Morphological, Chemical, and Physical Characteristics of Eighteen Representative Soils of the Atlantic Coast Flatwoods

by

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Southern Branch
Soil and Water Conservation Research Division
Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

in cooperation with

University of Georgia
COLLEGE OF AGRICULTURE EXPERIMENT STATIONS

May 1969 Research Bulletin 59

University of Georgia

College of Agriculture Experiment Stations

Athens, Georgia

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INTRODUCTION

The Atlantic Coast Flatwoods occupies approximately 42,800 square miles along the Atlantic Coast from Florida to the Delmarva peninsula. The width of the area varies from 20 to 50 miles. There are approximately 7.5 million acres in Georgia and 6.7 million acres in South Carolina. The topography is level to gently rolling. A series of marine terraces, roughly paralleling the coast, extend inward from sea level to an elevation of approximately 100 feet. Several large streams enter from the north and west and receive drainage from tributaries that arise within the area. The lower lying flat terraces do not have well-defined drainage systems, and runoff moves slowly through broad sloughs into slow-moving streams and finally into the ocean.

CLIMATE

Average annual rainfall ranges from 52 inches along the coast to about 44 inches along the inland boundary of the area (Figure 1). Distribution of rainfall is fairly good throughout the year. Rainfall is highest during June, July, August, and September

[1]Contribution of the Southern Branch Soil and Water Conservation Research Division, Agricultural Research Service, USDA, and the Georgia Agricultural Experiment Stations.
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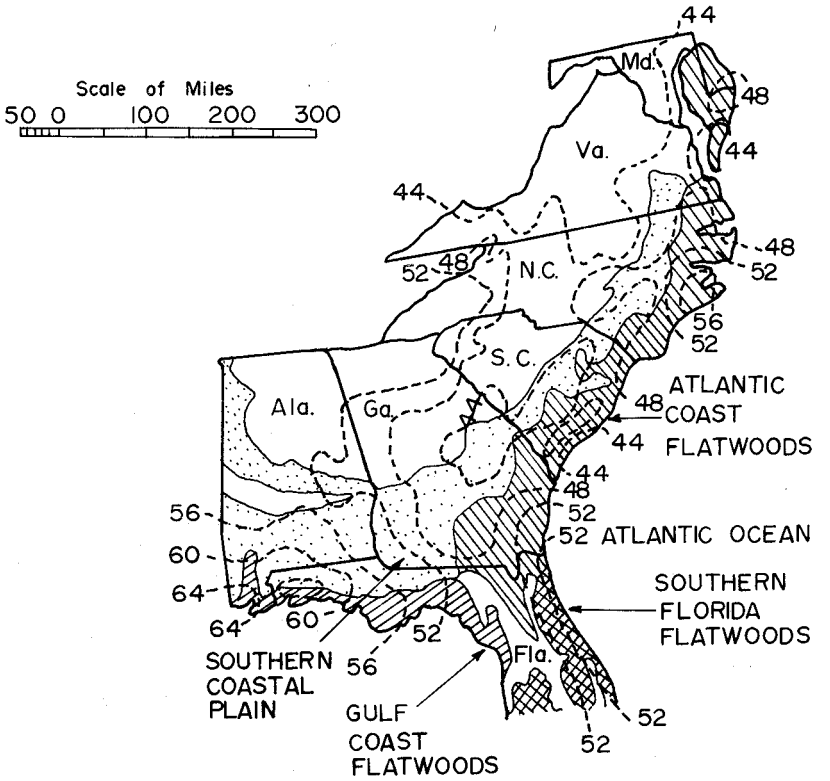

Figure 1. Location of and Average Annual Rainfall in the Atlantic Coast Flatwoods Area.

and is usually lowest in November. Thunderstorms with high rainfall intensities occur often in summer and occasionally at other times of the year. Although rainfall usually is fairly well distributed throughout the year, relatively short dry periods may occur during any month.

The climate is oceanic, warm temperate to semitropical (15). Temperatures are higher in winter and lower in summer near the coast than inland. The number of freeze-free days per year ranges from about 240 along the inland boundary to 300 along the coast (Figure 2).

LAND USE

Although the area is well suited to farming, most of it is in forest with about one-eighth in cropland (1). Acreages of field

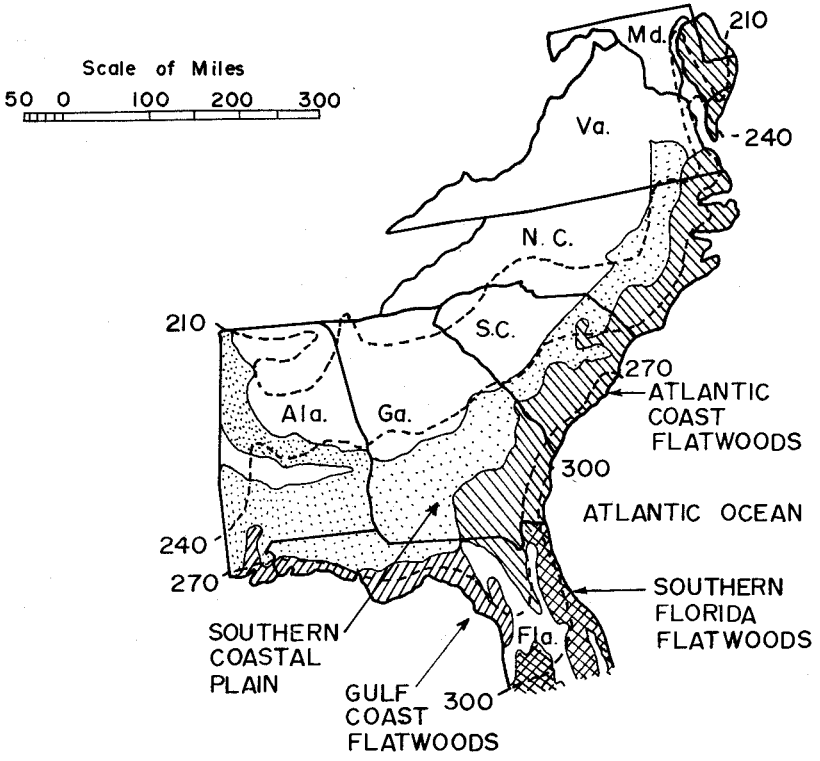

Figure 2. Average Number of Freeze-Free Days per Year in the Atlantic Coast Flatwoods Area.

crops such as corn, cotton, and tobacco generally increase inland from the coast. The mild temperatures, relatively high rainfall, and soil characteristics make the area suitable for pastures and considerable acreage is devoted to this use. Permanent summer pastures are usually Coastal bermudagrass and bahiagrass, or both. Temporary winter pastures usually consist of oats or rye. Rye is sodseeded on permanent summer pastures to a limited extent. Fescue in combination with white clover makes excellent cool season permanent pastures on some of the finer textured soils.

GENERAL SOIL CHARACTERISTICS

The soils are developed primarily from beds of unconsolidated marine sands and/or clays, with limited areas from marl. Soils are mostly Ultisols but areas of Alfisols, Spodosols, and

Entisols occur. Texture of the surface soils ranges from sands to loams, and that of the subsoils from sands to clays. Natural drainage varies from excessive to very poor. Topographically, the area is nearly level and erosion is none to slight.

The favorable topography, abundant surface and subsurface water resources, and mild climate of the Atlantic Coast Flatwoods area create a high potential for production of vegetables and other important agricultural crops. The water control problems and wide variations in soil texture and other properties make management of these soils difficult. Detailed information is needed on the physical and chemical properties of these soils to enhance their use as demands for more land develop.

OBJECTIVES

A study was initiated in 1961 to obtain information on some of the more fundamental morphological, chemical, and physical characteristics of certain Atlantic Coast Flatwoods soils. Information relative to soils of this area is quite limited. The principal criteria used in selecting soils for study were their prevalence and the percentage in cropland and pasture. The principal objectives of the study were (a) to evaluate water retention and transmission characteristics of these soils, (b) to determine selected physical and chemical properties of these soils that affect their management, and (c) to determine the index of acidity susceptibility under aerobic conditions.

METHODS

Three sites of each of 18 soil series were selected for the study. The locations ranged from southeastern Georgia to northeastern South Carolina (Figure 3). Sites within series were located at least 25 miles apart and in most instances were more than 50 miles apart. Profile descriptions of each site were provided by Soil Conservation Service personnel of Georgia and South Carolina.[3] Field descriptions were made according to the Soil Survey Manual (14).

A Uhland core sampler was used to take samples for bulk density determinations. The core cylinder was 7.6 cm in diameter and in length. The cores were trimmed and placed in one-pint

[3]The contributions of Frank T. Ritchie. Jr. and Clarance M. Ellerbe, State Soil Scientist of Georgia and South Carolina respectively, and of other soil scientists in SCS, are gratefully acknowledged.

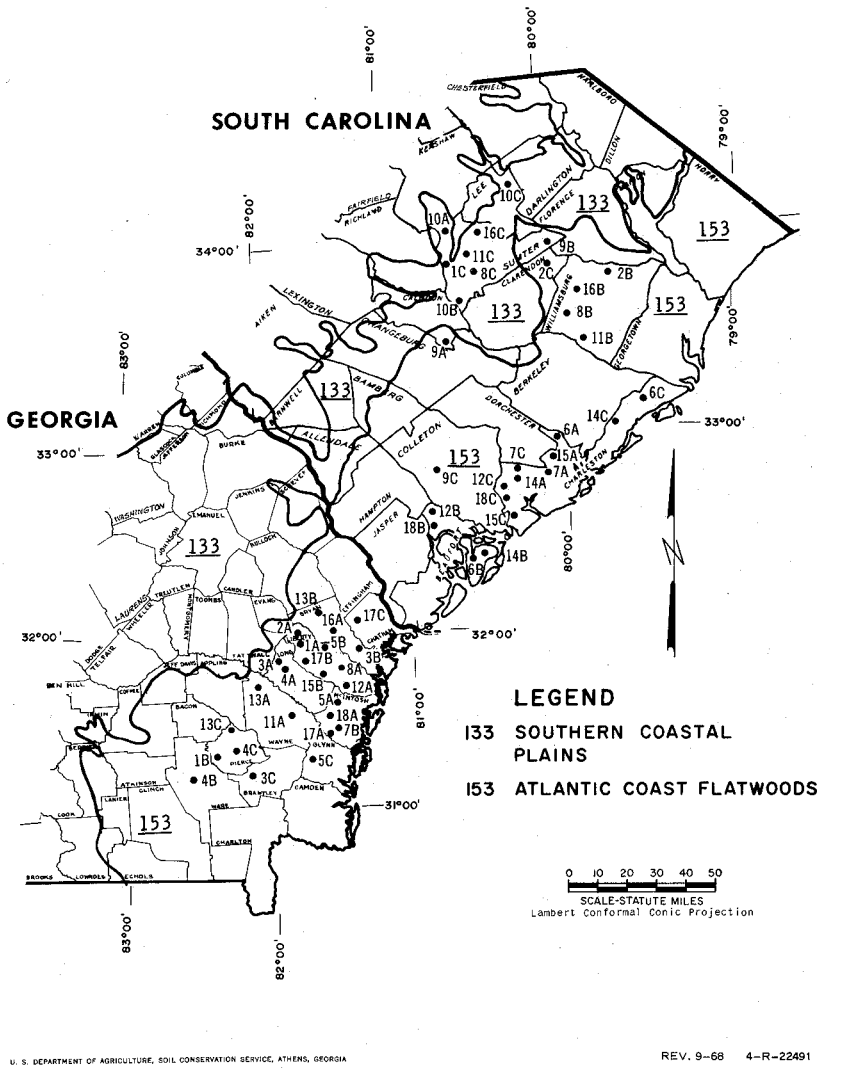

Figure 3. Location of Sample Sites in Georgia and South Carolina.

cylindrical cartons for transport to the laboratory. Where the thickness of the horizon was less than the length of the core cylinder, or where the soil was very sandy, bulk density samples were taken in 8-ounce metal cups. Samples for pH determinations were taken in one-quart polyethylene bags. Bulk bag samples were taken for moisture retention studies, mechanical analyses, and chemical analyses.

Determinations of pH were made on the moist soil using a soil to air equilibrated distilled water ratio of 1:1. Values of pH were determined electrometrically using a pH meter. The remaining sample was allowed to air-dry and pH determinations were made again using the 1:1 soil to water ratio.

The cores for bulk density measurements were dried overnight in a forced draft oven at 110°C and weighed. Bulk density was calculated by dividing the weight of the oven-dry soil, in grams, by the volume of the core in cubic centimeters (2).

Samples for mechanical analyses and moisture retention studies were air-dried and screened through a 2-mm sieve. Mechanical analyses were made using the hydrometer method of Bouyoucos (4), except that 5 ml of 1 normal sodium hexametaphosphate was used as the dispersing agent. The stirring time was 5 minutes for sands and 20 minutes for fine-textured soils.

Sand fractionations were made by washing a soil sample free of silt and clay over a 0.05-mm sieve, destroying the organic matter (7), and dry-sieving the sand for 30 minutes on a shaker which rotated and tapped the nest of six sieves with square openings of 2, 1, 0.5, 0.25, 0.10, and 0.05 mm.

