipe smoking, for cigarettes, and for plug wrappers and fillers, and a large amount is exported. Warren and Gooch are the main varieties grown on all the upland soils. Some Orinoco is also produced; it is said to give a smaller and more uniform leaf. Topping considerably influences the grade; low topping gives a darker and heavier leaf, while high topping gives a lighter leaf.

In growing bright tobacco, about 5,000 plants are set to the acre, and practically all of the setting or transplanting is done by hand, though on the more level areas tobacco transplanters could be used advantageously, thus saving much hard labor.

The tobacco is grown to a greater or less extent on all the upland soils in the county, but more extensively on the Durham coarse sandy loam and Cecil sandy loam. While there is some difference in the yields, there is a great difference in the quality of the leaf produced on the various soils and in the resulting price. An expert tobacco man can usually tell from what section of the county the tobacco came and upon what soil type it was grown. The Durham coarse sandy loam produces the best tobacco. It grades as bright wrappers and cutters, and usually has good body. The yields range from 500 to 1,000 pounds per acre, and the price from 10 to 40 cents a pound, averaging near 14 cents. The Cecil sandy loam produces an orange-colored waxy tobacco; sweet fillers and some wrappers are produced around Milton and Estelle; some wrappers and fillers in the vicinity of Blanch, Covingtons Store, and Locust Hill; and some bright mahogany wrappers in the Pelham section. The best wrappers bring as high as 30 cents a pound, and the lower grades from 6 cents up, the average for the type being about 10 cents. The yields on this soil type range from 700 to 1,200 pounds per acre.

The Caswell sandy loam produces in a dry season a bright light leaf and in a wet season a darker leaf, grading as wrappers and fillers, which sell on an average at about 11 cents a pound. The yield is from 600 to 800 pounds per acre. The Iredell sandy loam produces a rather coarse red tobacco—some wrappers, but mostly fillers—which sells at 9 or 10 cents a pound. The yield is from 700 to 800 pounds per acre. The Cecil clay produces 800 to 1,000 pounds per acre of a red to black mahogany leaf which is heavy and waxy.

## SOILS.

Caswell County lies wholly within the Piedmont Plateau section of the State. The soils, with the exception of small areas of alluvial deposits along the streams, are of residual origin, being derived in situ from the underlying rocks of the region. The rocks of the northwestern and northern parts of the county are principally gneiss, granite, and other igneous and metamorphic rocks. They are composed largely of gneisses and schists of the mica types, with occasional dikes of diorite and other rocks. Watson terms this belt of rock the "western Piedmont gneiss and granite belt." The rocks of the southern and southeastern parts of the county are mainly granite and diorite, with some other rocks of igneous origin. These rocks are frequently cut by dikes of basic igneous rock, such as diabase, and quartz veins are common. This belt of rock is called the Carolina igneous belt (the main granite belt).

The gneiss, schist, and in many places the granite have weathered to a considerable depth, and give rise to the Cecil clay, Cecil sandy loam, and Durham coarse sandy loam. The diorite from which the Iredell sandy loam is derived has not weathered so deeply and the disintegrated rock is seldom more than 30 inches below the surface. The Caswell sandy loam, though derived from the gneiss, schist, and granite, has been formed in a large measure by excessive erosion. The Herndon stony loam is a residual soil from quartzite. The Congaree loam is of alluvial origin, being formed by the deposition of material by the river, while the strips of Meadow are alluvial and colluvial deposits.

The Cecil sandy loam and Cecil clay are typical of the gray and red soils of the Cecil series throughout central North Carolina and the Piedmont Plateau, which extends from New Jersey to western Alabama. The Durham coarse sandy loam and Iredell sandy loam are associated types of the Cecil series. On account of the various rocks, their complicated arrangement, and the topography of the country, the soils in many places are badly mixed up and change from type to type so frequently and yet so gradually that it was often difficult to draw an exact boundary line between them.

The following table gives the names and extent of the several soil types mapped in the county:

Areas of different soils.

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Cecil sandy loam.....	99,200	38.8	Meadow.....	13,632	5.3
Iredell sandy loam.....	57,792	22.6	Congaree loam.....	3,712	1.4
Caswell sandy loam.....	38,912	15.2	Herndon stony loam.....	384	.1
Durham coarse sandy loam....	27,328	10.7			
Cecil clay.....	15,040	5.9	Total.....	256,000	.....

