SOIL SURVEY OF ORANGEBURG COUNTY, SOUTH CAROLINA.

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DESCRIPTION OF THE AREA.

Orangeburg County, with an area of 1,098 square miles, or 702,720 acres, is situated in the south-central part of South Carolina. Its length from east to west is about 67 miles and its width on a north

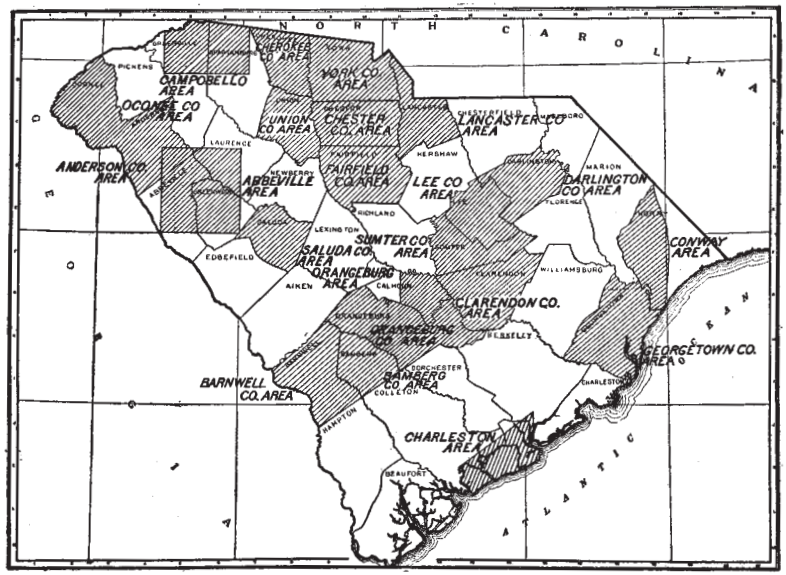

FIG. 7.—Sketch map showing areas surveyed in South Carolina.

and south line through Orangeburg is about 34 miles. It is bounded on the north by Aiken, Lexington, Calhoun, and Clarendon Counties, on the east by Berkeley and Clarendon Counties, being separated from the latter by the Santee River, and on the south by Berkeley, Dorchester, Bamberg, and Barnwell Counties, the South Fork Edisto and Edisto Rivers forming the boundary line along Barnwell and Bamberg Counties, and on the west by Bamberg, Barnwell, Aiken, and Lexington Counties.

Orangeburg County is situated in the Coastal Plain, about half way between the seacoast and the eastern boundary of the Piedmont.

The topography varies from rolling in the northern part to nearly level or flat in the southern part. There are no abrupt hills or conspicuous elevations. The county lies at a moderate elevation above sea level and conditions have therefore been unfavorable for the rapid development of tributary streams. The elevation ranges from 50 or 60 feet in the extreme southeastern corner to 200 to 370 feet in the northern part.

Two simple topographic divisions are recognized in the county, hilly or gently rolling areas and level, flat, poorly drained pine-woods areas. The rolling or better drained areas lie principally in the northern and northwestern part of the county, while the flatwoods section lies principally in the southern and southeastern part. There seems to be no sharp line of demarcation between the two divisions and it is probable that there is no great difference in the age of the land surface of the two sections, there being no easily recognized escarpment, but rather a gradation from well-drained land to poorly drained swampy land. These poorly drained flats, which correspond pretty closely on the map to the areas of the Portsmouth sandy loam and the flat phases of the Norfolk fine sandy loam and Norfolk sandy loam, seem to represent original level tracts of the new land surface. They do not have sufficient slope to carry off the rainfall quickly and stream development has not proceeded far enough to effect their drainage. The more rolling character of the northern and northwestern part of the county is to be attributed to the greater elevation above sea level, which has been favorable for the development of a greater number of drainage ways and has permitted the streams to cut their channels to greater depths. However, in the southern part of the county some of the better drained land has a lower elevation above sea level than the swampy flats and "bays" of the Portsmouth areas, the better drainage being due to the fact that the land lies very near the larger streams and is reached by their short tributaries. The "flatwoods country" is not a depression, but level, undrained upland, what little drainage there is being outward from these semiswampy areas rather than into them. Differences in drainage conditions are reflected in the character of the native vegetation in the two divisions and have determined the character of the soils, drainage being a more important factor than the parent geologic formation. In the better drained and higher parts of the county the streams have cut their courses to a depth of 25 to 50 feet.

The southern and eastern parts of Orangeburg County are very poorly drained. The streams are sluggish, having a very small gradient. Four Hole Swamp, with its tributaries, constitutes the drainage system of over a third of the county. It has no definite

channel, and at times the water in its tributaries may fill the swamp areas and cover the section for miles around. The general elevation of the country drained by Four Hole Swamp ranges from 100 to 200 feet above sea level. The swamp areas along this stream are in places more than 1½ miles wide.

The northern and western parts of the county are well drained by the North Fork Edisto and South Fork Edisto Rivers and their tributaries. Very little poorly drained land exists here. The stream channels are fairly well defined and in many places there is relatively no swamp fringe to the streams. Especially is this true of the tributaries of the South Fork Edisto River in the western part of the county.

The Santee River drains a narrow strip about 3½ or 4 miles wide along the eastern boundary of the county. It has no tributaries of any consequence. Sink-hole drainage has a part in the drainage of the section from Elloree to Ferguson.

The general direction of flow of the streams is toward the southeast, the direction of the general slope of the surface.

The majority of the settlers prior to 1735 were English, Scotch, and Irish. German amd Swiss settlers in 1735 established the town of Orangeburg. Practically the entire white population are descendants of these earlier settlers. The census of 1910 gives the population of the county as 55,893, there being about twice as many negroes as whites.

Orangeburg, the county seat, is situated north of the center of the county, on the North Fork Edisto River. It has a population of 5,906. There are located here cottonseed-oil mills, a cotton mill, and a wagon factory. Branchville, the town of second size, has a population of 1,471 and is located in the southern part of the county. It affords a market for a large section of the county.

Other important towns are Bowman, situated about the center of the region of flat topography; North, situated in the northwestern part of the county and third in population; Elloree, fourth in population, situated near the boundary between Orangeburg and Calhoun Counties, on the Atlantic Coast Line Railroad; and Springfield, in the extreme western part of the county, on the Southern Railway. Rowesville, Holly Hill, Eutawville, Livingston, Neeses, Norway, Cope, Woodford, and Vance are other small towns, trading centers for the people living in the surrounding country.

Orangeburg County is well supplied with railway facilities, being served by through lines or branches of the Southern, Seaboard Air Line, Atlantic Coast Line, and Orangeburg Railroads.

The public roads throughout the county are in good condition. Most of them are surfaced with clay.

CLIMATE.

Orangeburg County has a warm and equable climate, the summers being long and rather hot and the winters mild. The growing season is long enough for maturing all crops. Cover crops, cabbage, turnips, asparagus, and other crops can be grown during the winter months, and various kinds of farm work can be profitably carried on during this period.

The last killing frost in spring occurs usually between March 13 and April 4, and the first in autumn from November 4 to November 17. This gives a growing season of 222 to 249 days.

The crops seldom suffer from drought, but are more likely to suffer from an excess of rain, especially in the Bowman section. The average rainfall for the growing season is about 4½ inches per month.

The following tables, compiled from the records of the Weather Bureau stations at Blackville and Trial, give the normal monthly, seasonal, and annual temperature and precipitation. Blackville, which is located in Barnwell County, is about 9 miles south of the South Fork of the Edisto River and about 10½ miles south of Springfield. The data for this place represent more nearly the climatic conditions of the northern part of the county than do those from the station at Trial, which is situated in Berkeley County about 3 miles from the eastern boundary of the county. While the records of this station apply to the southern part of the county, there is apparently little difference in the condition in different parts of the county.

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

Month.	Temperature.			Precipitation.			
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount for the driest year.	Total amount for the wettest year.	Snow, average depth.
	°F.	°F.	°F.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
December	46	80	14	3.7	4.7	2.6	0.1
January	46	80	12	3.1	2.4	5.0	0.2
February	46	79	−3	5.0	8.3	6.5	0.1
Winter	46	.....	.....	11.8	15.4	14.1	0.4
March	57	91	19	3.7	1.6	2.0	T.
April	62	95	29	3.5	2.1	2.4	0.0
May	73	102	42	3.7	1.5	1.7	0.0
Spring	64	.....	.....	10.9	5.2	6.1	T.
June	80	103	42	5.5	5.6	8.6	0.0
July	82	105	57	5.2	6.7	3.4	0.0
August	80	104	54	5.9	2.7	7.9	0.0
Summer	81	.....	.....	16.6	15.0	19.9	0.0

Normal monthly, seasonal, and annual temperature and precipitation at Blackville—Con.

Month.	Temperature.			Precipitation.			
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount for the driest year	Total amount for the wettest year.	Snow, average depth.
	°F.	°F.	°F.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
September	75	100	42	4.0	1.1	2.5	0.0
October	64	95	30	3.1	0.4	9.6	0.0
November	56	85	19	2.0	1.4	2.5	0.0
Fall	65	.....	.....	9.1	2.9	14.6	0.0
Year	64	105	−3	48.4	38.5	54.7	0.4

Average date of first killing frost in autumn, Nov. 17; of last in spring, Mar. 13. Date of earliest killing frost in autumn, Nov. 8; of latest in spring, Mar. 23.