Moisture retention values were determined on disturbed soil material. The pressure-membrane apparatus (9) was used to determine the 15- and 4-bar points on the desorption curve. Pressure-plate apparatus (10) was used for determining the 1-, 1/3-, and 1/10-bar values. Triplicate samples of about 20 g each were used on duplicate membranes and on the pressure plates to obtain the values on the desorption curve. Samples were allowed to remain on the pressure plates for 10 days. A previous equilibrium time study indicated that these lengths of time were required for certain of these soils to reach equilibrium. The percentage of water remaining in the soil was calculated and expressed as per cent by weight of the dry soil. The "available" water was calculated and expressed on a volume basis in terms of centimeters of water per centimeter of soil depth. The calculations were as follows: [(Percentage of H_2O by weight at $\frac{1}{3}$ bar - percentage at 15 bars) x bulk density] $\div$ 100 = cm of H_2O per cm of soil depth. The cumulative centimeters of water with depth are also shown in the tables. Soil organic matter was determined by the modified Walkely-Black method (12, 13).

Cation exchange capacity (C.E.C.) was determined by the macro Kjeldahl procedure of Peech *et al.* (8). Cations were extracted according to Peech *et al.* (8) and exchangeable Ca, Mg, K, Na, Mn, and Zn were determined by atomic absorption spectro-

photometry (5). Base saturation percentage was calculated from the difference between the C.E.C. and the sum of the exchangeable cations. Phosphorus was extracted according to Troug (11) and determined colormetrically after color development using method 1 as outlined by Jackson (6).

Hydraulic conductivity was measured *in situ* above the water table by the double-tube method of Bouwer (3). This equipment consisted of a 20-cm (8-inch) outer tube and a 13-cm (5-inch) inner tube, with the necessary fittings on top. Measurements were made near the midpoint of 102 selected horizons at the sites where profile descriptions were made of the different soils. These included two sites each of 11 soil series and three sites each of two soil series.

DATA AND DISCUSSION

Some chemical and physical characteristics of the 18 soil series are shown in Tables 1A through 18C. These 18 series were classified into four soil groups - Entisols, Spodosols, Alfisols, and Ultisols. The Entisols studied included the Lakeland and Chipley series, both classified as Psamments. The Spodosols included Leon and Ona of the Haplaquods. The Alfisols included the Meggett and Kiawah series, classified as Albaqualfs and Ochraqualfs, respectively. The largest group, the Ultisols, included Ochraquults, Fragiudults, Hapludults, and Paleudults. The Ochraquults included the Rains, Coxville, Lynchburg, Grady, Dunbar. and Bladen series. The Fragiudults included the Irvington and Edisto series; the Hapludults, the Charleston series; and the Paleudults, the Goldsboro, Fairhope, and Eulonia series.

The average available water holding capacity of the surface horizon of the 54 sites is 0.08 cm per cm of soil depth; however, there is considerable variation between soil series and within series. Considering the surface horizon, the extremes represent as much as a fivefold difference. However, some of these differences may be explained on the basis of the kind, amount, and stage of decomposition of the organic matter.

Chemical Characteristics

The chemical characteristics of the 18 soil series investigated vary widely. This variation may be expected since these soils represent four of the 10 soil orders in the comprehensive system of soil classification. Environmental conditions as induced by

man may also materially contribute to differences in these characteristics.

In general, soils are moderately to strongly acid throughout the profile except for those derived from calcareous clays such as the Meggett series (Tables 5A, B, and C) or those showing the influence of soil amendments. Soils derived from calcareous clays or those underlain by calcareous deposits have higher pH values in the lower horizons than in horizons near the surface. No significant change in soil pH occurred upon air drying. This indicated that sulfur oxidation is not a problem in these soils.

Base saturation appears to be directly related to pH, although the relationship is not as marked as one might expect. This may be a result of the amount and kind of organic matter and clay, which apparently are responsible for wide variations in the CEC values obtained. Base saturation values range from 1.0 per cent in the B3h horizon of a Leon profile (Table 3B) to 129.9 per cent in the C2g horizon of a Meggett soil (Table 5A). Values exceeding 100 per cent in the Meggett series indicate free carbonates associated with calcareous clays.

Extremes in CEC values are 0.3 meq/100g in the C1g horizon of a Leon soil (Table 3C) and 28.4 meq/100g in the B2tg horizon of a Bladen profile (Table 12C). Data for all soils show that CEC values are directly proportional to clay and organic matter contents.

In general, exchangeable Ca content varies directly with CEC except where soil horizons apparently have been influenced by management or are closely related to underlying calcareous deposits. This relationship is less evident for exchangeable Mg, which generally varies less than Ca between profiles and with depth in individual profiles.

The exchangeable monovalent cations, K and Na, are low throughout most profiles and occur in relatively uniform amounts with depth. Exceptions are of the Bladen series (Tables 12A, B, and C), one profile of the Edisto series (Tables 14B), and the Charleston series (Tables 15A, B, and C) where Na values are somewhat higher than those of other soils studied.

Exchangeable Zn and Mn and acid-extractable P varied between and among soil series and with depth within the profile. Much of the variation may be considered normal in view of the wide range in the degree of soil development and environmental conditions.

Cation exchange capacity and extractable nutrients of the

coarse-textured Quartzipsamments are relatively low as compared with soils containing more colloidal material. Exchangeable Mn content in the surface of two Lakeland profiles (Tables 1A and 1C) and acid-soluble P content in the surface layers of two Chipley profiles (Tables 2A and 2C) may be accounted for by recycling of these nutrients and subsequent accumulation in the organic fraction.

Leon (Tables 3A, B and C) and Ona (Tables 4A, B, and C) are quite low in plant nutrients throughout the profile. Chemically, there is little evidence of a spodic horizon in the Ona series since active colloidal materials do not exhibit high CEC values.

Meggett (Tables 5A, B, and C) has relatively high CEC values and exchangeable cation content. In general, values for these characteristics and base saturation increase with depth to the calcareous deposit below the solum. The Kiawah series (Tables 6A, B, and C) is markedly different from the Meggett series in most chemical characteristics. Cation exchange capacity values and exchangeable cations are low as compared with Meggett soils. Base saturation is either quite low or decreases with depth in two of the three profiles. The high P content in the Kiawah profile (Table 6A) may be due to its close association with phosphate deposits that underlie many of the soils in the Atlantic Coast Flatwoods area.

A large percentage of the Atlantic Coast Flatwoods is occupied by poorly drained Ultisols, the Ochraquults. Chemical characteristics of these soils (Tables 7-12) are more variable than those of other soils studied in this area. Cation exchange values range from a low of 1.1 meq/100g in the B1 horizon of a Dunbar profile to a high 28.4 meq/100g in the B2tg horizon of a Bladen profile. Similar variations are evident in soil pH, exchangeable cations and base saturation. The relatively high CEC values of the Bladen series, particularly in subsurface horizons, may be accounted for by the amount and kind of clay. Bladen and Coxville soils, which are closely associated geographically, contain high amounts of exchangeable Na, a characteristic not evident in most Flatwoods soils except those near sea level.

In most profiles of the Irvington (Tables 13A, B, and C) and Edisto series (Tables 14A, B, and C), the CEC values are fairly uniform with depth below the surface horizon and plant nutrient content is moderate.

The base status is lower in two Irvington profiles (Tables 13B and C) than in profiles of most Ochraquults. The presence of

a fragipan at lower depths in these profiles may have contributed to a low degree of leaching of cations, thereby resulting in a higher base status and higher pH values.

Data presented in Tables 15A, B, and C for the Charleston series illustrate a fair degree of uniformity between profiles. Although base saturation appears high, it decreases with depth. Since each of the areas studied is either in cultivation or has been in cultivation recently, variations in soil characteristics possibly are a result of different management systems.

The intensely weathered Goldsboro (Tables 16A, B, and C), Fairhope (Tables 17A, B, and C), and Eulonia (Tables 18A, B, and C) soils have deep solums and similar chemical characteristics throughout most of the profiles. Two profiles of Eulonia (Tables 18B and C) have higher Ca contents and a higher degree of base saturation and one Eulonia profile has higher CEC values than other profiles of this group. Minor variations of other characteristics occur but are probably due to previous treatment.

Physical Characteristics

One obvious characteristic of the majority of soils studied is the sandy surface horizon. Of the 54 sites investigated, 16 were loamy fine sand, 12 fine sandy loam, 10 fine sand, 8 sand, 4 loam, 2 loamy sand, and one each of sandy loam and clay loam. The fine-textured soils are almost invariably found near the coast while the sandier soils may be found inland or near the coast. In general, sand and silt decreases and clay increases with depth of profile. Sand fractionation studies showed that 87 per cent of the sand in the surface horizon is in the range of 0.25 to 0.10 mm in diameter (fine). Only 13 per cent of the sand was found in the range of 0.50 to 0.25 mm (medium). The sand size usually remained fairly constant with depth in most profiles.

Surface textures of the Lakeland (Tables 1A, B, and C) and Chipley (Tables 2A, B, and C) series ranged from fine sand to loamy sand. The majority of the sand in Lakeland is found in the medium (0.50 - 0.25 mm) and fine (0.25 - 0.10 mm) fractions. By far, the majority of the sand in Chipley was fine, reaching a maximum of 75 per cent. Bulk densities of the surface horizons range from 1.18 to 1.48 g/cc. Some of the lower horizons (about 100 cm) of the Chipley series have bulk densities as high as 1.82. The available water holding capacity of these soils is extremely low. The surface horizon of Lakeland and Chipley average only 0.04 and 0.03 cm per cm of soil depth, respectively.

The Leon (Tables 3A, B, and C) and Ona series (Tables 4A, B, and C) were extremely sandy, not only in the surface horizons but to depth of 100 cm or more. In general, the majority of the sand was either medium or fine. Bulk densities were somewhat variable. Bulk density for Leon surface horizons was about 1.4 g/cc except at one site, which was 1.09. However, the latter site contained considerably more organic matter, which may explain the lower bulk density. Bulk density values of the spodic horizons are somewhat lower than might be expected. Organic matter content of these layers is higher than expected and may explain, at least in part, the low values. The available water holding capacity of both series is extremely low except in the spodic horizons, which hold considerably more water than horizons above or below this layer.

Textures of the surface soil of the Meggett series (Tables 5A, B, and C) ranged from a loam to a loamy sand. Below about 15 cm textures are clay or sandy clay. Textural classes of the Kiawah series (Tables 6A, B, and C) are either fine sand or loamy fine sand throughout the profile. In the three Meggett profiles, sand and silt tend to decrease and clay tends to increase with depth. In two profiles of Meggett, sand size is dominated by the medium and fine fractions, but in the other fine and very fine sand fractions are most abundant. In all profiles of the Kiawah series, sand size is dominated by the fine fractions.

Bulk densities of the Meggett surface soils are considerably lower than for most soils of the area and appear to be influenced more by organic matter content than other factors. Bulk densities of the lower horizons are not usually high except at the 46-to 91-cm depth of one profile (Table 5B) which reached a value of 1.68 g/cc.

The available water in the surface horizons of Meggett is relatively low but generally increases with depth. Some of the lower horizons hold as much as 0.28 cm per cm of soil depth. One profile contained 31 cm to a depth of 127 cm.

The three profiles of the Kiawah series are quite uniform in texture, ranging from fine sand to loamy fine sand throughout the profile.

Bulk densities within each profile tend to vary with organic matter content. One surface horizon with an organic matter content of 5.6 per cent has a bulk density of only 0.87 g/cc. A C horizon of the same series with only 0.10 per cent organic matter has a bulk density of 1.79.

The available water is quite low in all horizons of the Kiawah profiles, averaging about 0.03 cm per cm of soil depth. The maximum cumulative available water in the profile is 4 cm to a depth of 122 cm.

The textures of the surface horizons of the Rains, Coxville, Lynchburg, Grady, Dunbar, and Bladen series (Tables 7A through 12C) range from loamy fine sand and fine sandy loam to clay loam. Most subsurface horizons are sandy clay loam or clay. Clay content increases markedly in the Bladen and two profiles of Coxville at depths of 13 to 31 cm.

Bulk density values of the upper horizons are closely related to the organic matter content. For example, values for Grady (Table 10B) range from 0.85 g/cc in the surface soil having an organic matter content of 6.89 per cent to 1.76 in a subsurface horizon with 0.07 per cent organic matter. Some of the highest bulk densities are in the Coxville series (Table 8C) with values of 1.85 g/cc.

Available water in the surface horizons is lowest in the Rains series and highest in the Grady and Bladen series. Considering the three profiles of each series to a depth of 90 cm (Table 19), Bladen contains the largest amount of available water with 19 cm and Lynchburg the least with 7 cm.

Surface horizons of the Irvington and Edisto series (Tables 13A through 14C) range in texture from sand and loamy fine sand to sandy clay loam in the lowest horizons. Bulk densities range from 1.26 to 1.76 g/cc, which is lower than the average of some of the other series. Available water is quite low in the surface horizons of both series, ranging from 0.02 to 0.09 cm per cm of soil depth. The average available water to a depth of 90 cm in the Edisto is 5.43 cm and in the Irvington is 3.37 cm (Table 19).