## CECIL SANDY LOAM.

The surface soil of the Cecil sandy loam consists of a gray, yellowish-gray, or brown medium sandy loam ranging in depth from 5 to 15 inches. In the vicinity of Semora the soil in local areas is a fine sandy loam, and around Pelham and along the Southern Railway and to the southwest a fine sandy loam from 10 to 15 inches deep is encountered. Just south of Yanceyville, across Country Line Creek, areas of this soil are intermingled with areas of the Iredell sandy loam and the Caswell sandy loam. Throughout all areas of the Cecil sandy loam there are found spots of loam or clay loam where the surface soil has in part been washed off. These spots are usually brown or reddish in color. There are a few quartz gravel in many areas of the type, and in spots here and there quartz fragments in large quantity are seen. Such spots are called flinty knolls or ridges. This soil type is mellow, easily tilled, and if plowed under proper conditions of moisture breaks up into a loose, mellow tilth.

The subsoil to a depth of 36 inches and more is a stiff, red clay, being tough and hard when dry and sticky when wet. In some few areas, especially around Blackwells and Quick, it is reddish-yellow or mottled in color, and occasionally some angular quartz and veins of quartz are found in it.

The Cecil sandy loam is the most extensive and most important type of soil for general farming purposes in Caswell County. It covers practically all of the western side of the county and extends across the county from the southwestern corner to the northeastern side, embracing most of the northern end of the county. It is frequently broken, however, by areas of Caswell sandy loam and spots of Cecil clay in the central and northeastern parts. The type is well developed around Semora, Estelle, Purley, Gatewood, Pelham, Quick, Ashland, Locust Hill, Yanceyville, and Hamer. Isolated bodies lie south of Country Line Creek and small spots occur in the southeastern part of the county in the Durham coarse sandy loam.

The general surface features of this type vary from level and undulating to rolling and broken. Some of the more level and gently rolling areas occur in the vicinity of Semora, Estelle, Locust Hill, Ashland, Pelham, and north of Yanceyville. The roughest areas are found near the streams, especially along Country Line Creek and some of the other large streams, and in these sections the hillsides are usually steep and in many cases deeply gullied. Erosion is and has been very active on the hillsides since the forests have been cut. On the other hand, much of the Cecil sandy loam lies beautifully for general farming purposes, as many of the interstream areas are gently rolling, becoming hilly and broken only as the streams are approached. This type, owing to its topographic features and to the open texture of the surface soil, possesses good nat-

ural surface drainage. On some of the hillsides terraces have been constructed with the contour of the land which prevent washing and gullyling to a considerable extent.

The Cecil sandy loam has been derived from the weathering of gneisses, schists, granites, and other igneous rocks. These are largely of the mica class, and this fact accounts for the presence of small scales of mica in both the soil and subsoil in many places. These rocks have weathered to a depth of several feet.

The original forest growth upon this soil consists of white, post, red, and chestnut oaks, hickory, some yellow pine, and a little dogwood, sourwood, persimmon, cedar, and cedar pine; while the second growth consists of cedar pine and old field pine, which have grown up on areas abandoned for farming purposes.

The Cecil sandy loam is an important type of soil throughout the Piedmont Plateau and is one which is adapted to a wide range of crops. The medium, loose-textured soil is well adapted to bright tobacco, sweet potatoes, and truck crops. The heavier and more loamy areas are especially suited to corn, wheat, oats, clover, and grasses.

Tobacco yields from 700 to 1,200 pounds per acre, corn from 15 to 20 bushels, wheat about 12 bushels, oats 20 to 30 bushels. Clover yields well, but it is said to be a little difficult to get a stand of this crop. In many cases this can be overcome, however, by better preparation of the seed bed. Sweet potatoes make excellent yields, while Irish potatoes, garden vegetables, peaches, apples, and grapes do well. By good preparation, cultivation, rotation, and by the use of coarse manures and a fair application of commercial fertilizer as high as 30 bushels of wheat and 50 bushels of corn per acre have been produced. These yields show what can be done with the soil by proper treatment for a few years.