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

Month.	Temperature.			Precipitation.			
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount for the driest year.	Total amount for the wettest year.	Snow, average depth.
	°F.	°F.	°F.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
December	48.2	85	10	3.09	4.60	4.97	.....
January	47.0	82	9	3.67	2.42	0.93	.....
February	47.6	82	−3	4.07	5.15	0.62	.....
Winter	47.6	.....	.....	10.83	12.17	6.52	.....
March	56.3	95	13	3.46	2.42	3.13	.....
April	61.4	92	26	2.78	3.89	5.42	.....
May	71.7	97	38	4.55	5.70	6.31	.....
Spring	63.1	.....	.....	10.79	12.01	14.86	.....
June	76.7	99	43	5.73	3.06	7.16	.....
July	79.1	103	54	6.20	3.54	9.60	.....
August	77.8	101	56	7.82	3.67	15.20	.....
Summer	77.9	.....	.....	19.75	10.27	31.96	.....
September	73.5	101	39	3.81	1.67	2.99	.....
October	62.0	91	29	2.94	1.44	4.90	.....
November	55.4	92	13	2.28	1.06	6.09	.....
Fall	63.6	.....	.....	9.03	4.17	13.98	.....
Year	63.0	103	−3	50.40	38.62	67.32	.....

Average date of first killing frost in autumn, Nov. 4; of last in spring, Apr. 4. Date of earliest killing frost in autumn, Oct. 10: of latest in spring, Apr. 28.

AGRICULTURE.

The agriculture of Orangeburg County dates from the early part of the eighteenth century. Besides the subsistence crops, indigo, grown under bounty from the English Government, had more than ordinary importance. There was also a period when stock raising was the leading industry. Charleston, one of the oldest seaports on the Atlantic, and only 80 miles from the county seat, was the point of export for the products of this region.

Until 1850 considerable quantities of wheat and oats were grown, but from that date until 1865 little attempt was made to grow the latter, on account of injury from the rust. Red rust-proof varieties were then introduced, and since that time oats have become a more important crop. Cotton was not extensively grown until 1802. The production increased rapidly and it had become, by 1850, the most important crop of the county, which position it has since held. From 1865 until 1885 considerable rice was grown, but competition with sections better suited to its culture could not be maintained. Statistics of this crop for Orangeburg County were last given in the census of 1890, when the county was credited with the production of 782,136 pounds. At present it is grown only in very small patches.

Development of the turpentine industry began about 1860, and from 1875 to 1885 this was the chief pursuit of the rural population; lumbering also became important, and these two interests continued dominant until nearly all the longleaf pine had been removed. A number of small mills are still in operation, and one of the largest in the South, located at Ferguson, is cutting the timber from the Santee River lowlands.

The turpentine and lumber industries paved the way for the present system of agriculture. With the removal of the longleaf pine the upland soils were practically cleared. The country north of Orangeburg, or the "hill" section, was the first to be deprived of its timber, and therefore the first to be developed agriculturally. Practically all of the country around Bowman was in forest 20 years ago. This was due to several causes. In the first place, this section as a whole is flat and poorly drained, and much of it is unfit for agriculture until artificial drainage has been established. In other sections of the county well-drained lands could be had for less than the cost of draining the flatwoods. Then, about 1890, the price of cotton had fallen below the cost of production and there was no incentive to clear land except for lumbering. However, with the decline in the turpentine and lumber industries and with the advance in the price of cotton, agriculture made rapid strides.

It was not until about 1900, however, that the greatest progress along these lines began. For many years cotton had been the prin-

cipal crop, but it had been the aim of the farmers to grow the crop on an extensive rather than an intensive scale. A comparison of the average yield per acre in 1880 and 1910 shows a marked increase, which it is believed is not due wholly to seasonal differences but in part to improvements in the methods used in growing the crop. In 1879 (census of 1880) there were 61,354 acres planted in cotton, from which 24,452 bales were obtained, or an average of 0.39 bale per acre. In 1909 there were 129,053 acres in this crop, with a production of 71,092 bales, or an average of nearly 0.6 bale per acre. The use of proportionally larger quantities of commercial fertilizer is indicative of the more intensive culture given the crop to-day. In 1879 the expenditures for fertilizer were $100,613, while in 1909 they were $626,140. Cotton is to-day the important crop, and practically all finances of the county are based upon it.

Various plans of cotton fertilization are followed. One of the most successful is 700 pounds per acre of a home mixture analyzing 6–4–6.[1] When this is used a second acreage application of 300 to 500 pounds of an 8–8½–3½ mixture is given. In other cases 500 to 1,000 pounds per acre of an 8–4–4 mixture, 500 to 800 pounds of an 8–6–6 or 8–6–7 mixture, or 500 to 800 pounds of an 8–6–5 mixture may be used. Any of these may be given in one or two applications. Near Bowman a common practice is to apply 300 pounds per acre at planting time of a mixture containing 100 pounds of kainit and 200 pounds of an 8–2½–1 mixture. A side application of 200 pounds per acre of 8–4–4 is given at blooming time. Nitrate of soda is used by a few farmers in all sections of the county and near Orangeburg the majority of the farmers employ it. Cotton yields range from one-third bale to 1½ bales per acre. This crop is grown to a greater or less extent on all the soils of the county, being particularly suited to the upland sandy loams, especially the Norfolk, Orangeburg, and Tifton soils.

Corn is the crop of second importance. According to the census, 76,953 acres were devoted to this crop in 1909, with a production of 1,112,863 bushels, or an average yield of 14 bushels per acre. As is the case with cotton, different methods of fertilization are in practice. Many of the most successful farmers use 200 pounds per acre of a 7–3–7 mixture at planting time and an application of 500 pounds per acre of the same mixture later. From 75 to 100 pounds per acre of sodium nitrate is frequently applied at the last cultivation. In the southern part of the county, especially near Bowman, many of the planters apply 300 pounds of 8–2½–1, a little of which is put in the drill to start the growth of the corn and the remainder given as a second application. In addition to this, 75 to 100 pounds per acre of sodium nitrate is usually applied. On well-drained upland sandy

[1] Fertilizer formulas are stated in the order, phosphoric acid, potash, nitrogen.

loams, with good preparation of the seed beds and subsequent thorough cultivation, yields of 35 bushels per acre are often obtained by this method.

Oats are grown principally for feeding work stock and as a rule are not thrashed. In growing this crop on upland soils 500 pounds of 10–2–6 fertilizer, with 100 pounds per acre of sodium nitrate as a top dressing, is used successfully. The census of 1910 shows 17,221 acres sown to oats.

Wheat is not extensively grown in the county. In 1909 there were only 256 acres seeded to this crop and the yield was 2,210 bushels.

Sugar cane is grown on nearly every farm and sirup made for home use, but none is shipped to outside markets.

Sweet potatoes are also produced mainly to supply the local demand. A few farmers have grown them for market. The Thirteenth Census shows 2,105 acres in this crop, in 1909, with a production of 195,822 bushels.

Trucking on a commercial scale is carried on to a small extent in the county, potatoes, cucumbers, and asparagus being the leading crops. The potato gives the best yields on well-drained sandy loams. Some of the most successful planters put the potatoes in 6-foot rows with a row of cotton between. Various fertilizer mixtures are used in growing this crop. Thirty bushels of cotton seed per acre with barnyard manure, where available, or 700 to 1,000 pounds per acre of a high-grade fertilizer, have been used with good results. The cotton between the potatoes may or may not be given additional fertilization. The yield of potatoes is usually about 60 barrels (2½ bushels to the barrel) per acre, though larger yields are not uncommon. The "Irish Cobbler" has been found a desirable shipping variety. The Early Rose matures earliest but skins easily, and for this reason is not as satisfactory for shipment.

Cucumbers are grown for market on a small scale around Rowesville. The sandy loams and fine sandy loams of the Norfolk and Ruston series give good results with this crop. In the winter or early spring the soil is thoroughly broken to a depth of 8 to 10 inches and left until planting time. Then the rows are laid off about 5 feet apart and 500 pounds per acre of an 8–6–6 fertilizer mixture is put in the furrow. A second acreage application of 500 pounds is given about the time the growth of the plants is well started. Gathering the crop begins about May 25 or 30. The yields frequently run as high as 400 bushels per acre, but as a rule before the entire crop is matured and gathered the price sinks to a point where it does not pay to make further shipments. Generally 150 bushels per acre may be expected to mature in time for shipment. A few acres of squash are planted in connection with the cucumbers.

Agents purchasing truck do not come into this county and it is necessary to ship the crop to northern markets and await such returns as these markets give.

The only asparagus grown in the county for northern markets is produced near Orangeburg. As yet the beds are young. A yield of about 1,500 crates per acre was secured in 1913. Seventy-five dollars an acre was realized from one 20-acre bed. Well-established beds should give many times this return. In growing asparagus an 8–8–8 or 4–4–4 fertilizer mixture is applied at the rate of 1,000 to 1,200 pounds per acre.

Some peanuts are grown for hog feeding. A few experimental patches of vetch and alfalfa were seen.

Watermelons and cantaloupes are grown for home use and for the local markets, and a few farmers grow watermelons for outside markets.

The orchards of the county do not supply enough fruit for local demands, and apples, peaches, and other fruits are shipped into the county. The apples grown locally are summer varieties. Some La Conte and Kieffer pear orchards exist, but the trees are suffering from blight. The Scuppernong grape is grown for home use.

The planting of pecans in Orangeburg County was begun about 20 years ago. The early plantings were not extensive and the number of trees producing nuts on a commercial scale are few on any individual farm. Within recent years many large groves have been put out in all sections of the county. Trees have been planted on soils of the Norfolk, Orangeburg, and Ruston series. There are three pecan nurseries in the county. The leading varieties grown are the Mobile, Van Deman, Schley, Stuart, and Frotscher. The San José scale has made its appearance and is being combated by spraying.