The physical characteristics of two profiles of the Charleston series (Tables 15A and 15C) are comparable, but the characteristics of a third profile are somewhat different (Table 15B). Surface textures range from fine sand to fine sandy loam. Subsoil textures are quite variable. In one profile (Table 15A) the lower horizons are generally fine sandy loam textures but in another profile (Table 15B) the subsurface horizons are sandy clay loam. Bulk densities are not abnormally high, ranging from 1.30 to 1.66 g/cc. Available water in the surface horizon of two profiles (Tables 15A and 15C) is relatively low, being only about 0.03 cm per cm of soil depth. In another profile (Table 15B) available water was considerably higher at 0.15 cm per cm of soil depth.

The textures of the surface horizons of the Goldsboro, Fairhope, and Eulonia series (Tables 16A through 18C) are not greatly different, ranging from sand to fine sandy loam. There is more variation in texture of the subsoils, although most of the horizons below the A2 are sandy clay loams. In general, sand and silt decreases and clay increases with depth. With few exceptions, the majority of the sand in the profile was in the fine fraction (0.25 - 0.10 mm). Bulk densities were not excessively high, being directly related to organic matter content. Although quite variable, the available water holding capacity is relatively low in all three series. The surface soil averaged 0.05 cm per cm of soil depth. Some of the lower horizons reached a maximum of 0.15 cm.

Hydraulic conductivity data are reported for selected sites and horizons in Tables 1A through 18C. These data show that rate of water movement through the soil ranges from 0.001 foot/day in the sandy clay of a B3t horizon of the Fairhope soil (Table 17A) to 6.96 feet/day in the fine sand of the A2 horizon of the Leon soil (Table 3A). This indicates that drainage properties range from very poor to excessive among the various soils.

There is no consistent relationship of hydraulic conductivity values with horizons in the profiles of the different soils. The highest rates generally occur in the Leon series of the Haplaquods and in the Kiawah series of the Ochraqualfs. Even so, restricting layers are evident in some subsurface horizons. Rates are lowest in the Rains, Lynchburg, and Dunbar series of the Ochraquults and the Charleston series of the Hapludults. The maximum rates in these series are 1.20 feet/day in the Ap horizons of Rains (Table 7C) and Charleston (Table 15C). Hydraulic conductivity in other horizons in these soils did not exceed 0.72 foot/day. No value of the Dunbar series (Table 11C) exceeded 0.05 foot/day. Measurements in 17 horizons of five profiles in the Lakeland and Chipley soils indicated that water moved faster through subsurface horizons than through the A1 or Ap layers.

A consistent relationship was not evident between hydraulic conductivity and soil texture, bulk density, water retention values, available soil water, and pores drained at various tensions. Factors other than these physical properties of the soil apparently control the rate of water movement through the soil profile.

SUMMARY AND CONCLUSIONS

Important morphological, chemical, and physical characteristics were determined for 18 soil series in the Atlantic Coast Flatwoods land resource area. These data are valuable for classifying the soils in the comprehensive system of soil classification, for developing recommendations of treatments for land use, and for evaluating the production potential of the land.

Soil samples were collected from each genetic horizon of three profiles of these soil series in Georgia and South Carolina. The characteristics measured included texture, bulk density, water-holding capacity, organic matter content, pH, hydraulic conductivity, plant nutrient content, and cation exchange capacity.

There were marked differences in these characteristics within soil series and between series. These differences may be accounted for by soil-forming factors that are reflected in the development of diagnostic horizons and features. Residuum from which the parent materials of these soils were derived varied from marine sands to clays. Variations within some series appear to reflect the influence of differences in this parent material residuum, previous treatment, organic matter accumulation, and recycling of nutrients. These data appear to justify a reevaluation of the series designation and possibly reclassification at higher categories in the comprehensive system of soil classification.

The variation in chemical and physical characteristics suggests that establishment of water and soil management practices on these soils should be based on a knowledge of the properties of each soil used.

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Table 1A. Characteristics of the Lakeland Series

Location: Liberty Co. Ga., wooded area 3 miles west of Hinesville, Ga., north of Ga. Hwy 196

Drainage: Well drained

Classification: Typic Quartzipsamments; Siliceous, thermic, coated (Regosols)

Cover: Scattered longleaf pine, oak brush, and wiregrass

Parent Material: Marine sand over clay

Relief: Level to undulating ridge sloping slightly to the south.

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
O	1.3-0(1/2-0)	Thin cover of leaf mold, twigs and decaying litter.					
A1	0-10(0-4)	5Y 3/1	---	s	lfgr	mvfr	as
C1	10-41(4-16)	2.5Y 5/4	---	s	sg	ml	ds
C2	41-94(16-37)	10YR 6/4	---	s	sg	ml	aw
C3	94-130(37-51)	10YR 5/6	7.5YR 5/6	fsl	grm	mfr	aw
C4	130-150(51-59)	10YR 7/3	7.5YR 5/6	scl	grm	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	1.55	13.28	39.29	41.00	4.87	89	8	3
C1	2.18	12.31	36.67	42.98	5.86	92	5	3
C2	2.72	15.44	34.61	42.22	5.01	90	3	7
C3	4.56	16.81	33.33	38.95	6.35	78	3	19
C4	0.96	10.77	34.44	45.11	8.72	66	7	27

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10 (percent by weight)	1/3	1	4	15	Available Water[2/] (Per cm.) (cm.)	(Cumulative) (cm.)	Hyd. Cond. (ft/day)
A1	1.33	11.39	6.86	5.35	3.90	2.96	0.052	0.53	0.72
C1	1.50	4.63	2.45	1.91	1.33	1.04	.021	1.17	1.32
C2	1.68	6.32	3.54	2.88	2.34	2.00	.026	2.56	5.52
C3	1.63	14.58	12.14	11.97	10.91	9.97	.035	3.80	0.10
C4	1.61	22.44	17.32	17.09	15.48	13.91	.055	4.92	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca	Mg	K	Na	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
A1	2.63	4.7	4.8	3.5	30.0	2.8	0.50	0.16	0.03	0.15	2.0	57.7	2.5
C1	.17	5.1	5.1	4.0	48.6	.7	.16	.04	.01	.13	2.4	4.7	<.5
C2	.06	5.5	5.3	4.1	45.0	1.4	.28	.17	.01	.17	7.2	4.7	<.5
C3	.13	5.2	4.9	3.8	34.0	2.5	.38	.36	.02	.09	2.7	<1.0	<.5
C4	.12	5.0	4.9	3.8	12.3	5.2	.22	.33	.02	.07	2.7	<1.0	1.5

Table 1B. Characteristics of the Lakeland Series

Location: Pierce Co., Ga., wooded area 1.75 miles east of Satilla River and 4 miles north of Ga. Hwy. 38.

Drainage: Somewhat excessive

Classification: Typic Quartzipsamments; Siliceous, thermic, coated (Regosols)

Cover: Post and blackjack oaks, with thinly scattered palmetto and wiregrass

Parent Material: Marine sand

Relief: Level to undulating ridge sloping slightly to south.

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A	0-10(0-4)	10YR 5/2	---------	s	1fgr	mvfr	gw
C1	10-102(4-40)	2.5Y 6/4	2.5Y 7/2	s	0	mvfr	gw
C2	102-137(40-54)	2.5Y 6/4	2.5Y 8/2	s	0	mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	10.31	43.73	35.25	10.71	84	9	7
C1	0	11.25	41.27	35.45	12.03	89	3	8
C2	.12	12.21	40.20	36.42	11.04	88	3	9
C3	.22	14.52	20.65	33.96	10.65	91	2	7

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.18	13.32	8.18	5.53	4.69	4.13	.048	0.36	1.20
C1	1.50	5.20	3.08	1.89	1.27	.93	.032	1.55	3.96
C2	1.55	4.95	2.76	1.60	1.07	.73	.031	2.65	0.24
C3	1.59	4.02	2.20	1.49	1.13	.74	.023	3.23	0.24

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	2.87	5.1	5.0	3.6	24.1	2.2	0.22	0.09	0.09	0.13	2.34	12.5	0.5
C1	.23	4.8	4.9	3.7	21.4	2.2	.32	.05	.02	.08	4.21	<1.0	<.5
C2	.06	5.0	5.0	4.4	46.4	1.1	.32	.06	.02	.11	5.46	<1.0	<.5
C3	.05	5.1	5.0	4.2	7.4	8.9	.46	.09	.02	.09	4.52	<1.0	<.5

Table 1C. Characteristics of the Lakeland Series

Location: Sumter Co., S.C., one mile south of Dalzell on Hwy. 91, 1/2 mile south of intersection of Highways 91 and 364 in woods on west side on Hwy. 51 across from 53 fence post in woods

Drainage: Well to excessively well

Classification: Typic Quartzipsamments; Siliceous, thermic, coated (Regosols)

Cover: Blackjack oak with thinly scattered longleaf pine.

Parent Material: Marine sands

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-8(0-3)	10YR 3/1	---	ls	1fgr	ml	cs
C1	8-56(3-22)	10YR 6/3	---	s	1sg	ml	gw
C2	56-91(22-36)	10YR 7/4	---	s	sg	ml	gw
C3	91-117+(36-46+)	10YR 7/4	10YR 6/6	s	sg	ml	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A	0	7.42	52.15	37.74	2.69	94	4	2
C1	.11	5.73	48.56	43.01	2.59	95	2	3
C2	.04	6.57	49.01	41.76	2.62	96	1	3

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A	1.29	5.95	3.25	2.37	2.01	1.72	0.020	0.20	0.36
C1	1.45	2.30	1.39	1.13	.87	.63	.011	1.20	0.84
C2	1.51	1.86	1.34	.83	.64	.45	.013	1.66	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A	1.27	4.2	4.2	4.9	8.9	4.0	0.19	0.06	0.03	0.07	7.0	<1.0	<0.5
C1	.11	5.0	5.0	4.2	16.1	1.2	.19	.01	.02	.07	2.7	<1.0	< .5
C2	.04	4.9	5.0	3.5	17.2	1.2	.13	.02	.10	.06	2.4	<1.0	< .5

Table 2A. Characteristics of Chipley Series

Location: Liberty Co., Ga., thinly wooded area 1/2 mile north of Liberty Baptist Church at Gum Branch, west side of road.

Drainage: Moderately well

Classification: Aquic Quartzipsamments; Siliceous, thermic, coated (Regosols - Red-yellow Podsolic)

Cover: Scattered slash and longleaf pine, oaks galberry bushes and sawtooth palmetto with wiregrass ground cover.

Parent Material: Marine sands overlying clays

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
O	1.3-0(1/2-0)	Thin cover of leaf mold, twigs and decaying litter.					
A1	0-13(0-5)	10YR 3/1	---	fs	lfgr	mvfr	cs
C1	13-53(5-21)	2.5Y 5/2	---	fs	lmgr	mvfr	s
C2	53-81(21-32)	5Y 6/3	10YR 5/6	s	lmgr	mvfr	gs
C3	81-114(32-45)	2.5Y 5/2	5Y 7/3	lfs	m	mfr	aw
C4	114-132(45-52)	2.5Y 6/4	2.5Y 5/1	fsl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	2.23	13.23	23.88	51.97	8.69	89	9	2
C1	1.39	11.33	23.25	53.90	10.14	91	6	3
C2	2.42	14.70	22.23	49.54	11.10	87	7	6
C3	2.84	13.90	21.02	51.29	10.95	83	6	11
C4	2.08	12.82	22.62	50.32	12.16	76	7	17

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at Bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.48	5.75	5.60	4.31	4.25	3.82	0.026	0.33	0.36
C1	1.55	3.43	2.14	2.29	1.74	1.28	.029	1.51	0.24
C2	1.76	2.67	2.34	1.71	1.18	.85	.026	2.24	0.48
C3	1.82	5.32	4.57	4.06	3.44	2.88	.031	3.26	0.07
C4	1.70	11.58	11.42	10.58	9.74	8.58	.048	4.11	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.26	5.0	5.0	3.8	26.4	3.9	0.28	0.61	0.01	0.13	3.1	<1.0	210.0
C1	.31	5.2	5.2	4.2	15.6	2.3	.22	.03	.02	.09	1.1	<1.0	140.0
C2	.07	5.1	5.1	3.9	25.2	2.1	.25	.15	.02	.11	1.9	<1.0	11.0
C3	.06	5.1	5.1	3.8	24.1	2.7	.34	.21	.02	.08	1.7	<1.0	2.5
C3	.10	5.1	5.1	3.6	13.7	3.8	.25	.12	.02	.13	.8	<1.0	1.5

Table 2B. Characteristics of Chipley Series

Location: Williamsburg Co., S.C., 590 ft. east of intersection of S. C. Hwy. 512 and farm to market road 159 on Hwy. 512, 7 ft. south of road ditch.