The Cecil sandy loam should be plowed a little deeper each year until a fine, pulverulent seed bed with a depth of 8 to 10 inches is secured. This deep plowing would prevent to a great extent considerable washing on the rolling areas. Cowpeas do well on this soil, and by plowing under the vines the soil would be greatly benefited, as these would increase the supply of humus, which has been in a large measure depleted through continued cultivation, and at the same time add needed nitrogen. Clover would also improve the soil and be an excellent crop in rotation with wheat and corn. Lime used in connection with the green cowpea vines would likely show greatly increased yields in the crops. Phosphoric acid has been found to give increased yields when used on land which was thoroughly prepared and which contained large amounts of humus. The hillsides and roughest areas of this soil type should be seeded and used as grazing

lands or allowed to remain forested. Cattle raising could be made a profitable industry on this type in connection with the growing of forage crops.

Upon the Cecil sandy loam are applied large amounts of commercial fertilizers of 8-3-3 and 8-2-2 grades, and some other grades to a limited extent. Tobacco is heavily fertilized with from 400 to 800 pounds per acre. The corn and wheat crops are also fertilized, but lightly as compared with the tobacco.

The best farms of this type, improved with large houses, sell at \$10 to \$20 an acre, while much of the type can be bought at \$7 to \$10 an acre.

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

*Mechanical analyses of Cecil sandy loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19937, 19939.....	Soil.....	5.3	16.7	10.2	24.2	11.2	23.6	8.5
19938, 19940.....	Subsoil.....	2.5	7.0	5.3	15.7	7.0	19.3	43.2

CECIL CLAY.

The surface soil of the Cecil clay consists of a reddish or light-brown clay loam or loam to a depth of 6 inches. In a few places a heavy sandy loam to a depth of 1 to 3 inches overlies the clay loam. There are a few quartz gravel in some areas and occasionally quartz fragments are seen on the surface. The subsoil to a depth of 36 inches and more is a stiff bright red clay. A few spots of reddish-yellow clay are encountered. These are a little more friable than the typical red clay subsoil.

This soil type occurs in areas and spots scattered throughout the greater part of the county. The largest area, however, lies in the southwestern part of the county around Milesville and Cherry Grove, and other rather large bodies were mapped near Dan River, Milton, and on the county line west of Pelham.

Most of the surface is rolling, becoming hilly and broken near the streams. Some of the spots and the highest elevations in the large areas are gently rolling to level. The more rolling areas which have once been cultivated are in many instances badly gullied. Practically all of the type possesses good natural surface drainage.

The Cecil clay is derived from a very complete weathering of gneiss, schist, and granite, giving a very fine-textured, stiff soil. These rocks have disintegrated and decomposed to a great depth in many places, as seen in gullies and road cuts.

The greater part of the Cecil clay is forested with the original growth of white, red, and post oaks, some yellow pine, poplar, and hickory. All of these are valuable as merchantable timber. A few areas which were cultivated before the war are now forested to a second growth of old field pine and *Pinus virginia*, locally called "cedar pine."

The Cecil clay is well adapted to corn, wheat, oats, cowpeas, clover, and grasses. Clover and orchard grass would yield well and would be an excellent crop to prevent the knolls and slopes from washing. Corn yields from 15 to 35 bushels per acre; oats, wheat, and cowpeas do well. Tobacco produces from 800 to 1,000 pounds per acre. The leaf is somewhat coarse and heavy and it cures to a red or black mahogany color, selling at a lower price per pound than the tobacco grown upon the sandy loams. The Cecil clay is naturally one of the strongest soils in this region and is susceptible of high improvement. The effects of manures are quite lasting. The yields upon this soil can be greatly increased by deeper plowing, more thorough cultivation, and by growing cowpeas and clovers to fill the soil with humus. Lime would be beneficial following the use of green crops. Acid phosphate applied to this soil will, in connection with the above treatment, increase the crop yields, and probably serve in a great measure the same purpose as a cheap complete fertilizer. The soil can be made to produce much larger yields than it does at present.

This land is now selling at from \$5 to \$10 an acre.

The results of mechanical analyses of the soil and subsoil of the Cecil clay are given in the following table:

*Mechanical analyses of Cecil clay.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19933.....	Soil.....	0.8	3.2	1.6	14.8	21.8	37.5	20.2
19934.....	Subsoil.....	.0	.6	.7	9.4	9.9	33.3	46.2

HERNDON STONY LOAM.