Stock feeding and dairying are practiced to a limited extent only. Some cattle feeding was done a number of years ago, but the price of cottonseed meal and hulls became so high, and, prior to 1912, the price of beef cattle so low, that feeding became unprofitable. In view of the present high price of beef and the local need for barnyard manure, it is probable that cattle feeding will gain in favor. A considerable part of the semiswampy Portsmouth soil is fenced and used for hog pasture, though the county as a whole does not raise enough hogs to supply the local demand for pork and lard.

In a general way it is known what soils of the county give best results with the different crops. Especial attention is given to this question where the truck crops are grown. The best phases of the Norfolk and Ruston sandy loams are selected for these crops. It is also known that the Myatt and Bibb soils are better suited to

corn and oats than to cotton, and these are not planted to the latter unless drainage has been improved artificially.

Systematic crop rotations are not generally practiced. It is customary to plant cotton after cotton on the best lands, and when possible to use large quantities of commercial fertilizer. A few planters rotate cotton and corn with oats and cowpeas.

Near Orangeburg, Holly Hill, Eutawville, Springfield, Cope, and in a few other localities a considerable area of the land is plowed to a good depth, and some of the farmers use improved machinery, such as reapers, binders, disk plows and harrows, large turning plows, mowing machines, and thrashing machines. The Williamson method of growing corn, or a more or less radical modification of this method, is used by the more successful farmers.

A large proportion of the wealthiest farmers live in the towns and hire superintendents to run their farms. The superintendent is paid a stipulated salary and has entire charge of the farm. He may operate it partly on the wage system and partly by share cropping, or he may operate entirely under the wage system.

Where farms are operated by tenants the agreements vary with different conditions. If the tenant owns work stock, the landlord furnishes a house and 20 to 30 acres of land for every horse or mule so owned and charges a stipulated sum in cash, or the equivalent in crops produced, for use of the land. From a one-horse farm rented under this system the land owner may realize from $50 to $200. On a share basis, if the tenant furnishes nothing but the labor, the landlord receives three-fourths of all crops produced; or, if the tenant furnishes stock and subsistence, the landlord receives one-half of the crops. Cash rents range from $2 to $10 an acre.

Day laborers receive 50 to 75 cents a day, and plowmen hired by the month from $15 to $18. Practically all the laborers are negroes.

According to the census of 1910 the average size of farms in Orangeburg County is 74.4 acres, but as the census counted each tenancy as a "farm," the average individual holding is larger than this. There are some plantations of 1,200 to 2,000 acres.

The price of land varies considerably in different sections of the county. Near Orangeburg and some of the other towns the most desirable phases of the Norfolk sandy loam, Ruston sandy loam, and Orangeburg sandy loam are worth $100 to $125 an acre. Farther away from towns similar soils bring $60 to $75 an acre. In the flatwoods section of the county, away from towns, values range from $15 to $40 an acre, and near the towns from $30 to $60.

Since 1890, and especially since 1900, Orangeburg County has made marked progress in agriculture, but there is still much room for improvement.

SOILS.

Orangeburg County includes a region formed by unconsolidated and consolidated sedimentary deposits. The beds consist of reddish and variegated argillaceous sands, a clay resembling fuller's earth, marl, and limestone, the clay strata outcrop in the northern or more rolling part of the county occurring at the foot of hills and in the few narrow ravines.

The marls underlie probably the greater part of the county, but are at considerable depth and outcrops are not at all common. In the eastern and southeastern parts of the county limestone is encountered at relatively shallow depths, as in wells, and lies near enough to the surface to produce a number of lime sinks and lime sink ponds. Outcrops appear in the bluffs along the Santee River, at Eutaw Spring, the Rocks Plantation, and in a few other localities. It is only from Eutaw Spring eastward that the limestone is near enough to the surface materially to influence the character of the soil, this influence being seen in the stiff or compact structure of the subsoil or substratum and indicated by a difference in the character of the native vegetation.

Three general groups of soils, taking as the distinguishing criterion the genesis or geologic process of accumulation, are represented in the county, viz, sedimentary, alluvial, and colluvial.

The soils of sedimentary origin greatly predominate. The alluvial soils are confined to strips of lowland adjacent to the present streams. Although much less extensive than the sedimentary soils, they occupy a considerable total area, all swamp and overflow land being included in the general class. The colluvial soils are almost negligible, occupying only very narrow strips on the lower parts of slopes to the stream valleys in the better drained section of the county.

Color is the most important characteristic in differentiation of the soils of the three general groups into series. The color of the sedimentary soils has been largely determined by the degree of oxidation to which the mineral constituents of the underlying geological formations have been subjected, and in no place is it apparent that the soil or the subsoil color is due to the original color of the parent material. The various shades of color bear a close relation to the present topographic position of the soils. Thus the types with the deep-red subsoils occur on the better drained or higher and more rolling land, that is, in a position where conditions have been most favorable for oxidation. This color (that of the Greenville and Orangeburg subsoils) probably represents the extreme in the oxidation of Coastal Plain material. In certain topographic positions, however, the red color has been changed to a brownish color by the leaching out of the iron oxides, and in places there are even grayish sands, 3 feet or more in depth, with reddish substrata, suggesting a complete leaching of the surface layer.

The soils with yellowish subsoils, Norfolk series, also appear in the higher and better drained regions. The yellow color represents a slightly lower stage in the oxidation process than the red color, or in places it may represent either leaching or the beginning of deoxidation. The ultimate stage of the deoxidation process would be the dull gray or drab of the subsoil of the Portsmouth series, the ferric oxide being changed to the ferrous compounds.

The soil with dull-gray or drab subsoils, Portsmouth series, are present where poor drainage conditions have prevented aeration and oxidation. In some localities in these areas the iron of the original material has probably been removed in solution, decaying vegetable matter hastening such process. In this way the light shades of color seen in some places may be accounted for.

The deposits of argillaceous sands form the principal source of soil material, the Norfolk, Orangeburg, Ruston, and Portsmouth series being derived almost entirely from it.

Old alluvial deposits occur as narrow terraces bordering the South Fork Edisto River and other large streams. The soils derived from this material are included in the Kalmia, Cahaba, Myatt, and Bibb series. The sediment, except that of the Santee River, has been derived from the Coastal Plain deposits. Recent alluvial material in the swamps and bottom lands along the streams has been mapped.

Superficial sands, loose or incoherent in structure, occupy much of the higher land in the extreme northern part of the county, especially the northwestern part. The sand is composed principally of angular quartz and in places reaches a thickness of 8 or 10 feet. The deeper areas are mapped as Norfolk sand.

The following table gives the extent of the several soils mapped in Orangeburg County. Their distribution is shown by means of colors on the accompanying map.

Areas of different soils.

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Norfolk sandy loam	213,248	41.5	Portsmouth fine sandy loam	5,504	0.8
Flat phase	78,656		Tifton sandy loam	4,800	.7
Portsmouth sandy loam	97,152	13.8	Norfolk fine sand	3,264	.5
Norfolk sand	89,408	12.7	Bibb sandy loam	3,008	.4
Swamp	84,416	12.0	Ruston fine sandy loam	1,856	.3
Orangeburg sandy loam	28,032	4.0	Norfolk coarse sand	1,728	.2
Norfolk fine sandy loam	7,552	2.9	Kalmia sand	1,536	.2
Flat phase	12,416		Myatt sand	1,344	.2
Ruston sandy loam	14,080	2.6	Cahaba sandy loam	1,344	.2
Limestone influence phase	4,160		Myatt fine sandy loam	1,152	.2
			Greenville fine sandy loam	1,024	.1
Myatt sandy loam	12,800	1.8	Kalmia fine sandy loam	960	.1
Ruston sand	8,704	1.2	Orangeburg fine sandy loam	576	.1
Johnston silt loam	6,272	.9	Sandhill	192	.1
Norfolk coarse sandy loam	6,080	.9			
Orangeburg sand	5,888	.8	Total	702,720	
Kalmia sandy loam	5,568	.8			

Norfolk Series.

The Norfolk soils are characterized by the light-gray to grayish-yellow color of the surface soils, and by the yellow color and friable structure of the sandy or sandy clay subsoils. They occupy nearly level to rolling uplands throughout the Coastal Plain and have been derived from unconsolidated deposits of sands and clays.

NORFOLK COARSE SAND.

The surface soil of the Norfolk coarse sand consists of a gray coarse sand having a depth of about 5 to 8 inches. It is underlain by a yellow coarse sand, which usually extends to a depth of 3 feet or more. The soil and subsoil are usually loose, open, and porous throughout the profile. Small quantities of rounded quartz gravel are present in many places.

Small patches of Norfolk coarse sand are scattered throughout the county, but the aggregate area of these is only about 3 square miles. The largest areas occur in the north-central part of the county.

This type has little agricultural value at the present time, most of it being covered by a light growth of scrub oak and scattering longleaf pine.

NORFOLK SAND.