Cover: Cutover pine land and presently is scattered longleaf pine, blackjack oak and broom sedge. (apparently never been in cultivation)

Relief: Nearly level

Drainage: Moderately well

Classification: Aquic Quartzipsamments; Siliceous, thermic, coated (Regosols - Red-yellow Podzolic)

Parent Material: Marine sands

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-18(0-7)	10YR 3/1	---------	fs	1fgr	mvfr	cs
A2	18-38(7-15)	2.5YR 6/4	---------	fs	1fgr	mvfr	cw
C1	38-66(15-26)	10YR 5/6	7.5YR5/6,2.5YR5/4	1fs	1fgr	mvfr	cw
C2	66-94(26-37)	10YR 5/6	10YR 6/3,5YR 5/3	1fs	1fgr	mvfr	gw
C3	94-140(37-55)	10YR 5/4	10YR 6/3,10YR 6/2	1fs	----	mvfr	gw
C4	140-165+(55-65+)	10YR 5/8	10YR4/3,2.5YR 4/6	1fs	----	mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	2.60	17.86	74.98	4.56	87	9	4
A2	0	3.41	16.58	75.79	4.22	89	5	6
C1	.07	3.86	17.56	74.38	4.13	83	5	12
C2	.06	4.51	17.61	73.82	4.00	85	5	10
C3	.05	3.60	16.81	74.96	4.58	84	4	12
C4	.01	5.79	19.20	70.95	4.04	84	4	12

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.22	10.89	6.06	4.39	3.48	2.72	.041	0.73
A2	1.44	5.88	3.54	2.59	1.96	1.45	.030	1.34
C1	1.51	10.24	7.17	5.30	4.51	3.78	.051	2.76
C2	1.53	8.67	6.16	4.72	4.05	3.51	.041	3.91
C3	1.56	10.15	7.58	5.58	4.77	4.16	.053	6.33
C4	1.56	10.43	7.63	6.34	5.73	5.01	.041	7.36

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	Dry	Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.62	4.6	4.5	3.5	27.6	1.7	.28	.09	.03	.06	7.2	<1.0	<0.5
A2	.27	5.0	4.9	3.6	14.3	2.3	.19	.04	.02	.08	1.9	<1.0	<.5
C1	.21	4.9	4.9	4.2	27.1	2.4	.33	.22	.02	.07	2.3	<1.0	<.5
C2	.09	5.0	5.0	4.2	16.9	2.9	.16	.25	.02	.06	7.8	<1.0	<.5
C3	.06	5.1	4.9	3.8	20.0	2.5	.22	.18	.02	.08	11.1	<1.0	<.5
C4	.05	5.2	5.1	3.4	12.4	2.9	.16	.09	.02	.08	7.8	<1.0	<.5

Table 2C. Characteristics of Chipley Series

Location: Clarendon Co., S.C., 350 ft. south of cross roads State Hwys. S14-132 and S-14-106; 1 mile south of US Hwy. 378; 1.3 mi. SE of Turbeville, in turn row between cotton and tobacco; at end of 20th tobacco row from edge of road.

Drainage: Moderately well

Classification: Aquic Quartzipsamments; Siliceous, thermic, coated (Regosols - Red-yellow Podzolic)

Cover: Cultivated

Parent Material: Marine sands

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-20(0-8)	10YR 4/1	---	fs	1fgr	mvfr	cs
A2	20-56(8-22)	2.5Y 6/4	2.5Y 6/2;2.5Y 7/4; 10Y 6/8	fs	1fgr	mvfr	cw
C1	56-89(22-35)	10YR 5/4	10YR 6/3; 7.5Y 5/6	fs	1csbk	mfr	gw
C2	89-119+(35-47+)	10YR 5/4	10YR 6/1;7.5YR 5/6	fs	o	ml	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	2.43	21.57	71.71	4.29	93	4	3
A2	0	2.91	19.52	73.63	3.95	92	4	4
C1	0	3.65	20.98	71.23	4.14	89	4	7
C2	0	3.39	20.91	72.36	3.35	91	3	6

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.48	3.78	2.69	2.07	1.48	1.12	0.023	0.47	0.96
A2	1.54	3.32	2.37	1.78	1.26	.92	.022	1.25	1.56
C1	1.62	5.81	3.95	3.18	2.57	2.05	.031	2.27	0.02
C2	1.63	5.05	3.16	2.68	2.36	2.05	.018	2.82	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g.)					(ppm)		
Ap	0.66	5.3	5.2	3.6	40.4	2.5	0.85	0.03	0.05	0.08	8.6	<1.0	74.0
A2	.10	4.8	4.8	3.7	26.0	1.4	.35	.01	.05	.08	4.4	<1.0	<.5
C1	.05	4.4	4.4	4.0	49.7	1.6	.94	.09	.07	.08	4.8	<1.0	<.5
C2	.04	5.0	5.1	4.2	34.3	1.4	.57	.05	.07	.09	5.3	<1.0	<.5

Table 3A. Characteristics of Leon Series

Location: Long Co., Ga., wooded area 5 miles south of Allenhurst on paved road.

Drainage: Poor

Classification: Aeric Haplaquods; Sandy, Siliceous, thermic (Ground water Podzolic)

Cover: Long leaf pine with understory of sawtooth palmetto, huckleberry, runner oak, and wiregrass

Parent Material: Marine

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
O	1-0(1/2-0)	Thin cover of twigs, leaves and decaying plant matter.					
A1	0-10(0-4)	N4	---------	fs	0	ml	as
A2	10-36(4-14)	N8	---------	fs	0	ml	as
B2h	36-46(14-18)	5YR 3/3 to 10YR 2/2		fs	m	mfi	cw
B3	46-69(18-27)	2.5Y 7/4 to 10YR 4/4		fs	1fsg	mvfr	gw
C1	69-99(27-39)	10YR 6/2	---------	fs	0	ml	cw
C2	99-114+(39-45+)	7.5YR 5/2	---------	fs	0	ml	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(----------percent of total sand----------)					(%)	(%)	(%)
A1	0	5.45	32.92	59.57	2.06	93	4	3
A2	0	5.44	27.66	64.59	2.31	94	3	3
B2h	0.13	6.24	28.20	62.22	3.22	93	4	3
B3	.26	5.01	29.02	63.51	2.20	93	3	4
C1	.10	6.08	30.62	61.02	2.18	96	1	3
C2	.31	6.86	31.70	59.21	1.91	92	3	5

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)	Hyd. Cond.
	(gm./cc)	(----------percent by weight----------)					(cm.)	(cm.)	(ft/day)
A1	1.43	4.48	3.27	3.08	2.76	2.54	.010	0.10	3.60
A2	1.51	1.51	1.22	.92	.73	.56	.010	.25	6.96
B2h	1.29	11.61	10.67	9.68	8.46	6.54	.052	1.31	0.96
B3	1.53	2.97	2.85	2.62	2.07	1.54	.020	1.77	--
C1	1.58	1.63	1.39	1.28	.95	.63	.012	2.14	--
C2	1.74	3.56	3.10	3.01	2.33	1.77	.023	2.49	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	Dry	Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(----------meq/100 g ----------)					(--------ppm--------)		
A1	1.55	3.8	4.0	2.8	27.7	2.2	0.38	0.08	0.01	0.14	2.6	<1.0	11.2
A2	.19	4.3	4.5	3.4	12.3	3.1	.25	.01	.02	.10	3.1	<1.0	18.0
B2h	4.02	4.5	4.5	3.5	2.3	20.2	.34	.02	.01	.10	2.8	<1.0	220.0
B3	.37	4.9	5.9	4.2	1.4	18.0	.13	.01	.02	.10	3.4	<1.0	1.5
C1	.11	5.0	5.0	4.2	15.8	1.2	.09	.01	.01	.08	4.0	<1.0	<.5
C2	.23	4.9	4.8	4.2	12.3	2.2	.16	.01	.02	.08	2.8	<1.0	2.0

Table 3C. Characteristics of Leon Series

Location: Brantley Co., Ga., 2 miles east of Hoboken, Ga. and .6 mile south of U.S. Hwy. 84 at intersection of private road and Georgia Power line.

Drainage: Somewhat poor

Classification: Aeric Haplaquods; Sandy, siliceous, thermic (Ground Water Podzolic)

Cover: Pines, palmetto and gallberry.

Parent Material: Marine sands.

Relief: Level

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-15(0-6)	10YR 4/1	---	s	1fgr	mvfr	aw
A2	15-41(6-16)	10YR 7/1	---	s	1fgr	mvfr	aw
B1h	41-46(16-18)	10YR 3/1	---	s	1fgr	mvfr	as
B2h	46-58(18-23)	5YR 3/2	---	s	pl	mefics	as
B3	58-84(23-33)	10YR 4/4	---	s	1fgr	mfr	cw
C1g	84-114(33-45)	2.5Y 6/2	5Y 7/2	s	1fgr	mvfr	cw
C2g	114-127+(45-50+)	10YR 5/2	10YR 5/2	s	1fgr	mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay < 0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	5.11	58.88	32.17	3.85	96	3	1
A2	0	5.29	53.91	35.99	4.81	97	2	1
A1h	0.05	5.86	60.88	31.38	1.83	89	9	2
A2h	0	5.80	57.50	32.98	3.71	91	8	1
A3	0.01	6.03	55.48	33.72	4.76	97	2	1
C1g	.04	5.61	52.74	36.67	4.94	98	1	1
C2g	0	5.10	55.27	35.69	3.95	90	5	5

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.43	8.78	6.73	4.28	4.13	3.91	0.040	0.61
A2	1.66	1.87	.96	.52	.61	.56	.007	.79
B1h	1.32	15.47	9.87	6.83	6.06	5.03	.064	1.12
B2h	1.59	9.98	6.35	6.33	5.89	4.82	.024	1.42
B3	1.57	2.91	1.52	1.38	1.08	.73	.012	1.72
C1g	1.52	1.46	.88	.61	.50	.37	.008	1.96
C2g	1.73	5.65	3.86	2.97	2.77	2.03	.032	2.37

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	2.08	3.9	3.8	2.6	23.7	2.4	0.32	0.10	0.03	0.12	0.5	1.8	2.0
A2	.11	4.3	4.6	5.6	3.3	2.4	<.01	.02	.03	.03	.9	1.8	<.5
B1h	3.00	4.0	4.2	3.2	4.8	4.8	<.01	.05	.03	.15	.2	1.8	<.5
B2h	2.24	4.3	4.4	3.6	3.9	1.8	<.01	.01	.01	.05	<.1	2.5	<.5
B3	.15	4.8	4.9	4.5	3.8	1.3	<.01	.01	.01	.03	.2	1.8	<.5
C1g	.08	4.8	5.0	4.4	3.3	.3	<.01	.01	.01	.01	.1	3.3	<.5
C2g	.37	4.8	4.7	---	---	---	---	---	---	---	---	---	---

Table 4A. Characteristics of the Ona Series

Location: Long Co., Ga., wooded area 1 mile west of Walthourville station on Strong Ashmore Estate.

Cover: Longleaf pine with sawtooth palmettos, gallberry, runner oak and wiregrass ground cover

Relief: Level

Drainage: Moderately well

Classification: Aeric Haplaquods; Sandy, siliceous, hyperthermic (Ground Water Podzolic)

Parent Material: Marine sands

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-15(0-6)	10YR 3/1	---------	fs	1fgr	mvfr	cw
B2h	15-31(6-12)	10YR 2/2	---------	fs	2mgr	mfr	cw
B3	31-41(12-16)	2.5Y 6/4	---------	fs	1fbr	mvfr	gw
C	41-91+(16-36+)	5Y 7/3	---------	fs	0	ml	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	0.86	13.63	83.29	2.22	92	6	2
B2h	0	.85	11.82	84.48	2.85	93	5	2
B3	0	.86	10.77	85.13	3.23	94	4	2
C	0.07	.90	11.70	84.35	2.98	96	2	2

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.30	6.69	3.50	2.92	2.88	2.64	0.011	0.17
B2h	1.38	7.20	3.96	3.30	2.58	2.13	.025	.55
B3	1.43	3.83	1.90	1.57	1.18	0.89	.014	.69
C	1.53	2.49	1.04	.87	.66	0.49	.008	1.10

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.29	4.3	4.4	5.0	21.1	2.8	0.41	0.12	0.02	0.04	2.5	<1.0	<0.5
B2h	.91	4.6	4.7	4.3	10.7	3.0	.20	.04	.02	.04	3.7	<1.0	<.5
B3	.18	4.8	4.8	4.0	14.7	1.7	.18	.01	.02	.04	4.1	<1.0	<.5
C	.05	4.7	4.8	3.9	11.3	2.3	.20	.01	.02	.04	4.4	6.24	<.5

Table 4B. Characteristics of the Ona Series

Location: Ware Co., Ga., thinly wooded area .2 mile southwest of intersection of southeast end of Crews Boulevard and U.S. Hwy. 1, north side of Crews Blvd.

Cover: Natural stand of slash pine and few scattered longleaf pine with understory of thinly scattered wax myrtle, gallberry and palmetto.