The Herndon stony loam to a depth of about 6 inches is a yellowish or grayish fine sandy loam containing from 40 to 60 per cent of rock fragments of quartzite and schist and small gravel. The slopes near the base of the mountain are not so stony as the higher elevations. The subsoil is a yellow fine sandy clay, which at a depth of 15 or 20 inches passes into a yellow or mottled clay. A few iron gravel are present in the subsoil, and in a few places disintegrated rock is encountered at 24 inches.

There is only one body of this soil in the county, and it covers a little more than 1 square mile in the southwest part on the Caswell

and Alamance county line. It occupies the northern end of Stony Creek Mountain, which rises some 100 to 200 feet above the surrounding country. The slopes of this mountain are gentle and regular, there being no large gullies or any great amount of erosion, and the natural surface drainage is good.

This soil is derived mainly from the weathering of quartzite, being modified to a certain extent by the presence of coarse-textured diorite and schist.

Practically all of the mountain is forested. On the sides there are white, red, and chestnut oaks and yellow poplar, all of which is valuable as merchantable timber, while near the top the trees are smaller and some scrub oaks were seen. This soil will produce good fruits, especially peaches and apples. Where cultivated near the base of the mountain, corn and tobacco were grown. A fair yield of corn is usually obtained.

This land is held at from \$4 to \$6 an acre.

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

*Mechanical analyses of Herndon stony loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19035.....	Soil.....	3.5	7.0	3.2	15.0	25.9	38.7	6.5
19036.....	Subsoil.....	2.2	2.9	2.2	19.6	20.1	26.7	25.8

**IREDELL SANDY LOAM.**

The surface soil of the Iredell sandy loam consists of a dark-gray or dull-brown medium to fine sandy loam, to a depth of 6 to 10 inches. The land is commonly called "black-jack oak," or "beeswax" land. On many of the knolls and ridges, except where the surface has been eroded, the soil is a loose, medium, sandy loam, while on the flat and level areas a fine sandy loam or mellow loam is encountered. A few small iron concretions are of frequent occurrence in this soil. Just north of Stony Creek Mountain there is a large amount of these concretions, and the soil is open and gravelly to a depth of 12 to 14 inches and produces good crops.

The subsoil is a yellowish, light-brown, or dull-brown, sticky, impervious clay, usually about 30 inches deep, and there are spots where the subsoil is a reddish, sticky, heavy clay. Only in a few areas does the subsoil extend to a depth of 36 inches. Throughout the greater part of the type the clay subsoil grades into a soft, disintegrated diorite rock at 24 to 30 inches, and this passes into the hard bed rock at about 36 inches. The yellow clay on exposure to the weather

becomes dull brown in color. It cracks open upon drying, and is very plastic and sticky when wet. In the vicinity of Prospect Hill the soil is somewhat coarser in texture than in the main areas of the type, and the subsoil is somewhat mottled and contains a few quartz particles. In some of the poorly drained areas a thin iron crust, locally known as hardpan, is found between the soil and subsoil.

A great part of this type occurs in one large area in the southeastern part of the county, beginning at the south side of the county at Stony Creek and extending in a northeasterly direction across the county, varying in width from 4 to 6 miles. It has a very irregular northern boundary, but a rather regular and undulating southern boundary adjoining the Durham coarse sandy loam. This soil type is typically developed around Leasburg, Hightowers, Topnot, Fitch, and Jericho, and one body of the coarser and deeper phase is found in the vicinity of Prospect Hill. A few spots and bodies are scattered over the northern and central parts of the county.

The topography of the Iredell sandy loam varies from level and gently rolling to rolling and badly broken areas. Some of the flat, level, and gently rolling areas lie between Frogsboro and Leasburg, Baynes, and around Jericho. The more rolling, broken, and hilly areas occur along the county line and Hyco and Reedy Fork creeks. Especially is this topography noticeable in traveling from Leasburg to Topnot. A considerable part of this rolling country is badly eroded. All the rolling areas have good natural surface drainage, but the flat areas are poorly drained. The impervious subsoil retards the downward movement of the rain water and also hinders the capillary movement of the soil moisture.