The Norfolk sand consists of a light-gray to gray medium sand with a depth of about 6 inches, underlain by a pale-yellow, yellow or light-gray medium sand having a depth of 3 feet or more. This sand is loose and open, but less so than the Norfolk coarse sand. It is therefore slightly more retentive of moisture. In places the first 4 or 5 inches of the soil is somewhat loamy and is slightly darker than below, from the presence of organic matter. Generally the type is deficient in humus and is likely to be droughty. The region of most extensive development of Norfolk sand lies west and northwest of Orangeburg. Large areas also occur along the northeastern boundary of the county from Elloree southeast. Scattered areas of smaller size are found in all parts of the county. The larger areas of this type occupy the uplands with a level to gently rolling topography, while the smaller areas are developed between the upland sandy loams and the swampy areas or bottom lands. The type is closely associated with the Norfolk coarse sand and Norfolk sandy loam, and spots of the latter, too small to separate, are included in this type. Small spots of a sandy soil containing iron oxide pebbles also occur. These spots are really Tifton sand and would have been mapped as such had they been of sufficient size. The Norfolk sand is well drained, except where it borders Portsmouth soils. The smaller areas approaching the stream courses are more or less rolling, but are usually more productive, owing to the nearness of the water table.

Much of the Norfolk sand is under cultivation, but large areas are idle fields or covered with a growth of scrub oak and shortleaf pine, with a few huckleberry bushes as an undergrowth. The natural productiveness of the type is low, but varies considerably, depending upon the depth to clay and whether the sand is loose and incoherent or contains enough fine material to give it a slightly loamy character

Most of the cultivated areas of the Norfolk sand are planted to corn and cotton. The yields are usually light. It is necessary to supply humus to the soil each year, which is usually done by applying barnyard manure or a green manuring crop, such as rye or cowpeas.

NORFOLK FINE SAND.

The surface soil of the Norfolk fine sand is a light-gray to ashy-gray fine sand, with a depth of 5 to 8 inches. This is underlain by a pale-yellow or yellowish-gray fine sand, which extends to a depth of at least 3 feet. This sand is more loamy in character than the Norfolk sand, and it is naturally more retentive of moisture.

This type occurs in small, flat areas or on gently sloping hills. It has a small extent in the county, but practically all of it is under cultivation. It is used in the production of general farm crops, but it is better suited for growing early truck crops, peaches, and certain small fruits.

NORFOLK COARSE SANDY LOAM.

The Norfolk coarse sandy loam consists of a light-gray to gray coarse loamy sand, which passes into a pale-yellow loamy coarse sand at about 5 to 8 inches, this yellowish subsurface layer extending to a depth of 12 to 18 inches. The subsoil proper is a grayish-yellow friable coarse sandy clay. A large number of rounded quartz pebbles are found scattered over the surface and distributed through the surface soil, and occasionally there are a few ferruginous pebbles.

Areas of this type are scattered over the county, lying generally on level to gently sloping hills. The largest areas are in the northern part of the county near Farnum Mill and Etheridge Mill.

The Norfolk coarse sandy loam is not as productive as the Norfolk sandy loam and is apt to be droughty. It is best suited to the growing of early truck crops, but is now used for the general crops, giving fair yields of cotton and corn when heavy applications of compost and commercial fertilizer are made. With an acreage application of about 600 pounds of an 8–4–4 mixture two-thirds of a bale of cotton per acre is obtained. The usual acreage application for corn is less, ranging from 250 to 700 pounds per acre.

NORFOLK SANDY LOAM.

The surface soil of the Norfolk sandy loam consists of a light-gray to gray loamy sand, which grades into a pale-yellow loamy sand at about 5 to 8 inches. The typical subsoil, lying between 12 and 18 inches below the surface, is a deep-yellow or grayish-yellow friable sandy clay, showing in local areas mottlings of red in the lower part of the 3-foot section. In places the immediate surface soil consists of a grayish-brown to light-brown loamy sand, which passes at about 6 inches into a yellow sandy loam, which continues to a depth of about 15 inches, where a bright-yellow friable sandy clay is encountered. The brown in the surface material is due to added organic matter and general good treatment under cultivation. In places the typical sandy clay of the subsoil is not reached at depths less than 24 to 30 inches. These areas, however, are not of sufficient uniformity and extent to warrant a distinct deep-phase separation from the main type.

Included in the Norfolk sandy loam are spots of Tifton sandy loam and Ruston sandy loam too small to be shown on a map of the scale used. Local accumulations of small gravel and ferruginous pebbles are of frequent occurrence. In many places where this type is associated with the Norfolk sand the two merge into each other so gradually that it is difficult to draw a distinct boundary between them.

The Norfolk sandy loam and its flat phase are the most extensive soils in the county, forming 41.5 per cent of the total area. The typical soil is widely distributed, but has its greatest development in the country lying west of Orangeburg. It is the principal type in this part of the county and only gives way to narrow areas of swamp along the streams and to areas of Norfolk sand and Orangeburg sandy loam. A very shallow phase of the type occurs about 7 miles west of Neeses, on the Ninetysix Road. In this particular area the sandy clay subsoil is not more than 6 inches below the surface, and the surface has a distinctly yellow color.

The elevation of this type ranges between 180 and 380 feet above sea level, the highest areas mapped being in the vicinity of Livingston and the lowest near Eutawville. The type occupies gently rolling to undulating interstream areas and is well drained. In places the type suffers from erosion.

The Norfolk sandy loam is a strong productive soil. Cotton yields from one-fourth bale to 1¼ bales per acre, varying according to the methods of cultivation and of fertilization. Commercial fertilizers are used in quantities ranging from 200 to 1,200 pounds, the average application being about 600 pounds. Fertilizer mixtures of the formula 8–4–4 are popular.

Corn produces from 15 to 50 bushels per acre. Most farmers use about one-half the quantity of commercial fertilizer for corn as for cotton, the relative proportion of phosphorus, nitrogen, and potash in the fertilizer being about the same.

Oats give large yields on this type. Where an application of 500 to 800 pounds per acre of a 10–2–2 fertilizer mixture is used, with a top dressing of 80 pounds per acre of nitrate of soda, when the land has been put in a proper condition in every way, the yields reach 90 bushels per acre. The growing of oats on a large scale is not so common as formerly.

Cowpeas are grown extensively for seed and hay, as well as for the organic matter and nitrogen which they add to the soil. Spanish peanuts are grown with varying success.

The few asparagus farms on this soil are located on its deeper phases and are usually small.

A few years ago bright tobacco was grown on this type, but the prices obtained for the crop were unsatisfactory, and its production was discontinued.

The few truck farmers growing Irish potatoes obtain large yields when the soil is properly fertilized. Sweet potatoes do well and are grown on most of the farms for home consumption.

Land of this type sells at $20 to $100 an acre.

Norfolk sandy loam, flat phase.—The surface soil of the Norfolk sandy loam, flat phase, consists of a gray to very dark gray light sandy loam or loamy sand, which grades into a pale-yellow loamy sand at about 5 to 6 inches, the latter extending to a depth of 8 to 20 inches. The subsoil in the better drained areas is a uniform grayish-yellow friable sandy clay, while in the poorer drained areas it is more or less mottled with gray.

The Norfolk sandy loam, flat phase, is developed entirely in the southern and eastern portions of the county and is associated with the Portsmouth sandy loam and Portsmouth fine sandy loam. It is an extensive and important type in those parts of the county.

This phase differs essentially from the typical soil in having an almost uniformly level surface, a slightly darker surface soil, and a more compact subsoil. It is difficult in many cases to draw definite boundaries between the darker colored areas of this phase with the gray mottled subsoil and the Portsmouth sandy loam. Generally the phase has poor surface drainage, and either open ditches or tile drains are necessary to make cultivation practicable.

A large part of the flat phase is under cultivation. It is used for about the same crops as the main type, and produces somewhat larger yields where good drainage has been established and the soil has been limed. It lies favorably for agriculture and permits the use of all kinds of improved labor-saving machinery.

NORFOLK FINE SANDY LOAM.

The surface soil of the Norfolk fine sandy loam consists of a gray loamy fine sand, which passes into a pale-yellow loamy fine sand or light sandy loam at about 4 to 6 inches and continuing without change to 12 or 15 inches. Beneath this occurs the typical subsoil, a yellow, friable fine sandy clay.

The Norfolk fine sandy loam is of small extent, the largest unbroken area occurring about 4 miles northeast of Orangeburg. Other areas are developed southeast of Orangeburg between Four Hole Swamp and Cow Castle Creek, and in other parts of the county.

It occupies portions of the gentle slopes and nearly level upland areas and the topography is undulating to gently rolling. The type has good surface drainage and is usually a warm soil.

Most of the Norfolk fine sandy loam is under cultivation, being planted to corn, cotton, and winter oats. Cotton yields one-third of a bale to 1½ bales, corn from 10 to 40 bushels, and oats from 30 to 80 bushels per acre.

Commercial fertilizers are used for all crops and are considered necessary to obtain profitable yields. Applications of commercial fertilizers range between 250 and 1,000 pounds per acre. Some farmers use 500 pounds of an 8–4–4 mixture in growing corn, generally in three applications, with an additional top dressing of about 85 pounds of nitrate of soda. From 800 to 1,000 pounds of 8–4–4, 7–4–4, or 7–5–4 mixtures per acre are applied in growing cotton.

Norfolk fine sandy loam, flat phase.—This phase, like the flat phase of the Norfolk sandy loam, differs from the typical soil mainly in having almost uniformly a flat, level surface, a slightly darker surface soil, and a subsoil slightly mottled with gray.

The principal development of this phase is in the extreme eastern part of the county. It also occurs in irregular areas in the east-central section.

The surface drainage is poor, but most of the land can be drained.

The greater part of the phase is now under cultivation and produces good yields of cotton, corn, peanuts, and other crops common to the county. The yields are somewhat larger than those obtained on the typical soil. The addition of commercial fertilizer is considered necessary in the production of all crops.

ORANGEBURG SERIES.