Relief: Level

Drainage: Somewhat poor

Classification: Aeric Haplaquods; Sandy, siliceous, hyperthermic (Ground Water Podzolic)

Parent Material: Thick beds of marine sands and loamy sands

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A	0-18(0-7)	5Y 3/1	---------	s	lvfgr	mvfr	as
B2h	18-36(7-14)	10YR 2/2	---------	s	lfsbk	mfr	gw
B3	36-61(14-24)	2.5Y 6/2	10YR 6/8	lfs	0	ml	gw
C1	61-91(24-36)	2.5Y 6/2	10YR 6/6	lcs	0	ml	gw
C2	91-137(36-54)	5Y 7/3	10YR 7/8	cs	lfgr	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A	0	13.53	37.69	39.88	8.90	90	7	3
B2h	0	13.53	38.83	38.21	9.42	89	8	3
B3	0	3.17	33.58	49.65	13.61	89	9	5
C1	1.24	26.59	32.37	32.11	7.69	89	6	8
C2	.82	25.95	35.27	30.90	7.06	88	6	6

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
		(percent by weight)					(cm.)	(cm.)
A	1.60	6.87	3.62	2.60	2.14	1.99	0.026	0.46
B2h	1.58	7.29	4.73	3.83	2.75	2.25	.039	1.15
B3	1.62	3.94	2.32	1.96	1.50	1.10	.020	1.66
C1	1.83	5.74	3.98	2.97	2.56	2.02	.036	2.75
C2	1.77	6.40	4.46	3.35	2.76	2.28	.039	4.54

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A	1.24	4.2	4.2	3.8	7.1	4.5	0.15	0.06	0.02	0.08	7.0	<1.0	2.0
B2h	1.27	4.7	4.7	3.7	10.0	2.2	.13	.05	.02	.07	8.6	<1.0	2.0
B3	.32	5.0	5.1	3.4	6.4	3.6	.13	.01	.02	.07	2.6	<1.0	1.8
C1	.07	4.8	4.8	4.6	8.1	3.1	.13	.01	.02	.09	2.8	<1.0	1.0
C2	.37	4.8	4.9	4.8	16.7	2.7	.35	.05	.01	.04	1.8	4.0	<0.5

Table 4C. Characteristics of the Ona Series

Location: Pierce Co., Ga., thinly wooded area 1 3/4 miles northeast of Rehobeth Church on property of G. L. Davis

Cover: Woodland site of slash pine with undergrowth of gallberry, broomsage and wiregrass.

Relief: Level

Drainage: Somewhat poor

Classification: Aeric Haplaquods; Sandy siliceous hyperthermic (Ground Water Podzolic)

Parent Material: Thick beds of marine sands and loamy sands

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A	0-15(0-6)	(N4)	---	s	1fgr	mvfr	gw
B2h	15-31(6-12)	10YR 3/2	---	s	1fsbk	mfr	gw
B3	31-91(12-36)	10YR 7/3	10YR 7/8	s	1fgr	mvfr	gw
C2g	91-112(36-44)	2.5Y 8/2	---	s	1fgr	mfr	--

PARTICLE SIZE DISTRIBUTION

	Sand					Sand	Silt	Clay
Horizon	2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	2-0.05 mm.dia.	0.05-0.002 mm.dia.	<0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A	0.12	7.36	26.28	42.93	23.31	88	10	2
B2h	.31	9.41	26.04	41.75	22.48	89	9	2
B3	.46	8.55	24.97	39.52	26.50	91	8	1
C2g	.49	10.22	24.89	41.68	22.72	92	7	1

BULK DENSITY AND MOISTURE CHARACTERISTICS

	Bulk	Water at bars tension of:					Available Water	
Horizon	Density	1/10	1/3	1	4	15	(per.cm)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A	1.55	7.99	3.80	2.78	2.70	2.55	0.019	0.29
B2h	1.63	5.50	2.48	1.73	1.42	1.24	.020	.60
B3	1.69	4.76	1.61	.84	.66	.52	.018	1.24
C2g	1.75	3.26	.89	.53	.39	.34	.010	1.70

CHEMICAL CHARACTERISTICS

	Organic	pH			Base Satu-	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extract-able P
Horizon	Matter	Wet	Dry	Salt	ration								
	(%)				(%)	(meq/100 g)					(ppm)		
A	1.36	4.5	4.6	3.5	16.2	0.8	0.02	0.04	0.03	0.04	1.5	1.8	<0.5
B2h	.75	5.1	5.2	4.3	22.8	1.4	.03	.14	.01	.14	0.2	1.8	<.5
B3	.28	5.3	5.4	4.7	50.0	.4	.02	.10	<.01	.07	<.1	3.3	<.5
C2g	.08	5.1	5.2	4.6	38.3	.6	.02	.12	<.01	.08	3.8	1.8	<.5

Table 5A. Characteristics of the Meggett Series

Location: McIntosh Co., Ga., wooded area .5 mile west of Jones station on Cowpen road.

Cover: Slash pine and sweetgum with wiregrass ground cover

Relief: Level

Drainage: Poor

Classification: Typic Albaqualfs; Fine, mixed thermic (Low-Humic-Gley)

Parent Material: Marine calcareous clays overlying acid clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-10(0-4)	10YR 5/1	---------	l	1fgr	mvfr	as
A2	10-15(4-6)	(N6)	---------	cl	1fgr	mvfr	cs
B2tg	15-56(6-22)	2.5Y 6/4	10YR 4/1	c	3mabk	mvfi	gs
B3tg	56-76(22-30)	(N5)	2.5Y 5/4	c	3mabk	mvfi	gs
C1g	76-112(30-44)	5Y 6/1	10YR 6/6	c	3abk	mvfi	gs
C2g	112-127+(44-50+)	(N3)	5GY 6/1	c	2msbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(----------percent of total sand----------)					(%)	(%)	(%)
A1	0	1.01	5.32	67.27	26.39	45	35	20
A2	0	1.56	6.36	43.79	48.29	33	37	30
B2tg	0	1.44	6.28	43.26	49.02	26	29	45
B3tg	0	1.54	6.52	44.43	47.51	26	26	48
C1g	0	1.58	7.09	41.64	49.69	20	27	53
C2g	0	1.80	5.88	27.78	64.55	14	25	61

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(----------percent by weight----------)					(cm.)	(cm.)	(ft/day)
A1	1.23	--	26.17	18.53	13.89	10.15	0.197	2.01	
A2	1.29	--	28.87	21.37	16.48	12.32	.214	3.08	
B2tg	1.59	--	32.71	25.50	20.96	16.43	.259	13.62	
B3tg	1.53	--	31.97	28.42	21.06	16.67	.234	18.37	
C1g	1.48	--	34.61	30.84	22.80	18.12	.244	27.06	
C2g	1.35	--	42.63	38.12	28.54	22.58	.271	31.18	

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(---------meq/100 g				---------)	(--------ppm---------)		
A1	3.22	5.1	4.9	3.7	50.6	6.3	0.75	1.84	0.12	0.48	3.1	<1.0	<0.5
A2	2.15	5.2	5.0	4.2	58.2	3.9	.33	1.18	.06	.70	9.5	<1.0	<.5
B2tg	.82	5.6	5.4	5.2	106.9	15.6	11.85	3.44	.04	1.35	3.4	<1.0	<.5
B3tg	.28	6.8	6.5	5.1	103.2	16.9	12.15	3.54	.05	1.70	3.0	<1.0	<.5
C1g	.30	6.2	6.0	5.2	123.9	15.3	14.50	2.27	.06	2.13	5.3	<1.0	<.5
C2g	.08	6.0	5.6	5.1	129.9	13.3	11.88	2.08	.02	3.30	4.5	<1.0	<.5

Table 5B. Characteristics of the Meggett Series

Location: Liberty Co., Ga., wooded area, 1/2 mile south of Allenhurst on Allenhurst-Tibet paved road, then 1.6 miles east on private road in Miller's pasture, 25 feet south of road.

Drainage: Poor

Classification: Typic Albaqualfs; Fine mixed thermic (Low Humic Gley)

Cover: Wooded with oaks, sweetgum, maple cabbage palmetto, and wax myrtle.

Parent Material: Marine calcareous sandy clays and clays of the Pamlico formation

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-5(0-2)	10YR 3/1	---	lfs	1fgr	mvfr	cs
A2	5-15(2-6)	10YR 4/1	---	fs	1fgr	mvfr	as
IIB21tg	15-46(6-18)	10YR 5/1	2.5Y 4/4 & 5/6	scl	1fsbk	mvfi	gw
IIB22tg	46-66(18-26)	2.5Y 6/8	10YR 6/2,10YR5/1	scl	3fmabk	mvfi	gw
IIB3tg	66-91(26-36)	2.5Y 6/8	5Y6/2,5Y5/1	scl	1fsbk	mvfi	gw
IICg	91-127+(36-50+)	5Y 7/2	5Y6/2, 2.5Y6/8	scl	m	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.06	6.42	22.55	66.85	4.11	83	15	2
A2	.24	9.87	22.15	60.19	7.55	87	11	2
IIB21tg	.19	9.63	22.06	61.17	6.95	61	7	32
IIB22tg	.44	9.72	21.18	61.22	7.44	64	5	31
IIB3tg	.29	10.89	22.42	57.85	8.56	66	8	26
IICg	.38	6.56	13.54	68.60	10.93	64	6	30

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10 (percent by weight)	1/3	1	4	15	Available Water (Per cm.) (cm.)	Available Water (Cumulative) (cm.)	Hyd. Cond.
A1	1.02	22.19	15.82	12.78	10.89	10.41	0.055	0.28	
A2	1.45	7.56	4.73	3.54	2.48	1.99	.040	.68	
IIB21tg	1.56	38.00	29.69	24.53	20.47	16.28	.209	7.05	
IIB22tg	1.63	31.85	27.75	23.54	19.42	15.59	.198	11.07	
IIB3tg	1.68	28.41	24.60	20.85	16.56	13.57	.185	15.77	
IICg	1.50	44.26	35.14	28.93	24.06	18.63	.248	24.60	

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca (meq/100 g)	Mg (meq/100 g)	K (meq/100 g)	Na (meq/100 g)	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
A1	5.49	4.6	4.7	3.8	44.6	10.8	3.38	1.18	0.08	0.18	1.5	5.8	11.7
A2	1.08	4.6	4.7	3.8	43.1	4.2	0.69	1.02	.02	.08	1.4	1.8	5.0
IIB21tg	.44	5.5	5.4	4.6	58.3	21.8	9.31	1.06	.08	2.26	.8	2.5	<.5
IIB22tg	.13	7.8	8.2	6.7	103.7	16.3	14.22	1.13	.05	1.50	1.5	1.8	<.5
IIB3tg	.10	8.0	8.4	6.9	92.8	21.6	17.82	.72	.05	1.45	.5	1.8	<.5
IICg	.06	8.0	8.3	6.9	99.2	26.5	22.96	.72	.07	2.53	1.5	7.5	<.5

Table 5G. Characteristics of the Meggett Series

Location: Glynn Co., Ga., 3 miles east of Brantley-Glynn county line on U.S. Hwy. 84 and 2.5 miles north of U.S. Hwy. 84.

Drainage: Poor to very poor

Classification: Typic Albaqualfs; Fine mixed thermic (Low Humic Gley)

Cover: Recently set to pine trees

Relief: Level

Parent Material: Moderately thin beds of Marine sandy loams, fine sandy clays and clays resting on marl.

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A	0-18(0-7)	10YR 3/1	---	fsl	lfgr	mfr	as
B21tg	18-86(7-34)	2.5Y 5/6	5Y5/1,2.5YR4/6	c	m	mefi	gw
B22tg	86-119(34-47)	5Y 6/1	2.5Y 5/6	c	m	mefi	aw
Cg	119-132+(47-52+)	5Y 8/2-marl	5Y6/1,2.5Y5/6	c	--	--	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A	0.13	6.27	25.76	44.60	23.24	68	27	5
B21tg	1.73	19.52	50.35	24.14	4.28	35	18	47
B22tg	1.71	16.17	43.02	34.73	4.38	41	18	41
Cg	7.65	29.79	42.50	16.41	3.65	33	20	47

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A	1.19	25.33	16.31	8.11	5.97	4.82	0.137	2.44	
B21tg	1.32	48.64	39.15	30.65	25.75	20.38	.248	19.45	
B22tg	1.56	41.00	32.33	25.24	21.14	16.94	.240	27.37	
Cg	1.51	45.19	38.56	30.44	24.86	19.78	.284	20.98	

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A	2.86	5.0	4.9	3.6	58.7	4.5	2.44	0.01	0.04	0.15	7.6	1.8	2.5
B21tg	.30	7.5	7.5	6.5	88.3	14.3	11.32	.74	.09	.48	0.2	1.8	<.5
B22tg	.09	7.8	7.8	6.5	88.8	18.2	14.44	.74	.09	.90	<.1	1.8	<.5
Cg	.08	7.8	7.8	6.7	99.2	26.4	24.44	.74	.12	.89	<.1	2.4	<.5

Table 6A. Characteristics of Kiawah Series *

Location: Charleston Co., S.C., truck crop field, 3 miles southwest of Charleston, on west side of S.C. Hwy 171, James Island

Drainage: Somewhat poor

Classification: Aeric Umbric Ochraqualfs; Sandy, mixed, thermic (Ground Water Podzol)

Cover: Cultivated

Parent Material: Marine sands

Relief: Level

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-25(0-10)	10YR 3/2	---------	fs	1fcr	mvfr	cs
A2	25-38(10-15)	10YR 4/2	---------	fs	1fcr	mvfr	gs
B21	38-51(15-20)	10YR 3/3	10YR 5/8	fs	1fcr	mvfr	gs
B22	51-81(20-32)	10YR3/3,10YR4/2	10YR 5/4	1fs	1fcr	mvfr	gw
C	81-102+(32-40+)	10YR7/1,7.5YR5/8, 10YR 5/6	-------	1fs	--	ml-mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.26	2.14	6.44	84.83	6.33	91	5	4
A2	.18	2.18	6.81	84.94	5.89	90	5	5
B21	.32	2.61	6.84	84.34	5.89	89	4	7
B22	.29	2.07	6.26	85.40	5.98	88	4	8
C	.39	2.41	6.60	84.07	6.53	90	1	9

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.33	5.56	4.64	4.20	3.59	2.60	0.027	0.69	0.36
A2	1.53	5.60	4.45	4.00	3.43	2.54	.029	1.06	0.05
B21	1.55	6.37	5.19	4.74	4.11	3.16	.031	1.45	3.60
B22	1.52	6.78	6.28	5.95	4.91	3.88	.036	2.55	2.60
C	1.52	5.17	4.90	4.64	3.81	3.01	.029	3.14	0.54

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	0.96	5.2	5.2	4.0	47.9	3.9	0.92	0.33	0.14	0.48	2.6	6.2	65.0
A2	.68	5.7	5.6	4.2	59.2	3.7	1.22	.32	.08	.56	3.1	7.8	10.2
B21	.32	5.7	5.8	4.4	65.8	5.4	2.59	.48	.03	.52	2.0	<1.0	7.5
B22	.25	6.4	6.5	5.1	76.3	6.5	3.88	.41	.01	.65	1.6	<1.0	240.0
C	.18	6.6	6.6	5.3	118.4	4.8	3.68	1.53	.07	.52	3.4	<1.0	160.0

* May be reclassified as the Scranton series - Mollic Psammaquents, siliceous, thermic.