The Iredell sandy loam is derived mainly from the weathering of diorite, which is a dark-green rock; the differences in the amount of quartz and feldspar in this rock affect the soil to a more or less degree. The diorite is cut by veins of granite and gneiss and hornblende. In the granitic areas, especially in the Prospect Hill section, the soil appears to be derived from this granite. The more sandy areas of the type are derived from the diorite, which contains a large amount of quartz, and from the granite and gneiss veins. The weathering of the diorite and its associated rocks has not been deep. This is perhaps due in a large measure to the impervious nature of the subsoil.

The native growth on this type consists of post, red, white, and black-jack oaks, and a few cedar pine. Some excellent timber was seen on this type between Leasburg and Frogsboro and in many other places.

On spots on the high sandy ridges and knolls, which are well drained, tobacco does fairly well, but the type as a whole is too cold natured and the subsoil too impervious for the successful production of this crop. It is best suited to oats, wheat, grasses, and corn.



Oats would probably be the best crop to grow upon this soil. The cattle industry should be developed on this type.

Corn yields from 10 to 20 bushels, and sometimes as much as 35 bushels per acre; wheat, from 7 to 10 bushels on an average, but as high as 27 bushels have been produced near Stony Creek by some of the best farmers; oats, 20 to 30 bushels on an average, with a maximum yield of about 50 bushels; tobacco, about 700 to 800 pounds, the leaf being somewhat coarse and stocky and having little body.

By better drainage, aeration, deeper plowing, and by the use of lime this soil can be improved. It is naturally acid in character, and this acidity needs to be corrected in order for it to produce its maximum crops. The usual brands of fertilizer are used. Barnyard manure warms and loosens up the soil, thus greatly increasing the yields. Large areas of this type are at present undeveloped, being covered by a growth of black-jack oak and the merchantable timber previously mentioned.

Much of this land, unimproved, can be purchased at \$5 an acre, while the best improved land nearest the lines of transportation sells at from \$10 to \$12 an acre. It is not so desirable a soil as the Cecil sandy loam.

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

*Mechanical analyses of Iredell sandy loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19949, 19951.....	Soil.....	3.4	8.7	7.8	27.5	15.7	30.1	6.9
19950, 19952.....	Subsoil.....	.1	1.5	1.7	7.1	9.2	22.4	58.1

**DURHAM COARSE SANDY LOAM.**

The surface soil of the Durham coarse sandy loam to a depth of 8 to 15 inches consists of a yellowish-gray to gray coarse sandy loam. It is commonly called "gray land" or "isinglass land." In the forested areas the first few inches of the soil is of dark-gray color, due to the presence of organic matter. Most of the type contains a few fine quartz gravel. There are some bodies of medium sandy loam, and these are usually free from gravel. The coarser areas of the type are noticeable around Ridgeville and Baynes. In many localities there is a small amount of finely divided mica in the soil and also in the subsoil. It is a loose, open, easily tilled soil, warming up early in the spring. Throughout the type there are strips and spots of soil very similar to the Iredell sandy loam, and in some places it was difficult to draw a boundary line between these two types.

The subsoil of the typical areas is a yellow friable clay, with some coarse sand particles, to a depth of 36 inches. In small areas the subsoil is a reddish-yellow or mottled yellow clay, while adjoining the Cecil sandy loam areas the subsoil grades into a red clay. Occasionally there are dikes of granitic rock which have not been weathered so thoroughly as the true granite, and this disintegrated rock is encountered at from 20 to 30 inches, and sometimes the surface soil grades into it.

The development of this type is confined exclusively to one large irregularly outlined area in the southeastern part of the county. It is broken only by small strips and spots of other types. It is typically developed around Ridgeville, Corbetts, and Baynes, and borders the Alamance and Orange County line 14 miles on the south and the Person County line for 6 miles on the east, thus giving a large triangular-shaped area of soil.

The surface features of this type vary from rolling and broken areas to gently rolling and level areas. The ridge from Frogsboro to Ridgeville by Prospect Hill and the section around Corbetts and Baynes are the largest and most typical areas of gently rolling to level topography. The more rolling and broken areas occur along Hyco, Lynch, and Sugar Tree creeks. The hillsides are sometimes steep and in many cases erosion is excessive. The open texture of the surface soil, coupled with the rolling topography, insures excellent natural surface drainage, and practically no areas of any extent require underdrainage.