The soils of the Orangeburg series are marked by their gray to reddish-brown color and open structure. The subsoils consist of a friable sandy clay. They are confined to the uplands of the Atlantic and Gulf Coastal Plain, being most extensively developed in a belt extending from southern North Carolina to central Texas.

ORANGEBURG SAND.

The surface soil of the Orangeburg sand is a gray, brownish-gray or reddish-brown medium sand from 6 to 10 inches deep. The subsoil is a bright-red medium sand, which extends to a depth of 3 feet or more, containing sufficient fine material to render it fairly retentive of moisture.

Areas of this type are scattered over the western half of the county. The topography is usually nearly level to gently sloping.

This is a slightly better soil than the Ruston sand or the Norfolk sand and it gives fair yields of corn, cotton, oats, and general farm crops. It is also a good trucking soil. The type responds quickly to commercial fertilizers or manures. It is deficient in organic matter.

ORANGEBURG SANDY LOAM.

The surface soil of the Orangeburg sandy loam consists of a gray to grayish-brown loamy sand, which grades into a yellowish or reddish-yellow loamy sand or light sandy loam at about 6 inches. The typical subsoil, beginning anywhere between 10 and 15 inches, is a bright-red, friable sandy clay extending to a depth of 3 feet or more. In many places the surface soil is light gray to gray in color, resembling the surface soil of the Norfolk sandy loam. On a few of the knolls the surface soil is a reddish-brown loamy sand, carrying considerable quantities of quartz gravel and iron pebbles. Such spots would be mapped Greenville gravelly sandy loam if they occurred in sufficient size to be shown on a map of the scale used.

This type is distributed through the northern and western parts of the county, the area of greatest extent reaching north from Orangeburg almost to the county line. Another area of considerable extent occurs just east of Snake Swamp along the Benneker Bridge Road. The type is associated more often with the Norfolk sandy loam than with any of the other types.

The type has a gently rolling to sloping topography, being developed in broad upland areas. Both surface drainage and underdrainage are excellent.

This is one of the strongest soils in Orangeburg County. It is a soil suitable to a wide range of crops, but is at present planted principally to corn, cotton, and oats. Cotton produces from one-half bale to 1½ bales per acre. Corn and oats do well. On small areas alfalfa is doing well. Vetch and crimson clover are grown with varying degrees of success. Large yields of cowpea hay are obtained. The farmers who practice deep plowing in the preparation of the seed bed for all crops have found it very effective in increasing yields.

This soil is well suited to the growing of cantaloupes, as shown by actual experience in some adjoining counties, although very little of

it is used for that purpose in Orangeburg County. The lighter phases may be used for peach growing, and there are many areas well suited to the location of orchards.

Usually applications of 600 to 1,000 pounds of commercial fertilizer are used in growing corn and cotton.

Practically all of the Orangeburg sandy loam is under cultivation. The value of the land varies according to its condition and its location with respect to the larger towns. Small fields near Orangeburg bring as much as $125 an acre. The usual price, however, throughout the county is $60 to $100 an acre. Not much of this type is for sale at any price.

ORANGEBURG FINE SANDY LOAM.

The surface soil of the Orangeburg fine sandy loam consists of a gray to grayish-brown loamy fine sand, which grades into a reddish-yellow loamy fine sand or light sandy loam at about 5 to 8 inches. There is usually no well-defined boundary between the fine sandy loam subsurface and the heavier sandy clay of the subsoil. Usually the latter lies from 8 to 15 inches below the surface, but in places it is not encountered until a depth of 20 to 30 inches is reached. The typical subsoil is a red to bright-red, friable sandy clay. In places where there is excessive drainage and where the fields have been cultivated carelessly the surface soil resembles the Norfolk soils in color, being gray or light gray. In fields where organic matter has been incorporated and the soil properly cultivated the color is brown to dark brown, as in newly cleared fields.

This type is associated with the Orangeburg sandy loam and Greenville fine sandy loam. It is encountered north and northeast of Orangeburg. It has a rolling to somewhat hilly topography and is well drained.

The texture of the Orangeburg fine sandy loam enables it to hold moisture well, making it an excellent soil for the general farm crops. It is planted to corn, cotton, oats, cowpeas, vetch, and soy beans. Cotton produces from two-thirds of a bale to 1¼ bales, corn from 15 to 30 bushels, and oats from 25 to 50 bushels per acre. Applications of about 600 pounds per acre of commercial fertilizer, usually analyzing 8–4–4 or 7–3–3, have given the best results with cotton. In the cultivation of the steeper slopes care is necessary to prevent damage to the fields by erosion.

A slightly heavier farm equipment is necessary on the Orangeburg fine sandy loam than on the Norfolk soils.

Tifton Series.

The soils of the Tifton series are prevailingly gray, ranging to brownish gray. The subsoils consist of bright-yellow, friable sandy clay. Small iron concretions occur on the surface and throughout

the soil section. The topography varies from flat to gently rolling, and the drainage is good. The Tifton series is found in the Coastal Plain from South Carolina to Alabama. The soils are sedimentary from sandy clay deposits.

TIFTON SANDY LOAM.

The surface soil of the Tifton sandy loam consists of a gray or grayish-brown loamy sand, passing at about 6 inches into a pale-yellow loamy sand to light sandy loam, which extends to a depth of 10 to 15 inches. The typical subsoil consists of a grayish-yellow friable sandy clay, but in places mottlings of red or reddish yellow occur in the lower part of the 3-foot section. In general the subsoil is of a deeper yellow color and has a slightly firmer or denser structure than that of the Norfolk sandy loam. Small iron-oxide pebbles are scattered abundantly over the surface and disseminated through both the soil and subsoil.

Included in this type are a few spots, particularly on the crests of knolls such as the hill near Hickory Hill School on the Ninetysix Road, where the surface is literally covered with ferruginous pebbles and pieces of iron crust. The surface soil in these places is a brown to reddish-brown loamy sand or light sandy loam having a reddish to almost red, friable clay subsoil. Such spots, however, are not large enough or of sufficient importance to be separated from the main type.

The Tifton sandy loam usually lies on the crests of ridges. It occurs in small scattered areas in the western part of the county. The topography is gently undulating to somewhat hilly, and the drainage is excellent.

This is considered one of the best cotton soils in Orangeburg County, producing yields of one-half bale to 1½ bales per acre. It is also well suited to the production of corn, oats, and other staple products, cowpeas, cantaloupes, and strawberries. Sweet potatoes also do well, especially on the deeper and more sandy portions of the type.

GREENVILLE SERIES.

The soils in the Greenville series have reddish-brown to dark-red surface soils and friable red sandy clay subsoils. These soils are associated with the Orangeburg soils and like them have been derived mainly from unconsolidated sands and clays forming the Coastal Plain deposits. The subsoils have been influenced to some extent, however, by underlying limestone formations. The series is developed in the Coastal Plain section of the South Atlantic and Gulf States.

GREENVILLE FINE SANDY LOAM.

The Greenville fine sandy loam consists of a red or reddish-brown mellow fine loamy sand, 5 to 8 inches deep, underlain by a dark-red subsoil of friable fine sandy clay which extends to a depth of more than 3 feet, usually near stream courses, but elevated several feet above the swamp. The type has a gently undulating to sloping topography and is well drained. The type is of very limited extent. It occurs in a few small scattered areas in the central and western part of the county.

Very little of the type is now in forest. Where forest remains the growth consists of hickory, red oak, post oak, and white oak.

This is considered the best soil for oats in the county. It also produces large yields of corn, cotton, and cowpeas. In the cultivation of this soil heavy farm equipment is necessary.

RUSTON SERIES.

The soils of the Ruston series are gray to grayish brown and are underlain by reddish-yellow to yellowish-red or dull-red, moderately friable subsoils, prevailingly of sandy clay. The series holds an intermediate place between the Orangeburg and Norfolk soils in the color of its subsoils, and a similar place between the Orangeburg and Norfolk, on the one side, and the Susquehanna on the other side, in point of subsoil structure. Occasionally the lower subsoils are mottled with gray and shades of yellow. The soils are closely associated with the Orangeburg and Susquehanna and are probably derived from practically the same formation as the Orangeburg.

RUSTON SAND.

The Ruston sand consists of a grayish-brown, brownish-gray, or light-brown medium sand, 8 to 24 inches deep, underlain by a red, reddish-yellow, yellowish-red or yellowish-brown sand, which in the lower portion of the 3-foot section grades into a yellowish-red sand.

In some places the surface soil is a loamy sand to a depth of 4 to 8 inches, underlain by a grayish-yellow sand to a depth of about 24 to 30 inches, which is in turn underlain by a pinkish-red sand containing more clay and silt than the upper portion of the section.

In other places the surface soil resembles very much that of the Norfolk sand, being a very light gray in color, and in still others it has very much the appearance of the Orangeburg sand.

This type although not developed in extensive areas is widely scattered over the county. Its largest development is along the ridge which extends from below Rowesville to Branchville. This ridge overlooks the broad terrace of the North Fork Edisto River and the soil extends down the slope to the boundary of the alluvial soils.

The topography ranges from ridgy and sloping to flat, the latter resembling very much the topography found in phases of Norfolk fine sandy loam and Norfolk sandy loam. The Ruston areas are, nevertheless, well drained, except in narrow strips bordering Portsmouth areas.

The Ruston sand is considered a somewhat better soil than the Norfolk sand, though not so good as the Orangeburg sand. It grades into these soils in such a way that in many places it is rather difficult to find definite boundaries. In such instances the lines of separation have been more or less arbitrarily placed.

Where the supply of organic matter is sufficient the type produces large yields of cowpeas, beans, and rye. It is too light to make a good agricultural soil, except under special conditions warranting the intensive production of early truck or other special crops.