Table 6B. Characteristics of the Kiawah Series*

Location: Beaufort Co., S.C., St. Helena Island

Drainage: Somewhat poor

Classification: Aeric Umbric Ochraqualfs; Sandy, mixed, thermic (Ground Water Podzol)

Cover: Cultivated

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-23(0-9)	10YR 3/2	---------	fs	1fgr	mvfr	cs
A3	23-46(9-18)	10YR 3/3	---------	fs	1fgr	mvfr	cs
B1	46-76(18-30)	10YR4/2,10YR3/4	10YR 6/2	fs	1msbk	mvfr	cw
B2	76-102(30-40)	10YR 4/1	10YR4/4,10YR6/4	1fs	1msbk	mfr	gw
C	102-137+(40-54+)	-------	---------	1fs	m	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.05	0.24	2.26	88.79	8.66	89	7	4
A3	0	.18	1.92	88.76	9.13	83	8	9
B1	0	.19	1.92	87.10	10.79	87	6	7
B2	0	.19	1.98	87.60	10.22	87	4	9
C	0	0	1.89	85.65	12.45	80	6	14

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.28	6.08	4.21	3.82	3.22	2.63	0.022	0.50	0.84
A3	1.58	6.67	5.06	4.67	4.05	3.27	.028	1.14	--
B1	1.49	4.42	3.21	2.92	2.52	1.99	.018	1.69	1.56
B2	1.58	7.03	4.22	3.97	3.47	2.92	.021	2.22	0.48
C	1.79	11.47	7.69	7.22	6.36	5.12	.046	3.86	0.12

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	Dry	Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.06	6.2	6.1	5.5	65.4	4.0	1.31	0.57	0.17	0.57	3.4	3.1	<0.5
A3	.42	4.7	4.6	3.9	39.4	5.3	1.34	.34	.02	.39	8.1	<1.0	<.5
B1	.15	4.4	4.4	3.8	36.2	3.2	.28	.25	.02	.61	2.3	<1.0	<.5
B2	.13	4.3	4.3	3.6	33.8	4.7	.34	.32	.02	.91	2.5	<1.0	<.5
C	.10	4.5	4.4	3.3	32.6	4.9	.18	.31	.02	1.09	5.1	<1.0	<.5

* May be reclassified as the Scranton series - Mollic Psammaquents, siliceous, thermic.

Table 6C. Characteristics of Kiawah Series*

Location: Charleston Co., S.C., U.S. Hwy. 17, Awendaw Post Office, 145 yards north on dirt road across from Post Office and 150 feet in longleaf pine woods.

Cover: Longleaf pine, thick stand 20 to 30 years old.

Relief: Level

Drainage: Somewhat poor

Classification: Aeric Umbric Ochraqualfs; Sandy, mixed, thermic (Ground Water Podzol)

Parent Material: Marine sands and loamy sands

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-15(0-6)	10YR 2/1	---	lfs	lfgr	mvfr	cw
A2	15-25(6-10)	10YR 4/2	---	lfs	lfgr	mvfr	cs
B21	25-48(10-19)	10YR 5/3	10YR5/8,10YR4/2	lfs	lfgr	mvfr	cw
B22	48-64(19-25)	10YR 4/3	10YR5/2,7.5YR5/6	lfs	lfgr	mvfr	cs
B23	64-84(25-33)	5YR 3/2	10YR4/1,10YR4/3	fs	lmsbk	mfr	cs
C33	84-122+(33-48+)	2.5YR 5/2	10YR 5/4	fs	0	mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	3.79	39.95	54.51	1.75	80	14	6
A2	0.05	4.31	33.97	59.17	2.50	80	12	8
B21	.31	5.23	37.86	54.47	2.13	84	6	10
B22	.17	4.65	32.98	59.05	3.15	84	12	4
B23	.11	3.50	35.32	58.76	2.30	94	4	2
C33	.12	1.69	31.03	65.22	1.94	97	2	1

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.) (cm.)	Available Water (Cumulative) (cm.)	Hyd. Cond. (ft/day)
		(percent by weight)							
A1	0.87	21.90	16.64	11.99	9.66	8.01	0.075	1.14	2.40
A2	1.17	11.97	9.42	7.04	5.96	4.86	.053	1.68	6.00
B21	1.37	9.35	6.95	5.71	5.00	4.17	.038	2.55	1.80
B22	1.27	9.78	7.13	5.85	4.85	3.91	.041	3.17	2.04
B23	1.35	6.28	3.70	3.02	2.44	1.88	.025	3.68	0.72
C33	1.44	2.79	1.71	1.55	1.32	1.12	.009	4.02	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
						(meq/100 g)					(ppm)		
A1	5.62	4.9	4.7	3.7	13.7	15.9	1.57	0.34	0.06	0.21	1.6	1.8	<0.5
A2	.99	5.1	5.1	4.2	22.7	6.0	.70	.42	.04	.20	.3	1.8	<.5
B21	.30	5.3	5.2	4.1	13.5	3.7	.07	.30	.02	.11	.1	1.8	<.5
B22	.39	5.3	5.3	4.7	13.9	4.1	.01	.44	.02	.10	.2	1.8	<.5
B23	.25	5.3	5.3	4.8	15.1	3.3	.02	.41	.02	.05	.1	1.8	<.5
C33	.13	5.3	5.3	4.7	31.2	1.6	.02	.21	.01	.26	<.1	1.8	11.7

* May be reclassified as the Scranton series - Mollic Psammaquents, siliceous, thermic.

Table 7A. Characteristics of Rains Series*

Location: Charleston Co., S.C., cropland planted to soybeans, 1 1/4 miles southeast of Hollywood, on south side of field road, 1/4 mile south of Seaboard Airline Railroad and 1/4 mile west of County Road 79.

Drainage: Somewhat poor

Classification: Typic Ochraquults; Fine loamy, siliceous, thermic (Low Humic Gley)

Cover: Cultivated

Parent Material: Marine sands and sandy clays

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-25(0-10)	10YR 4/2	---	lfs	lfgr	mvfr	as
A2	25-36(10-14)	10YR 6/2	10YR 5/6	vfsl	lfgr	mvfr	cs
B21t	36-86(14-34)	10YR 5/1	10YR 5/6	scl	lcsbk	mfi	gs
B22t	86-107(34-42)	10YR 6/1	10YR5/6,7.5YR5/6	scl	lcsbk	mfi	gs
C	107-152(42-60)	10YR 6/1	10YR5/6,7.5YR5/6	vfsl	m	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.48	1.10	64.79	33.64	77	19	4
A2	0	.35	1.23	56.99	41.43	72	22	6
B21t	0	.38	1.41	53.03	45.18	54	18	28
B22t	0	.38	1.21	37.71	60.70	50	26	24
C	0	.00	0.66	42.18	57.16	63	18	16

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.47	9.12	4.40	4.02	3.14	2.30	0.031	0.79
A2	1.64	9.58	4.53	4.28	3.32	2.48	.034	1.14
B21t	1.61	26.70	19.48	17.47	15.10	12.17	.118	7.13
B22t	1.66	31.92	19.12	16.52	13.91	10.90	.136	9.89
C	1.63	25.19	14.31	12.32	10.14	7.74	.107	14.78

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	Dry	Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	0.83	6.4	6.3	4.8	88.2	3.8	2.84	0.35	0.08	0.08	4.4	5.61	<0.5
A2	.23	5.8	5.7	4.3	55.4	3.9	1.58	.40	.14	.04	1.9	<1.0	<.5
B21t	.14	5.0	5.0	3.4	58.7	12.7	6.50	.78	.06	.11	4.5	1.56	<.5
B22t	.08	5.3	5.2	4.8	89.4	13.2	11.19	.36	.05	.20	2.8	3.12	1.5
C	.03	6.8	6.8	5.2	82.0	20.6	16.19	.40	.13	.17	1.8	<1.0	2.0

* May be reclassified as Yonges series - Typic Albaqualfs, Fine loamy, mixed, thermic.

Table 7B. Characteristics of Rains Series

Location: McIntosh Co., Ga., wooded area 2.6 miles southeast of Townsend, on Pasture Road

Drainage: Poor

Classification: Typic Ochraquults; Fine loamy, siliceous, thermic (Low Humic Gley)

Cover: Mixed slash and longleaf pines, black gum, Southern red maple and bay; ground cover is pineland three awn, pitcher plants and gallberry.

Parent Material: Marine sands overlying intermixed sands and clays

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-18(0-7)	10YR 3/1	---	fsl	1mgr	mvfr	gw
A2	18-51(7-20)	10YR 5/1	---	fsl	1mgr	mvfr	gw
B1t	51-64(20-25)	10YR 5/1	---	scl	1fabk	mfr	gw
B2t	64-127(25-50)	N4	7.5YR 5/8	sc	2mabk	s&m	--

PARTICLE SIZE DISTRIBUTION

	Sand					Sand	Silt	Clay
Horizon	2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	2-0.05 mm.dia.	0.05-0.002 mm.dia.	<0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.13	8.49	35.47	45.16	10.75	76	16	8
A2	.31	8.96	36.88	42.67	11.17	78	12	10
B1t	.22	9.81	38.30	41.59	10.08	66	12	22
B2t	.53	10.37	39.68	40.13	9.29	51	11	38

BULK DENSITY AND MOISTURE CHARACTERISTICS

	Bulk	Water at bars tension of:					Available Water		Hyd.
Horizon	Density	1/10	1/3	1	4	15	(Per cm.)	(Cumulative)	Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.47	19.86	7.41	6.24	4.64	3.37	0.059	1.05	0.12
A2	1.61	17.09	6.95	5.80	4.25	3.03	.063	3.13	--
B1t	1.61	23.65	14.67	13.50	10.50	8.28	.103	4.44	--
B2t	1.41	37.27	25.50	23.95	20.36	16.64	.125	12.38	--

CHEMICAL CHARACTERISTICS

	Organic	pH			Base Satu-								Extract-able
Horizon	Matter	Wet	Dry	Salt	ration	C.E.C.	Ca	Mg	K	Na	Zn	Mn	P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	0.88	4.2	4.1	4.2	27.6	4.9	1.16	0.13	0.02	0.04	4.8	<1.0	<0.5
A2	.38	4.4	4.3	4.1	5.7	11.9	.22	.39	.02	.04	5.3	<1.0	<.5
B1t	.25	4.5	4.3	3.6	5.7	11.2	.13	.41	.04	.06	4.2	<1.0	<.5
B2t	.17	4.4	4.3	4.2	12.8	8.3	.11	.78	.06	.11	2.8	<1.0	<.5

Table 7C. Characteristics of Rains Series*

Location: Charleston Co., S.C., Cropland; 4 miles south of Adams Run village, 1 mile south of Seaboard Airline Railroad, 3/4 mile west of S.C. Hwy. 174.

Drainage: Somewhat poor

Classification: Typic Ochraquults; Fine loamy, siliceous, thermic (Low Humic Gley)

Cover: Goldenrod, ragweed and grasses; previously planted to truck crops.

Parent Material: Marine sands and sandy clays.