The Durham coarse sandy loam is a residual soil which has been derived from the weathering of a granite rock, being influenced in restricted areas by dikes of diorite, diabase, and small veins of quartz. The granite rock is a coarse-grained biotite granite which is composed of feldspar, quartz, and mica. It is usually decomposed to a depth of several feet, but in some cases a disintegrated rock comes near the surface. The feldspar breaks down, forming clay, while the quartz remains as sand, and the resultant product is a loose, coarse-textured sandy loam with a few mica scales.

The larger part of this type is under cultivation, while the remaining areas are forested to white, post, and red oak, some hickory, dogwood, and other hardwoods, and scattering yellow pine. Some of this forest contains valuable timber. This soil is particularly adapted to bright yellow tobacco, for which it is the best soil in this section of the State. It is also suited to sweet potatoes, fruits, and truck crops, and by a rotation of crops, proper cultivation, and manuring, it will produce fairly good yields of corn, wheat, and oats. Tobacco yields from 500 to 1,000 pounds per acre, the average being about 700 pounds; corn, from 10 to 20 bushels; and wheat, 7 to 10

bushels. Sweet potatoes do well, and apples, peaches, small fruits, and garden vegetables give very satisfactory returns.

There is a custom of fallowing land, allowing it to grow up to broom sedge for one or two years, then planting it to tobacco. Tobacco does well on land treated in this manner. It has been found that tobacco following cowpeas produces a somewhat inferior grade the first year, but by planting corn after the cowpeas for one year the soil is brought into good condition for tobacco. Coarse stable manure and cowpea vines incorporated in the soil considerably increase the yield, and the effects of such treatment are seen in the soil for several years.

Practically all the crops grown upon the Durham coarse sandy loam are fertilized to a more or less extent, especially tobacco. About 600 to 900 pounds of a complete fertilizer, analyzing nitrogen 3, phosphoric acid 8, potash 3 per cent, is used. Some use the 8-2-2 grade considerably. A few farmers apply about 50 pounds of nitrate of soda at the second working of tobacco. Tenants, as a rule, do not use quite as large quantities of fertilizer as the farmer who cultivates his own field. Stable manure does well for tobacco, but the tobacco does not seem to ripen just right with the manure alone, so some commercial fertilizer is required in order to get a good grade of tobacco.

Part of the Durham coarse sandy loam is in a low state of cultivation, due to the clean and yearly cropping of the soil to tobacco. The undeveloped areas of this soil sell for \$8 to \$15 an acre, while the better improved areas around Baynes and Ridgeville are held at \$10 to \$40 an acre.

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

*Mechanical analyses of Durham coarse sandy loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19045, 19047.....	Soil.....	14.4	25.2	9.3	14.6	9.9	20.9	5.0
19046, 19048.....	Subsoil.....	5.4	10.8	5.4	8.6	3.4	26.7	39.7

CASWELL SANDY LOAM.

The surface soil of this type, to a depth of 6 to 10 inches, is a light-gray, yellowish-gray, or ashy colored medium sandy loam, usually containing a few fine fragments of gneiss and quartz. In many places there are spots of Cecil sandy loam and spots and strips of Iredell sandy loam and phases of these types scattered throughout areas of the Caswell sandy loam.

The subsoil of the best-developed areas is a yellow sandy clay with spots of mottled or reddish clay. The subsoil commonly grades into

disintegrated gneiss or granite at 24 to 30 inches, and in many instances on the steeper slopes this decayed rock joins the surface soil and even outcrops occasionally. There are some areas where the sandy clay subsoil passes into an impervious brown, mottled yellow or gray clay just before the partially decomposed rock is reached. This impervious stratum considerably influences the drainage, and such spots are cold natured and sour.

The Caswell sandy loam occurs in large areas of irregular outlines in the central and northeastern parts of the county. Large areas are found along Country Line, Hyco, Moon, Hogan, and Rattlesnake creeks, being well developed around Yarbrow, Yanceyville, and south of Blanch. Small bodies are distributed throughout the Cecil sandy loam areas.