A part of the Ruston sand supports a growth of longleaf pine and scrub oak.

RUSTON SANDY LOAM.

The surface soil of the Ruston sandy loam consists of a loamy sand, gray or brownish gray to a depth of 6 inches and pale-yellow or reddish-yellow loamy sand of the same or slightly heavier texture to a depth of 12 to 20 inches. Below this is encountered the typical subsoil, consisting of a yellowish-red or reddish-yellow, moderately friable sandy clay. This type, like the Ruston sand, occupies an intermediate position as regards color, particularly that of the subsoil, between the Norfolk sandy loam and the Orangeburg sandy loam. Sometimes a narrow strip of Ruston sandy loam occurs between areas of Norfolk and Orangeburg sandy loams, but being only one or two hundred feet wide it was impossible to make a separation and it was usually included in the Norfolk sandy loam. In places the surface material is a rusty brown and is either a loamy sand or sandy loam and in others it has a faint reddish cast, while the subsoil is the usual reddish yellow or yellowish red. The subsoil is somewhat heavier and sometimes more compact than that of the Norfolk sandy loam.

Included in this type are small patches of Ruston coarse sand.

The Ruston sandy loam occupies gently rolling slopes and undulating areas adjacent to stream courses and is well drained. Contour cultivation is employed by the better class of farmers, as this soil is more susceptible to erosion than most of the other sandy loam types.

This type occurs in comparatively small areas throughout the county. The most extensive areas are along Four Hole Swamp, at and north of Orangeburg, and in the vicinity of Woodford.

The Ruston sandy loam is considered a good soil for general farm crops and is utilized principally for cotton, corn, and oats. The yields vary with the methods of cultivation and the quantities of manure and commercial fertilizers used. In ordinary seasons corn yields between 20 and 40 bushels per acre, with an application of about 700 pounds of an 8–4–4 fertilizer mixture. Cotton produces from a half bale to more than one bale per acre, the average being a little less than one bale. Applications of fertilizer used for cotton are heavier than for corn. Oats do well, yielding from 25 to 75 bushels per acre. Commercial fertilizer high in acid phosphate is used in the growing of oats, usually a 10–2–2 or 10–5–2 mixture.

Ruston sandy loam, limestone influence phase.—In the section north of Eutawville there are areas of the Ruston sandy loam in which the underlying marl and limestone lie very close to the surface. Such areas have been shown on the map by crosslines.

The surface soil of these areas is a brownish-gray to brownish-yellow loamy sand. The subsoil proper begins from 8 to 20 inches and is a yellowish-red, rather stiff sandy clay, which at about 24 inches grades into a reddish-yellow or reddish-brown, stiff, compact clay. Included in this phase are small spots where the surface sandy soil is only a few inches in depth and the subsoil is stiff, tough clay, of yellowish-red to reddish-brown color, containing fragments of shells and limestone. This subsoil has evidently been derived from or greatly influenced by the weathering of shells, marl, or limestone rock. Marl and limestone outcrop on the slope around Eutaw Spring.

There are only small patches of the phase that appear to have been derived directly from the underlying marl or limestone, but practically all of the area shown as this phase has the stiff and compact subsoil and seems to be more or less influenced by these limy formations.

This soil is locally known as "limestone land." Crop yields, however, are not materially different from those obtained on the typical Ruston sandy loam. Cotton, corn, and cowpeas are grown. Vetch and soy beans are also successful crops. Joint grass and nut grass are much more abundant on this phase than on the typical Ruston sandy loam.

The topography of the Ruston sandy loam, limestone influence phase, varies from gently rolling to steeply sloping, the latter character of surface occurring especially where limestone sinks appear, as near Eutaw Spring. The land is well drained. Included in this phase are narrow strips bordering the sink holes where the clay of the subsoil is exposed, the sandy covering having been washed into the sink. Hillside cultivation, with terraces and dams, should be employed to prevent the washing off of the sandy material.

RUSTON FINE SANDY LOAM.

The surface soil of the Ruston fine sandy loam consists of a brownish-gray, mellow fine sandy loam or loamy fine sand, having a depth of about 4 to 6 inches, and underlain by a brownish-yellow fine sandy loam to a depth of 8 to 12 inches. Beneath this is found the true subsoil, consisting of a yellowish-red, stiff, tough clay, which is mottled in the lower part of the profile with ocherous-colored material.

This type occurs in close association with the Ruston sandy loam, and is developed near the town of Ferguson, in the extreme eastern part of the county. It occupies about the same topographic position as the Ruston sandy loam, as developed in this section of the county, except that it is not as rolling. Sink-hole drainage is common in areas of the type.

The Ruston fine sandy loam is adapted to about the same crops as the Ruston sandy loam.

PORTSMOUTH SERIES.

The Portsmouth series includes dark-gray to black soils, resting on light-gray or mottled gray and yellow subsoils. The soils are high in organic matter, and the heavier members are always plastic, though carrying a noticeable quantity of sand. The soils of this series are developed in flat or slightly depressed, poorly drained areas. The series is most extensively developed in the flatwoods or low seaward portion of the Coastal Plain east of the Mississippi River, though scattered areas are found also in the higher parts of the Coastal Plain country.

PORTSMOUTH SANDY LOAM.

The surface soil of the Portsmouth sandy loam consists of about 6 to 8 inches of dark-gray to almost black light sandy loam, which passes into a subsurface layer of light-gray sandy loam. The subsoil proper, lying from 10 to 15 inches below the surface, consists of a mottled gray and yellow, stiff, sticky sandy clay. In many of the better drained areas which have been in continual cultivation for a number of years the gray to dark-gray color of the surface predominates, and more yellow mottlings usually occur in the subsoil. In a few of the wetter areas and in the depressions the surface soil is a black, heavy sandy loam or loam containing much organic matter and the subsoil is prevailingly a drab or gray, stiff, sticky, sandy clay, occasionally showing a few mottlings of rusty-brown color.

The Portsmouth sandy loam is closely associated with the Norfolk sandy loam, flat phase, and it was very difficult in many instances to make a distinct separation of the two, owing to the topography and to the fact that one grades gradually into the other.

This type is very extensively developed, occurring in the east-central and eastern sections of the county. It occupies characteristically flat and level areas and slight depressions, the latter representing usually what are locally known as cypress bays or ponds.

The surface drainage is generally very poor and artificial drainage is essential for crop production. A few small areas of the type occur in the western part of the county and are comparatively easy to drain, while those areas occurring in the Bowman section are often very large and the flat topography makes drainage difficult. Nevertheless considerable areas of the Portsmouth sandy loam have been drained and are in cultivation, being utilized principally for cotton, corn, cowpeas, and winter oats. The yields are usually good. Small garden patches are planted to cabbage and usually give satisfactory yields.

The vegetation on the wooded areas of the Portsmouth sandy loam consists of longleaf pine, poplar, cypress, gum, willow oak, and water oak, with an undergrowth of bamboo and cane. On some areas the growth is practically all cypress, while on others it is composed of longleaf pine, interspersed with poplar. Portions of the type have a very dense timber growth, while in other places it is sparse. On the latter areas there is usually an abundance of wild grass.

Small patches are sown to rice, which is planted in rows and cultivated. Owing to the large proportion of sandy material in the soil and to the impracticability of irrigation, it is not suited to the growing of this crop on a commercial scale.

Spanish peanuts are grown in considerable quantities, both in fields used exclusively for their production and with other crops, especially early corn.

Many areas of this type are fenced and afford good pasturage for hogs and cattle.

Until a few years ago the value of the Portsmouth sandy loam was determined by the amount of forest growth upon it, but since it has proved to be such a valuable soil when drained, its value has been influenced also by the cost of drainage.

On account of the compactness of the soil and subsoil it is often necessary to put the drainage ditches, which are open, very close together. This cuts the farm into many small fields and makes it almost impracticable to use labor-saving machinery. Underdrainage would avoid this.

PORTSMOUTH FINE SANDY LOAM.

The Portsmouth fine sandy loam consists of a dark-gray to almost black loamy fine sand to light sandy loam, 5 to 8 inches deep, underlain by a subsurface layer of light-gray fine sandy loam or loamy fine sand, extending to 12 or 15 inches, where it rests on a mottled gray

and yellow fine sandy clay. In some places the subsoil is a drab-colored, stiff, fine sandy clay; in others it is a friable sandy clay to sandy loam.

This type occurs in close association with the Portsmouth sandy loam and the Norfolk sandy loam, flat phase, and has a very small development in the county. It occurs mainly in the extreme eastern part of the county, with one area of fair size northeast of Orangeburg and smaller areas in the western section of the county. In crop adaptation and yields, cultural requirements, topography, and drainage conditions, this type is similar to the Portsmouth sandy loam.

Cahaba Series.

The types of soil included in the Cahaba series have brown to reddish-brown surface soils and yellowish-red to reddish-brown subsoils. The series occupies old stream terraces lying largely above overflow, and includes the best drained areas on such terraces. It is formed from old alluvial deposits. It is extensively and typically developed in the Coastal Plain of Alabama and Mississippi, but may be expected to occur anywhere within this physiographic province where high terraces are encountered.

CAHABA SANDY LOAM.

The surface soil of the Cahaba sandy loam consists of a brownish-gray to light-brown loamy sand, changing at 6 to 8 inches to a brownish-yellow loamy sand, which extends to a depth of 12 to 15 inches. The subsoil is a reddish-yellow friable sandy loam, passing with increase in depth into a reddish-yellow to red sandy clay. Included in this type are small areas of Cahaba coarse sandy loam and Cahaba fine sandy loam.