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-25(0-10)	10YR 3/1	---	fsl	lfgr	mvfr	cs
A2	25-36(10-14)	10YR6/1-10YR7/1	7.5YR 5/6	fsl	lfgr	mvfr	cw
B21t	36-61(14-24)	10YR 5/8	10YR 5/1 & 6/1	sc	lcabk	mfi	gw
B22t	61-86(24-34)	10YR 5/8	7.5Y5/8,10YR6/1	scl	lcsbk	mfi	gw
B3t	86-112(34-44)	10YR 5/8	10YR6/1,7.5YR5/8	scl	lmsbk	mfi	gw
C	112-135+(44-53+)	10YR 6/1	10YR 5/8	fsl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.39	1.06	89.40	9.15	74	20	6
A2	0	.53	.97	83.35	15.15	72	23	5
B21t	0	.28	.83	84.17	14.72	46	16	38
B22t	0	.90	2.66	83.45	12.99	54	12	34
B3t	0	.12	.40	88.88	10.61	68	8	24
C	0	1.38	2.70	82.36	13.56	78	4	18

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.31	15.64	9.06	4.52	3.24	2.44	0.087	2.21	1.20
A2	1.49	13.04	6.72	2.53	1.47	.99	.085	3.08	0.12
B21t	1.50	39.13	30.61	23.74	19.44	15.47	.227	8.85	--
B22t	1.66	32.35	27.54	22.41	17.65	14.10	.223	14.51	--
B3t	1.75	24.78	20.48	16.31	12.72	10.10	.182	19.13	--
C	1.73	19.59	16.07	12.67	9.63	7.61	.146	22.46	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	0.98	6.0	5.8	4.3	40.0	2.6	0.30	0.57	0.10	0.07	6.2	9.36	210.0
A2	.14	6.1	6.0	4.4	63.2	2.8	.35	.30	.03	.09	5.1	<1.0	14.7
B21t	.21	6.5	6.4	4.0	70.4	17.1	1.41	.51	.10	.08	5.0	<1.0	1.5
B22t	.09	7.5	7.7	3.3	91.9	14.5	2.47	.62	.10	.20	5.0	<1.0	<.5
B3t	.05	7.4	7.5	4.8	81.2	18.4	4.18	.51	.08	.17	5.5	<1.0	<.5
C	.03	7.5	7.5	3.8	100.5	14.7	4.03	.55	.07	.13	7.0	<1.0	5.5

* May be reclassified as Yonges series - Typic Albaqualfs; Fine loamy, mixed, thermic.

Table 8A. Characteristics of the Coxville Series

Location: Liberty Co., Ga.

Drainage: Poor

Classification: Typic Ochraquults; Clayey kaolinitic, thermic (Low Humic Gley)

Cover: Forested with pines, gums and undergrowth of gallberry, myrtle and grasses

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
O	2.5-0(1-0)	Dark reddish brown(5YR 2/2) partially decomposed pine & hardwood leaves & roots					
A1	0-5(0-2)	10YR 4/1	---	fsl	fgr	mvfr	cw
A2	5-20(2-8)	10YR 6/1-5/1	10YR 5/6	fsl	1fgr	mvfr	cw
B1g	20-28(8-11)	10YR 6/1	7.5YR5/6,5YR5/6	fsl	1msbk	mfr	cs
B21tg	28-61(11-24)	(N5)	7.5YR 5/6	c	2msbk	mfi	gs
B22tg	61-97(24-38)	(N5)	7.5YR5/6,5YR5/8, 2.5YR4/8	c	2fa&sbk	mvfi	gs
Cg	97+ (38+)	(N5)	7.5YR 5/8	c	m or with 1fabk	mvfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.25	4.38	21.85	57.85	15.67	69	22	9
A2	.22	2.97	17.63	49.92	29.25	65	24	11
B1g	.12	3.02	16.93	50.67	29.25	67	22	11
B21tg	.16	1.13	8.16	59.03	31.52	28	18	54
B22tg	.01	1.25	9.07	59.46	30.21	33	16	51
Cg	0	0.82	8.35	64.50	26.33	35	16	49

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.45	--	12.14	8.05	5.70	3.99	0.118	0.60
A2	1.55	--	8.68	5.93	3.91	2.44	.097	2.07
B1g	1.64	--	10.19	7.79	5.90	4.26	.097	2.81
B21tg	1.36	--	40.31	36.40	26.97	22.63	.240	10.75
B22tg	1.44	--	35.27	32.04	23.67	19.83	.222	18.63
Cg	1.47	--	33.26	29.84	22.85	19.18	.207	

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.93	4.6	4.6	3.4	8.6	17.1	0.38	0.19	0.03	0.09	6.2	<1.0	7.0
A2	.39	5.0	5.0	4.0	44.9	3.7	.34	.17	.02	1.13	1.6	<1.0	2.5
B1g	.17	4.9	4.9	4.0	36.6	3.4	.16	.02	.01	1.09	2.0	<1.0	4.0
B21tg	.34	4.9	4.9	3.4	22.5	7.2	.18	.21	.06	1.17	5.0	<1.0	3.5
B22tg	.17	4.9	4.9	3.3	8.8	14.7	.13	.21	.08	.87	5.1	<1.0	<.5
Cg	.15	4.7	4.7	3.3	20.1	19.8	.38	2.10	.08	1.39	4.7	<1.0	<.5

Table 8B. Characteristics of the Coxville Series

Location: Williamsburg Co., S.C., in a depressional area, 1500 feet west of U.S. Hwy. 52.

Cover: Idle area but apparently once in cultivation

Relief: Depressed

Drainage: Poor

Classification: Typic Ochraquults; Clayey, kaolinitic, thermic (Low Humic Gley)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-10(0-4)	10YR 3/1	---	fsl	1mgr	mfr	as
A2g	10-20(4-8)	10YR 6/2	---	vfsl	1mgr-1fsbk	mfr	cs
B1tg	20-31(8-12)	10YR 6/2	10YR5/6,2.5YR4/8	scl	1csbk	mfr	gs
B21tg	31-51(12-20)	10YR 6/1	10YR5/6,2.5YR4/8	c	2mpr	mfi-vfi	gs
B22tg	51-94(20-37)	10YR 5/1	10YR5/6,2.5YR4/8, 10R 5/2	c	1csbk	mfi	gw
B3tg	94-114(37-45)	10YR5/1,10YR5/6	---	c	1cbk	ws&p	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.04	1.17	5.95	79.49	17.35	55	29	16
A2g	.00	1.43	6.06	61.18	31.34	57	25	18
B1tg	.00	1.57	6.17	61.53	30.73	53	23	24
B21tg	.08	1.29	5.18	58.78	34.68	41	17	42
B22tg	.00	1.69	5.91	63.19	29.21	39	15	46
B3tg	.00	1.56	5.91	60.29	32.34	35	13	52

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	0.98	42.94	28.28	21.94	17.31	12.96	0.150	1.53
A2g	1.39	26.20	18.33	11.23	8.93	6.95	.158	3.13
B1tg	1.68	24.40	17.00	11.60	9.73	7.89	.153	4.69
B21tg	1.62	36.81	28.22	22.15	18.68	15.72	.203	8.81
B22tg	1.57	38.62	29.97	24.31	20.75	17.75	.192	17.10
B3tg	1.60	40.54	31.87	28.00	24.00	20.57	.181	20.77

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	6.10	4.6	4.5	4.1	24.2	14.6	1.88	0.47	0.13	1.04	1.6	5.6	<0.5
A2g	1.18	4.5	4.5	4.3	46.5	5.1	1.25	.18	.03	.91	4.4	<1.0	<.5
B1tg	.39	4.6	4.6	3.9	62.2	4.5	1.25	.52	.02	1.00	9.7	<1.0	<.5
B21tg	.35	4.8	4.5	3.6	41.8	6.1	1.25	.04	.04	1.22	7.0	<1.0	<.5
B22tg	.23	4.8	4.6	5.2	21.6	7.4	.63	.03	.01	.91	8.6	<1.0	<.5
B3tg	.15	4.8	4.6	3.9	28.1	7.9	1.25	.03	.02	.91	7.1	<1.0	<.5

Table 8 C. Characteristics of the Coxville Series*

Location: Sumter Co., S.C., 1 mile SE of Oswego, 1/2 mile east of county road, along farm road 27 rows east of 2nd lateral ditch.

Drainage: Poor

Classification: Typic Ochraquults; Clayey, kaolinitic, thermic (Low Humic Gley)

Cover: Cultivated

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-18(0-7)	10YR 2/1	---	fsl	1fgr	mfr	cs
A2	18-23(7-9)	10YR 5/1	---	fsl	1fsbk	mfr	cw
B1tg	23-33(9-13)	10YR 6/1	10YR 5/6	scl	1msbk	mfr	cw
B21tg	33-46(13-18)	10YR 6/1	10YR 5/8	scl	1msbk	mfr	cw
B22tg	46-76(18-30)	10YR 6/1	10YR 5/8	scl	2fabk	mfr	--
B3tg	76-135+(30-53+)	10YR 6/1	10YR5/8,10R4/8	scl	1msbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.11	6.77	18.77	48.78	25.57	64	21	15
A2	.06	7.53	19.01	48.96	24.45	65	18	17
B1tg	.26	9.05	19.93	45.80	24.96	61	18	21
B21tg	.18	8.57	19.77	48.53	22.95	59	18	21
B22tg	.12	8.48	22.18	45.79	23.44	54	14	32
B3tg	.09	7.80	21.64	49.00	21.48	54	11	35

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.41	21.35	15.84	10.11	7.87	5.80	0.142	2.53
A2	1.82	18.02	12.48	8.16	6.91	5.67	.124	3.16
B1tg	1.80	21.29	12.42	9.23	8.21	6.85	.100	4.17
B21tg	1.85	19.15	12.94	10.68	8.86	7.48	.101	5.45
B22tg	1.67	24.10	18.18	15.81	13.78	11.88	.105	8.65
B3tg	1.69	28.26	20.20	17.93	16.01	13.85	.107	14.90

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	2.32	4.5	4.5	3.7	49.5	7.6	2.39	0.17	0.33	0.87	4.8	4.7	56.7
A2	.45	4.7	4.6	3.7	68.3	3.6	.83	.42	.08	1.13	2.3	<1.0	8.5
B1tg	.17	4.4	4.2	3.8	57.5	3.6	.47	.45	.06	1.09	4.4	<1.0	4.2
B21tg	.17	4.3	4.3	3.8	55.9	3.4	.46	.22	.05	1.17	3.0	<1.0	2.5
B22tg	.19	4.4	4.2	3.7	35.8	3.8	.33	.13	.03	.87	10.1	<1.0	1.5
B3tg	.15	4.3	4.2	3.6	35.4	5.4	.32	.16	.04	1.39	3.4	<1.0	2.5

* May be reclassified as the Rains series - Typic Ochraquults, Fine loamy, siliceous, thermic.

Table 9A. Characteristics of the Lynchburg Series

Location: Calhoun Co., S.C., SE tip of county on south side of county road 91 at a point 1 mile northeast from its intersection with U.S. 176.

Drainage: Somewhat poor

Classification: Aeric Ochraquults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic-Low Humic Gley)

Cover: Cut over woodland and is growing up in pines and oaks

Parent Material: Marine sandy loam

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-15(0-6)	(N3)	---	lfs	lfgr	mvfr	as
A2	15-25(6-10)	2.5Y 4/4	---	lfs	lfgr	mvfr	aw
B1	25-33(10-13)	2.5Y 5/4	10YR 5/8	lfs	lfgr	mvfr	as
B21t	33-43(13-17)	2.5Y 5/4-6/4	10YR 5/8	fsl	lfsbk	mfr	cs
B22tg	43-64(17-25)	2.5Y 5/2-6/2	10YR5/8,5YR4/8	fsl	lfmsbk	mfr	cs
B23tg	64-97(25-38)	10YR5/8,2.5Y6/2	2.5Y 7/2, 5YR 5/8	fsl	lmsbk	mfr	gs
B3tg	97-112+(38-44+)	2.5Y 6/2	10YR5/8,2.5Y7/2	fsl	lcsbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia. (%)	Silt 0.05-0.002 mm.dia. (%)	Clay <0.002 mm.dia. (%)
	(percent of total sand)							
A1	0.00	4.54	16.40	66.97	12.09	79	17	4
A2	.03	5.22	16.47	67.34	10.94	81	15	4
B1	.00	5.07	15.17	65.33	14.44	79	15	6
B21t	.04	5.61	16.09	65.89	12.37	75	13	12
B22tg	.13	7.21	18.01	61.46	13.19	75	11	14
B23tg	.05	7.99	18.57	61.76	11.63	76	12	12
B3tg	.05	7.07	18.87	63.16	11.84	72	8	20

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.) (cm.)	Available Water (Cumulative) (cm.)	Hyd. Cond. (ft/day)
		(percent by weight)							
A1	1.16	19.20	13.52	7.36	5.48	4.23	0.108	1.64	0.48
A2	1.36	16.88	10.38	5.54	3.92	2.93	.101	2.67	0.48
B1	1.50	12.73	7.13	5.28	4.25	3.18	.059	3.12	0.60
B21t	1.55	12.83	8.06	6.42	5.57	4.54	.055	3.68	0.12
B22tg	1.59	12.40	8.88	7.66	6.75	5.74	.050	4.70	0.06
B23tg	1.72	11.05	7.63	6.43	5.63	4.76	.049	6.32	0.06
B3tg	1.67	16.74	10.60	9.57	8.57	7.34	.054	7.15	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
						(meq/100 g)					(ppm)		
A1	3.68	4.6	4.5	3.0	9.4	13.0	0.82	0.31	0.02	0.07	3.4	<3.3	<0.5
A2	1.39	4.7	4.7	3.7	4.0	7.8	.15	.09	.02	.05	1.8	<3.0	<.5
B1	.64	5.0	5.0	4.1	5.5	4.0	.07	.07	.01	.07	3.2	<.16	<.5
B21t	.25	4.9	4.8	3.7	3.3	4.5	.03	.05	.03	.04	4.1	<.16	<.5
B22tg	.12	4.9	4.8	3.6	8.3	5.4	.13	.15	.02	.15	3.1	.16	<.5
B23tg	.03	4.9	4.8	3.6	12.2	4.0	.19	.09	.02	.19	3.9	.16	<.5
B3tg	.04	5.1	4.9	3.5	12.1	5.4	.32	.15	.01	.17	4.8	.16	<.5