The type occupies the roughest topography in the county, it being hilly, rolling, and rough, following the streams, and lying between the rolling uplands of the Cecil sandy loam and the alluvial deposits along the stream. The surface features of some of the knolls and ridges are favorable for cultivation, but there are bodies of this soil which are so broken and rough as to preclude their use for general farming purposes. The small streams and rivulets have made deep inroads into this type, leaving steep hillsides which are in many cases badly gullied. Owing to its position, it possesses the best natural surface drainage of any type in the county. In many cases the drainage is too excessive, as those bodies which have the decayed rock or bed rock near the surface are loose, porous, and quite dry. The only poorly drained spots are where the impervious clay occurs in the subsoil.

Most of this type is derived from the disintegration and decomposition of gneiss and schist, and some from granite. There are dikes of diorite throughout these formations which have influenced the soil to some extent. This soil in the main is derived from the same kind of rock as the Cecil sandy loam, but erosion, on account of the topography, has so acted on the material as to give a soil entirely different in composition and agricultural value. The Caswell sandy loam might rightly be termed a product of excessive erosion. On account of the rolling and hilly surface, erosion has kept such a close pace with the disintegration and decomposition of the rock that the accumulation of the soil has not been deep. The rain water carries away in suspension the finer particles, leaving the coarser ones, thus giving a loose sandy loam soil.

The native growth consists of oak and other hardwood, yellow pine, some cedar pine, and old field pine. The more uniform areas on the ridges and knolls are adapted to bright tobacco. Truck crops, berries, potatoes, and vegetables do well. Clover gives good yields upon this soil and should be grown more extensively. Tobacco at present is the

main crop and yields from 600 to 800 pounds per acre. Corn, wheat, and oats give low yields ordinarily, but when the soil has been manured and properly cultivated good yields are secured. Some cowpeas are grown. The Caswell sandy loam produces its best crops during the rainy season.

Green cowpea vines and coarse manures would improve this soil considerably. The ordinary 8-3-3 and 8-2-2 fertilizer is commonly used on this soil. A great deal of the soil seems to be practically depleted of its humus, and the cowpea vines, clovers, and manures would supply the needed humus and furnish nitrogen for the crops. The roughest and most badly gullied areas of the Caswell sandy loam should be reforested or remain forested. The other broken areas could be used advantageously for pasture land. The seeding of these rolling areas would prevent washing and excessive erosion.

Land of this type ranges in price from \$3 to \$10 an acre, depending on its location and the topography.

The following table gives the average results of mechanical analyses of the soil and subsoil of the Caswell sandy loam:

*Mechanical analyses of Caswell sandy loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19929, 19931.....	Soil.....	3.3	13.2	11.7	34.1	14.4	17.9	5.2
19930, 19932.....	Subsoil.....	4.3	14.0	8.5	20.8	8.4	20.8	23.5

#### CONGAREE LOAM.

The surface soil of the Congaree loam is a brown, silty loam to a depth of 10 inches. A brown, heavy, fine, sandy loam of very limited extent occurs on a few of the low ridges and in places along the banks of the river. All of the type is a mellow and easily tilled soil. The subsoil to a depth of 36 inches and more is a brown, silty loam, being a little heavier and more compact than the surface soil. A few small mica scales are usually present in both soil and subsoil.

This soil type occurs only in the northern end of the county, following the Dan River. This strip of soil varies in width from one-fourth to one-half mile, and is well developed in the vicinity of Blanch. The Congaree loam occupies the flat bottom land along the Dan River, with a gradual slope to and with the course of the river. There are a few very gently rolling ridges, and also some few depressions and swales. The drainage is effected by open ditches, and most of it can be easily drained. It is subject to overflow, and occasionally the crops are badly damaged.

The soil is of alluvial origin, being composed chiefly of silt, very fine sand, and clay, with a few small scales of mica. These materials have been washed from the hills and uplands and have been brought down by the Dan River and other streams and deposited during times of overflow.

This soil is especially suited to the production of corn, grasses, and oats. Corn yields from 20 to 40 bushels per acre under ordinary conditions, but as high as 60 bushels per acre have been made. Farms of this type, including some of the contiguous uplands, sell at about \$10 an acre.

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

*Mechanical analyses of Congaree loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
19943.....	Soil.....	0.1	0.9	0.9	13.0	15.4	55.7	14.1
19944.....	Soil.....	.1	1.0	.8	8.4	19.9	52.2	17.7

#### MEADOW.

The areas of Meadow in Caswell County have no uniformity as to texture or depth. The soil varies from a loam to a sandy loam, and even a sand with considerable gravel. In a few places the soil is the same as the Congaree loam, but in most of the areas it is a variable sandy loam.