The Cahaba sandy loam has its main development on the terrace of the Santee River, in the eastern part of the county. It also occurs to a small extent along the South Fork Edisto River, near Springfield, on a terrace higher than the Kalmia sandy loam.

Only a part of the type along the Santee River is cultivated. It gives good yields of cotton, cowpeas, peanuts, berries, and medium early truck crops. Corn does fairly well. The soil responds readily to fertilization. It is in need of organic matter.

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

Mechanical analyses of Cahaba 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.*
242141	Soil	2.2	15.2	17.0	20.2	18.2	21.9	5.5
242142	Subsoil	1.0	9.2	12.3	14.4	13.8	31.9	17.4

KALMIA SERIES.

The Kalmia series includes types with gray to grayish-yellow surface soils and mottled gray and yellow subsoils. The series is developed along streams of the Coastal Plain region on terraces lying largely above overflow. It occurs most extensively in the Gulf States east of the Mississippi River, but also in other parts of the Coastal Plain. The soils in this series are formed from old alluvial deposits.

KALMIA SAND.

The Kalmia sand consists of a gray to brownish-gray medium sand, passing at about 5 to 8 inches into a pale-yellow, brownish-yellow, or light-gray medium sand, which usually extends to a depth of 3 feet or more. It is rather loose in character, especially when dry. In local areas the lower part of the 3-foot section is composed of coarse sand. In a few places the surface soil is a whitish to light-gray medium sand, which grades into a grayish-yellow to brownish medium sand at about 10 inches and extends to a depth of 3 feet or more. Such areas occur in close association with the Sandhill. The vegetation here consists of a growth of scattered pine, small longleaf pine, scrub oaks, large brushes of wire grass, gallberry, huckleberry, and prickly pear.

The type is fairly well drained. It occupies second bottoms or low terraces usually lying about 10 feet above the Swamp areas. It occurs along Four Hole Swamp north of Goodby Swamp, and in scattered areas along the South Fork Edisto River.

A few small areas of this type are under cultivation, but it is so inextensive in the county that it is of little agricultural importance.

KALMIA SANDY LOAM.

The surface soil of the Kalmia sandy loam consists of a gray to dark-gray loamy sand, 6 inches deep, resting on a pale-yellow loamy sand which at 10 to 15 inches passes gradually into the subsoil of a yellow, friable sandy clay. In the better drained areas the subsoil has a slightly reddish cast, while in the poorer drained areas there is a noticeable degree of gray mottling. Spots of Myatt sandy loam, too small to be shown separately on a map of the scale used, are included in the areas shown as Kalmia sandy loam.

The Kalmia sandy loam is developed on the second bottoms or low terraces along the North Fork Edisto and South Fork Edisto Rivers. Areas of this type are widely distributed over the county. The largest occurs immediately across North Fork Edisto River from Orangeburg. It is a little over one-half mile in width. The terrace here rises gradually toward the upland areas of Norfolk sand and Norfolk sandy loam and borders the flatter areas of Myatt sandy loam and Swamp.

The soil is usually well drained, but surface ditches would improve the flatter areas, which are likely to become water-logged after continuous rains. It seldom suffers from drought.

It is well adapted to the early truck crops, such as beans, peas, radishes, and cantaloupes. The addition of commercial fertilizers in considerable quantities is necessary in order to produce increased yields. Corn, cotton, and oats give fair returns, the yields being relatively better on the type than on the upland types, during dry seasons. Where favorable economic conditions exist the soil is a good one to use in the production of early truck crops.

KALMIA FINE SANDY LOAM.

The surface soil of the Kalmia fine sandy loam is a gray loamy fine sand, passing into a pale-yellow loamy fine sand at about 5 to 8 inches. The typical fine sandy clay subsoil begins anywhere between 10 and 20 inches and extends to a depth of 3 feet or more. In some of the flatter, poorly drained areas the subsoil in the lower part of the 3-foot section is more or less mottled with gray or brownish gray. Small included patches of Myatt fine sandy loam and sandy loam are mapped with the Kalmia. It occupies second bottoms or low terraces along the larger streams and forms islands in the Swamp along North Fork Edisto and South Fork Edisto Rivers. The terraces usually have a gentle slope toward the stream, but in places the surface is flat and the natural drainage poor. Open ditches are therefore required for much of the type before cultivation is practicable. When well drained it produces fair yields of oats, cotton, corn, and sorghum. The addition of commercial fertilizers is said to be necessary in farming this soil.

MYATT SERIES.

The Myatt series includes types with gray surface soils and gray to mottled gray and yellow impervious subsoils. These soils occur on terraces lying along streams in the Coastal Plain region. They lie mainly above overflow, but are flat and poorly drained. The old alluvium from which they are derived consists mainly of reworked Coastal Plain materials.

MYATT SAND.

The Myatt sand consists of a light-gray to dark-gray medium sand 5 to 8 inches deep, underlain by a light-gray medium sand, which extends to a depth of 3 feet or more. This type occurs in close association with the Myatt sandy loam and is developed on the low ridges and level areas in the second bottoms and on low terraces. The lower part of the 3-foot section is usually saturated with water. Artificial drainage is necessary. The type occurs mainly in scattered areas along the South Fork Edisto River.

The Myatt sand is less productive than the Kalmia sand, and it is very expensive to maintain proper drainage, because of the rapid filling of the ditches. When well drained it produces fair yields of cotton and corn and is well suited to the growing of early truck crops.

MYATT SANDY LOAM.

The surface soil of the Myatt sandy loam consists of a light-gray to dark-gray medium light sandy loam, 6 to 10 inches deep. The subsoil of typical and more uniform areas is a tough gray sandy clay mottled with yellow and brown. As mapped small spots of Myatt fine sandy loam, Myatt sand, and Myatt fine sand, are included, and a few slightly depressed spots containing sufficient organic matter to produce a loamy texture and a black color would have been mapped as Myatt loam if larger. In places the sandy clay of the subsoil is displaced by a substratum of white sand, occurring usually between 32 and 40 inches.

This type occupies the low terraces or second bottoms along the rivers and a few of their larger tributaries. It has its greatest development along the lower part of the North Fork Edisto River. It also occurs in scattered areas along the South Fork Edisto River and along Cow Castle Creek, Providence Swamp, and Horse Range Branch.

The greater part of the type is not subject to overflow, but some of the lower lying portions are inundated occasionally. The soil is usually compact and requires thorough drainage before it can be successfully cultivated. Shallow surface ditches are sufficient to reclaim most of this type for the growing of cultivated grasses.

The areas under cultivation produce good yields of corn, oats, and cotton. The small areas having a black surface soil are especially suited to the production of oats and corn, and with the use of liberal quantities of lime large crops are obtained.

The timber growth on the Myatt sandy loam is somewhat scattering, but in places there is sufficient to increase considerably the price of the land.

In the following table the results of mechanical anaylses of samples of the soil, subsoil, and lower subsoil of this type are given:

Mechanical analyses of Myatt 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.*
242113.....	Soil.....	8.7	29.0	8.7	12.6	21.8	9.7	9.5
242114.....	Subsoil.....	7.6	22.2	7.0	11.4	25.7	8.4	17.4
242115.....	Lower subsoil...	23.0	42.9	6.5	8.1	9.6	2.8	6.9

MYATT FINE SANDY LOAM.

The surface soil of the Myatt fine sandy loam consists of a gray to dark-gray fine light sandy loam or loamy sand, with a depth of 5 to 10 inches. The typical subsoil is a mottled gray and yellow, stiff, sticky fine sandy clay, which extends to a depth of 3 feet or more. The lower part of the profile, from 32 inches downward, is often composed of a coarse white sand and this stratum is sometimes encountered as near the surface as 15 inches. This sand is invariably saturated with water. In other places a compact, tough clay may occur near the lower limit of the 3-foot section. Often the color of the subsoil is a steel gray, with no mottlings, and not infrequently it is grayish white.

This type occurs in close association with the Myatt sandy loam. The principal areas are at the junction of Whirlwind Creek and the North Fork Edisto River, and along the South Fork Edisto River at the mouth of Roberts Swamp. It is adapted to practically the same crops as the Myatt sandy loam. The soil is poorly drained and ditches are used to make the land suitable for cultivation.

The soil and subsoil of this type are used in the manufacture of brick.

BIBB SERIES.

The Bibb series is marked by light-colored to white, compact surface soils and by compact, plastic, and white or mottled white and yellowish subsoils. These soils are developed in the first bottoms of streams and are subject to overflow and to intermittent wet and dry stages. The material is derived principally from the Coastal Plain soils.

BIBB SANDY LOAM.

The Bibb sandy loam consists of a gray to dark-gray sandy loam, 5 to 8 inches deep, passing into a light-gray to almost white loamy sand, and resting at 12 to 15 inches on a subsoil of mottled yellow and gray sandy clay.

This type has but a small development in the county, being found only in a few places in the first bottoms of the rivers and large creeks. It occurs along Bull Swamp Creek and the North Fork Edisto River, in the northwestern part of the county and in smaller areas along the South Fork Edisto River. One area is developed immediately south of Orangeburg. It is subject to frequent inundation, except where it has been diked and brought under cultivation, such as the area immediately west of Orangeburg.

The Bibb sandy loam does not differ materially from the Myatt sandy loam, except that the latter is not subject to overflow. The soil produces fair yields of cotton, but is best suited to oats, corn, cowpeas, and grasses.

JOHNSTON SERIES.