It occurs in narrow strips from a few yards to several hundred yards in width, following many of the streams. The largest and longest bodies of Meadow lie along Country Line, Hyco, Hogan, and Moon creeks, while small strips are found along some of their tributaries and other streams.

The Meadow comprises the low, wet land having an elevation of only a few feet above the normal water level of the streams. All of it is subject to frequent overflow, and part of it is wet during the entire year. A few spots, where the soil is similar to the Congaree loam, have been cleared and drained, and produce good yields of corn. A large part of the Meadow is covered with small bushes or forested. Some of it is used for pasture. By straightening the stream channels and cutting some ditches much of the soil could be brought under cultivation. Some areas would grow good crops of corn and grasses, and the remaining areas could be used advantageously as summer pastures for cattle.

## SUMMARY.

Caswell County lies in the northern part of North Carolina, bordering the Virginia State line. The county is nearly square in shape and contains about 400 square miles. The surface features are those of a high plateau which has been badly dissected by erosion, thus leaving level, rolling, and hilly surface conditions. Its general surface slope is to the north and the drainage is excellent. Many creeks flow through the county and empty into the Dan River on the north.

The county lies in the Piedmont section of the State, and its several soil types have been formed from the weathering of the underlying gneiss, schist, granite, diorite, and other rocks. Eight distinct types of soil have been mapped, including Meadow, and the area of each outlined on the soil map. The Cecil sandy loam is the most extensive type in the county. It is a gray or brown sandy loam underlain by red stiff clay. It is adapted to tobacco, corn, oats, wheat, cowpeas, clover, sweet potatoes, truck crops, and fruits.

The Cecil clay is a red or brown loam or clay underlain by stiff, red clay. It is well suited to wheat, oats, corn, clover, grasses, and cowpeas. It is a strong soil and is capable of high improvement.

The Durham coarse sandy loam is a light-gray, coarse, sandy loam underlain by a yellow friable clay. It is locally called "isinglass land." It is the best soil in the county for the production of bright tobacco, and is also well suited to potatoes and truck crops.

The Iredell sandy loam, which is often called "black-jack oak land," is a medium to fine sandy loam with a yellow to brown, waxy, impervious clay subsoil. Only the sandy ridges which are well drained are suited to tobacco. Oats, wheat, and grass give best returns on this land.

The Caswell sandy loam is a light-gray, sandy loam with a yellow clay or rotten rock subsoil. Some of it is suited to tobacco. Most of it should be seeded for pasturage, as the broken, rough, hilly areas do not permit of easy cultivation.

The Congaree loam occurs in a belt along the river. It is a brown silty loam, and is well adapted to corn and grass.

The small body of Herndon stony loam and the few strips of Meadow land are not used to any appreciable extent at present.

The main crop grown in the county is bright tobacco, more than 6,000,000 pounds being produced annually. The yield of the crop is from 500 to 1,200 pounds to the acre and it sells at from 6 to 40 cents per pound. The crop of next importance is corn, while considerable wheat and oats are also produced.

Land values are low, the same kind of land selling at much higher prices in other sections of the State. The growing of more grain and

grasses and the raising of more stock would likely have a tendency to increase the selling price of much of the land. Some beautiful forests of hardwoods were observed, and from these could be manufactured valuable products at a profit.

Caswell County has a splendid climate. The rolling character of the land, the high elevation, the good drainage, and the excellent drinking water supplied from wells and springs make it a healthful section in which to live.

The main line of the Southern Railway crosses the northwest corner of the county, and the Norfolk and Danville, a branch of the same system, swings into the northeastern part. With railroad transportation through the interior of the county a more rapid development would take place. A large part of the population is at a noticeable disadvantage because of a lack of railroad facilities. A railroad through the central part would give strong encouragement to a more diversified agriculture, and would be a benefit alike to the towns and the country.

Yanceyville, the county seat, and Milton and Leasburg are the largest towns in the county. These places were manufacturing centers for tobacco and flourishing towns before the war.

Caswell County possesses an excellent and intelligent citizenship, its natural resources are great, its lands are cheap, and the large undeveloped areas invite settlers of the highest type.