Soils of the Johnston series are distinguished by the black color of the surface and the gray, yellow, and brownish color of the subsoils. These soils are alluvial first-bottom soils in the Coastal Plain region. They are subject to overflow. They are derived from materials washed for the most part from Coastal Plain soils, with an admixture of material from Piedmont soils along streams issuing from that province into the Coastal Plain province. In the present survey this soil occurs in low second-bottom areas.

JOHNSTON SILT LOAM.

The surface soil of the Johnston silt loam, to a depth of about 10 to 15 inches, is a black, mellow silt loam, containing a large amount of thoroughly decomposed organic matter. The subsoil is a smooth, plastic drab silty clay, which shows a few streaks or slight mottlings of rusty brown. The clay content of the subsoil increases with depth and in some places in the lower part of the 3-foot section it is a gray to dark-gray heavy, sticky, tough clay. Included in this type are spots of material varying in texture from fine sandy loam to coarse sandy loam, too small to map as a distinct type.

The Johnston silt loam occupies lagoon depressions in the low second bottoms, lying about 1 to 2 feet below the general level of the Myatt sandy loam, which surrounds it. Its principal development is along the east side of the North Fork Edisto River and the Edisto River, extending from the vicinity of Rowesville southward to the Dorchester County line.

The type has poor natural drainage, and during the winter and early spring most of it is covered, or at least thoroughly saturated, with water.

None of this type is under cultivation and only a part of it has any forest growth. If drained and reclaimed, it should produce large yields of corn, oats, and grass. Certain truck crops could be grown where facilities for marketing are favorable. It has the appearance of being one of the most productive soils for these crops in Orangeburg County.

MISCELLANEOUS MATERIAL.

SANDHILL.

Sandhill embraces areas of a white, loose, incoherent sand, having a depth of 3 to 10 feet or more. The sand is for the most part of medium texture, but it varies from a fine sand to a coarse sand in local areas. The sand is almost entirely of pure white quartz, with little or no admixture of organic matter. It has no value for agriculture.

Small areas of Sandhill lie in the second bottoms of the Edisto River, in the extreme southern corner of the county. The type has

a gently rolling and hummocky surface. In a few places it supports a scattering growth of scrub pine and oaks, including the forked leaf and blackjack oaks, and a sparse undergrowth of cactus, rosemary, and huckleberry. Part of the surface, however, is bare of vegetation, and such areas have the appearance of snow banks.

SWAMP.

Swamp includes the low-lying first-bottom areas along the rivers and streams of the county. The soil material is so variable from place to place that no definite textural classification was deemed practicable. In many places the surface soil is a black sandy loam, while in others it is almost a muck, and the extreme range in texture is from a loose sand to a clay. The larger bodies of it are perhaps best described as a sandy loam or mucky loam. Especially is this true of the larger areas along both forks of the Edisto River. Along some of the smaller streams the material is both alluvial and colluvial in origin and very variable in texture.

The type is subject to heavy and protracted overflows and the greater part of it remains in a water-logged condition throughout the year. Some of it is covered with water continually.

The characteristic vegetation includes gum, bay, cypress, and maple, with a thick undergrowth of water-loving plants and vines, such as bamboo and cane.

No doubt many areas of productive soil are included in the Swamp, but the cost of reclaiming them by diking and pumping would be great.

SUMMARY.

Orangeburg County is situated in the south-central part of the State of South Carolina. It has an area of 1,098 square miles, or 702,720 acres. The surface features range from level to gently rolling. The North Fork Edisto and South Fork Edisto Rivers drain the western half of the county, and the Santee River and Four Hole Swamp are the main drainage lines of the eastern half. Drainage is poorly established in the flat country south and east of Orangeburg.

The principal towns are Orangeburg, the county seat, with a population of about 6,000, and Branchville, with a population of about 1,500. Numerous small towns are scattered throughout the county, varying in population from 100 to 750.

Four railway systems, besides the narrow-gauge road from Branchville to Bowman, operate in the county.

The climate is generally mild, and permits the growing of a great variety of crops. The mean temperature of the winter months is 46° F. and of the three warmest months 81° F. The rainfall is well distributed, being greatest during the growing season.

About half of the land in the county is under cultivation.

Cotton is the chief money crop, corn, oats, and cowpeas the principal feed and forage crops. Potatoes, beans, rice, watermelons, cantaloupes, sugar cane, peanuts, rye, vetch, truck crops, berries, and fruits are grown to supply in part the home demand. Some truck is grown for shipment to northern markets.

Commercial fertilizers are used extensively on all the soils in the county.

Rotation of crops is practiced on many of the farms, especially those operated by the owners.

There are 27 distinct soil types in the county. Most of these belong to the Coastal Plain province, and the remainder to the River Flood Plain province. These are grouped in 11 series and two miscellaneous types, Swamp and Sandhill.

The Norfolk coarse sand is the lightest soil in the county. It is not suited to general farming, but could be used for early trucking. It has a gently rolling to rolling topography and is well drained.

The Norfolk sand is widely distributed throughout the county. It is utilized for trucking and in some instances for general farming. The topography varies from very gently rolling to sloping. The type is usually well drained.

The Norfolk fine sand is more retentive of moisture than the other sands in the Norfolk series. It is used principally in growing the general farm crops.

The Norfolk coarse sandy loam is not developed to any great extent, occupying only small areas in the uplands on stream divides and at the heads of stream courses. Light yields of corn and cotton are obtained.

The Norfolk sandy loam is well suited to growing the general farm crops. It is also utilized for trucking. It responds readily to good treatment and is one of the best soils in the county. Its topography is gently undulating to somewhat sloping. The drainage is well established.

The Norfolk sandy loam, flat phase, differs from the typical soil in its flatter topography and poorer drainage. When drained the phase is somewhat more productive than the typical soil.

The Norfolk fine sandy loam has a small extent in the county. It is suited to about the same crops as the Norfolk sandy loam and there is little difference in the yields.

The Norfolk fine sandy loam, flat phase, is only developed in the southeastern part of the county. It has a flat topography and the natural drainage is poor. When properly drained it is well suited to the production of the general farm crops.

The Orangeburg sand occurs only in very small areas. It is the heaviest of the sand types found in the county and the general farm crops do relatively well on it.

The Orangeburg sandy loam is one of the strongest soils in the county and most of it is under cultivation. Corn, cotton, oats, cowpeas, and all other general farm crops do exceedingly well on this type.

The Orangeburg fine sandy loam has a small extent in the county. It is well drained and occupies nearly level to gently rolling areas. Cantaloupes and peaches do well on this type.

The Tifton sandy loam is one of the best cotton soils in the county. It is also well suited to the growing of oats and other staple crops. The topography is gently undulating to somewhat hilly, drainage is good, and the yields are usually higher than on the associated Norfolk soils. Only a small area of the type occurs in the county.

The Greenville fine sandy loam is considered the best oat soil in the county. It is also well suited to corn and cotton. The type is well drained, the topography being slightly undulating to rolling.

The Ruston sand is not quite so productive as the Orangeburg sand, but is slightly more so than the Norfolk sand. It represents material intermediate between the yellow Norfolk sand and the red Orangeburg sand.

The Ruston sandy loam is somewhat heavier than the Norfolk sandy loam and often more compact. This type is developed on gently rolling slopes and undulating areas which have good natural surface drainage. The Ruston sandy loam as developed in the eastern part of the county is influenced to a considerable degree by the underlying shell marl. It is planted to the same crops as the typical soil.

The Ruston fine sandy loam has about the same surface features, drainage conditions, and crop value as the sandy loam of the series.

The Portsmouth sandy loam has a wide distribution, being the second most extensive type in the county. It occupies level areas and slight depressions, the latter representing usually cypress bays or ponds, and is very poorly drained.

The Portsmouth fine sandy loam, like the Portsmouth sandy loam, occupies flat and level areas and slight depressions and is poorly drained.

The Cahaba sandy loam is the best drained of the terrace soils. It is durable and suited for growing corn, oats, and medium late truck crops.

The Kalmia sand occupies low terrace or second-bottom areas, usually about 10 feet above the Swamp areas. It has only fair surface drainage. It is texturally better suited to trucking than to growing the general farm crops.

The Kalmia sandy loam is never overflowed and possesses fair surface drainage. It is utilized for trucking and to some extent in growing the general farm crops.

The Kalmia fine sandy loam is well drained. It has about the same crop value as the sandy loam.

The Myatt sand is not as productive or as well drained as the Kalmia sand, and the lower portion of the 3-foot section is usually saturated with water. The type can be improved readily so that it may be used for the grass crops.

The Myatt sandy loam is the most extensive of the River Flood Plain soils. It occupies low terraces and is poorly drained. Fair yields of the ordinary crops are obtained from areas that are properly drained.

Conditions on the Myatt fine sandy loam are very similar to those on Myatt sandy loam.

The Bibb sandy loam does not differ materially from the Myatt sandy loam, except that it is subject to overflow, while the Myatt sandy loam is not. It occupies first-bottom areas and must be diked before it can be rendered suitable for cultivation.

The Johnston silt loam is the heaviest of the terrace soils and has every appearance of being one of the most productive soils in Orangeburg County. Its drainage conditions must necessarily be improved before it can be cultivated.

Sandhill has no agricultural value.

Swamp includes the low-lying first-bottom areas along the larger streams and the narrow strips along the smaller streams and creeks, where the material is so variable in character that no definite textural classification could be made. It ranges in texture from a loose sand to a stiff clay. It has no agricultural value at present.

Orangeburg County is one of the largest and best farming counties in the State. The mellow character of the soils, coupled with the favorable surface features, invites the use of all kinds of labor-saving machinery. It offers advantages to the small farmer and home seeker.

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