Table 9B Characteristics of the Lynchburg Series

Location: Sumter Co., S.C., in woods .8 miles from S.C. Hwy. 61 on east side of road

Cover: Woods

Relief: Nearly level

Drainage: Somewhat poor

Classification: Aeric Ochraquults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic-Low Humic Gley)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-13(0-5)	10YR 3/1	---------	fsl	1fgr	mvfr	cs
A2	13-23(5-9)	10YR 4/2	---------	fsl	1fgr	mvfr	cs
B1t	23-38(9-15)	10YR 6/3	10YR 5/8	fsl	1fsbk	mfr	cw
B2t	38-61(15-24)	2.5Y 5/4	7.5YR 6/8	scl	1fsbk	mfr	gw
B3tg	61-107+(24-42+)	10YR 6/1	10YR5/8,7.5YR5/8	scl	1fsbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	0.72	4.20	82.53	12.54	73	20	7
A2	0	1.09	4.48	80.21	14.22	73	19	8
B1t	0	1.03	4.04	81.15	13.78	70	17	13
B2t	0	1.55	4.90	78.99	14.56	64	15	21
B3tg	0	1.51	4.69	80.00	13.82	64	13	23

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10 (percent by weight)	1/3	1	4	15	Available Water (Per cm.) (cm.)	Available Water (Cumulative) (cm.)	Hyd. Cond. (ft/day)
A1	1.06	22.93	15.52	7.85	5.65	4.61	0.116	1.47	0.12
A2	1.47	17.85	11.80	5.68	3.44	2.39	.138	2.88	0.24
B1t	1.64	14.95	8.81	5.61	4.51	3.42	.088	4.22	0.02
B2t	1.73	16.31	11.94	9.95	8.42	7.13	.083	6.13	--
B3tg	1.75	20.48	13.44	10.81	8.89	7.50	.104	10.88	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca	Mg	K	Na	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
A1	3.07	4.1	4.1	4.2	28.0	6.5	1.23	0.41	0.04	0.13	5.1	<1.0	<0.5
A2	1.12	4.7	4.6	4.2	34.9	4.3	1.09	.22	.05	.14	4.4	<1.0	<.5
B1t	.22	5.0	4.9	3.0	31.7	2.9	.67	.13	.02	.10	3.4	<1.0	<.5
B2t	.17	4.8	4.7	3.7	30.9	3.4	.67	.26	.02	.10	7.0	<1.0	<.5
B3tg	.08	4.9	4.8	3.9	8.8	4.3	.27	.08	.02	.01	5.6	<1.0	<.5

Table 9C. Characteristics of the Lynchburg Series

Location: Colleton Co., S.C., 9 miles west of Walterboro, 550 feet west of Hudson Mill road 350 feet south of S.C. Hwy. 64 and 105 feet east of west side of field.

Drainage: Somewhat poor

Classification: Aeric Ochraquults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic-Low Humic Gley)

Cover: Cultivated

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-18(0-7)	10YR 4/1	---	lfs	lmgr	mvfr	cs
A2	18-33(7-13)	2.5Y 6/4	2.5Y 5/6	lfs	lcsbk	mvfr	cw
B1	33-41(13-16)	2.5Y 5/6	10YR5/6,2.5Y6/4	lfs	csbk	mfr	cs
B21tg	41-74(16-29)	2.5Y 5/4	10YR5/6,2.5Y6/2	fsl	lmsbk	mfr	cw
B22tg	74-89(29-35)	10YR5/6& 6/1	2.5YR 4/8	fsl	lcsbk	mfr	gw
B3tg	89-152+(35-60+)	10YR 5/6	10YR6/1,2.5YR4/8	scl	lcsbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.04	2.23	5.54	70.45	21.73	85	13	2
A2	.15	2.39	5.16	72.28	20.02	85	11	4
B1	.19	2.71	5.60	68.05	23.46	84	12	4
B21tg	.25	3.08	5.58	69.67	21.42	75	10	15
B22tg	.21	2.90	5.42	68.24	23.23	70	11	19
B3tg	.27	3.71	6.38	75.40	14.24	70	9	21

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.34	11.04	6.12	3.56	2.73	2.13	0.054	0.96
A2	1.50	9.59	5.25	3.22	2.64	2.06	.048	1.69
B1	1.63	8.32	4.64	2.29	1.87	1.45	.052	2.09
B21tg	1.74	15.82	11.25	8.87	7.71	6.54	.082	4.80
B22tg	1.75	19.13	13.95	11.40	10.10	8.66	.093	6.21
B3tg	1.63	21.87	15.29	12.27	11.05	9.58	.093	12.12

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.39	5.0	5.0	3.9	12.2	3.7	0.38	0.01	0.02	0.04	<0.1	1.8	<0.5
A2	.35	5.0	5.1	4.4	21.2	1.6	.25	.03	.01	.05	<.1	<1.0	<.5
B1	.11	5.1	5.1	4.3	18.6	1.4	.19	.02	.02	.03	.2	1.8	<.5
B21tg	.11	5.1	5.0	3.8	23.0	3.3	.57	.13	.01	.05	.1	1.8	<.5
B22tg	.09	5.3	5.1	3.8	20.7	4.5	.50	.27	.01	.15	<.1	1.8	<.5
B3tg	.11	5.4	5.2	3.7	9.8	6.2	.19	.28	.02	.12	<.1	<1.0	<.5

Table 10A. Characteristics of the Grady Series

Location: Sumter Co., S.C., 1/4 mile south of Dalzell in Carolina bay on east side of U.S. Hwy. 521, 165 ft. from windrow next to woods and 240 feet from east edge of ditch.

Drainage: Poor

Classification: Typic Ochraquults; Clayey, kaolinitic, thermic (Low Humic Gley)

Cover: Cultivated

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-10(0-4)	10YR 2/1	---------	cl	lmsbk	mfr	aw
B1tg	10-15(4-6)	10YR 4/1	10YR5/8,5YR4/4	c	lmsbk	mfi	aw
B2tg	15-66(6-26)	10YR 6/1	10YR 5/8	c	lmsbk	mfi	gw
B3g	66-74(26-29)	10YR 6/1	---------	scl	lmsbk	mfr	cw
Cg	74-127+(29-50+)	--------	---------	scl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.17	14.79	45.42	29.32	10.31	41	27	32
B1tg	.15	17.47	44.58	29.01	8.80	33	19	48
B2tg	.17	17.43	46.55	27.73	8.12	35	15	50
B3g	.05	17.99	50.30	26.45	5.20	70	4	26
Cg	.00	15.50	48.32	29.08	[illegible]	75		

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.03	45.81	36.80	24.22	20.02	15.97	0.215	2.19
B1tg	1.43	36.22	31.47	24.12	21.38	18.33	.188	3.13
B2tg	1.42	36.12	27.91	23.37	20.83	18.04	.140	10.24
B3g	1.84	15.72	13.14	12.13	10.41	9.11	.074	10.81
Cg	1.64	17.01	12.52	11.76	9.84	8.42	.067	14.38

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	5.86	4.8	4.8	3.3	17.2	18.88	3.75	0.13	0.23	0.15	4.8	<1.0	15.5
B1tg	1.31	4.4	4.4	3.5	9.6	8.99	.56	.08	.09	.13	4.8	<1.0	3.5
B2tg	.73	4.4	4.4	3.7	9.8	8.77	.32	.31	.06	.17	5.0	<1.0	4.0
B3g	.19	4.5	4.5	3.5	14.6	4.09	.27	.19	.05	.09	5.3	<1.0	<.5
Cg	.13	4.6	4.5	3.4	20.4	2.69	.28	.18	.02	.07	15.6	<1.0	<.5

Table 10B. Characteristics of the Grady Series

Location: Sumter Co., S.C., in wooded Carolina bay on N side of dirt county road, 175 feet E of lateral ditch between 6th and 7th telephone poles counting from east side of bay, 50 ft., from side of road.

Drainage: Poor

Classification: Typic Ochraquults; clayey, kaolinitic, thermic (Low Humic Gley)

Cover: Wooded area

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
0	5-0(2-0)	Partially decomposed pine needles.					
A11	0-10(0-4)	5YR 2/1	---	l	1fgr&lcsbk	mfr	cs
A12	10-18(4-7)	10YR 2/2	---	scl	1fgr&lcsbk	mfr	cw
B1tg	18-28(7-11)	10YR 4/1	---	scl	1msbk	mfi	cw
B21tg	28-46(11-18)	10YR 6/1	---	c	2msbk	mfi	cw
B22tg	46-69(18-27)	10YR 6/1	10YR 5/8	sc	2msbk	mfi	cw
B3g	69-89(27-35)	10YR 6/1	10YR5/8,2.5Y4/8	scl	1msbk	mfr	gw
Cg	89-127+(35-50+)	---	---	scl	-----	---	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A11	0.40	11.71	23.98	59.13	4.77	46	35	19
B12	.55	16.40	24.85	49.80	8.39	54	23	23
B1tg	.95	24.02	19.96	43.42	11.65	52	13	35
B21tg	1.22	20.73	19.56	46.98	11.49	40	13	47
B22tg	1.17	19.03	19.68	47.36	12.75	52	11	37
B3g	.74	19.62	21.96	48.13	9.55	68	5	27
Cg	1.03	20.45	23.96	44.51	10.06	74	3	23

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10	1/3	1	4	15 (percent by weight)	Available Water (per cm.) (cm.)	(Cumulative) (cm.)
A11	0.85	49.33	35.95	26.65	21.92	17.17	0.160	1.63
B12	1.19	30.49	23.26	18.40	15.57	13.09	.121	2.55
B1tg	1.45	26.56	19.96	16.37	14.94	13.13	.099	3.55
B21tg	1.49	33.05	25.50	21.94	20.19	17.93	.113	5.56
B22tg	1.48	25.69	21.68	19.70	18.11	16.42	.078	7.35
B3g	1.69	18.87	15.68	14.30	13.13	11.79	.066	8.69
Cg	1.76	18.50	14.04	12.22	11.27	10.03	.071	11.40

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca	Mg	K	Na	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
A11	6.89	4.3	4.3	3.5	1.6	14.0	<0.01	0.04	0.05	0.13	1.0	3.3	<0.5
A12	2.82	4.5	4.5	3.5	1.6	8.8	<.01	.01	.02	.10	3.5	2.5	<.5
B1tg	.86	4.5	4.5	3.5	1.1	6.3	<.01	.03	.02	.01	3.6	2.3	<.5
B21tg	.39	4.6	4.5	3.5	2.0	7.1	<.01	.02	.02	.09	3.4	1.3	<.5
B22tg	.30	5.1	5.0	3.6	3.5	3.1	<.01	.05	.01	.04	2.8	2.5	<.5
B3g	.13	4.8	4.8	3.7	13.2	2.2	<.01	.02	.01	.25	1.9	1.3	<.5
Cg	.07	4.7	4.6	3.6	11.2	2.5	<.01	.02	.01	.24	5.3	2.5	<.5

Table 10C. Characteristics of the Grady Series*

Location: Lee Co., S.C., in center of Carolina bay alongside U.S. Hwy. 15 on Joe Hearon farm 4 1/2 miles north of Bishopville. Between rows 47 and 48 in soybean field on south side of field ditch; 530 feet west of dirt road.

Drainage: Poor

Classification: Typic Ochraqualts; Clayey, kaolinitic, thermic (Low-Humic Gley)

Cover: Cultivated

Parent Material: Marine sands and clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-13(0-5)	10YR 4/1	---	sl	lmgr	mfr	as
B21tg	13-31(5-12)	10YR 6/2	10YR6/3,10YR6/6	scl	lmsbk	mfr	cw
B22tg	31-56(12-22)	10YR 6/1	10YR6/6,10YR5/8	scl	lfsbk	mfr	gw
B3tg	56-107(22-42)	10YR 6/1	10YR5/8,2.5YR4/8	scl	lfsbk	mfr	gw
C1g	107-135+(42-53+)	---	---	sc	m	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.17	19.85	38.46	27.67	13.84	54	34	12
B21tg	.61	22.70	37.85	26.32	12.53	45	23	32
B22tg	.30	22.66	38.08	26.91	12.05	49	21	30
B3tg	.30	21.79	38.13	26.78	13.01	32	17	31
C1g	.34	21.34	38.75	27.57	12.01	46	17	37

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.48	24.87	19.09	9.02	6.52	4.53	0.215	2.73
B21tg	1.68	25.85	19.88	13.98	12.36	10.56	.157	5.52
B22tg	1.76	26.22	16.94	12.93	11.60	9.98	.122	8.62
B3tg	1.68	24.17	16.70	14.59	12.91	11.30	.091	13.24
C1g	1.78	28.06	20.30	17.81	16.02	14.16	.109	16.28

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.86	6.4	6.4	5.0	67.5	2.9	1.69	0.11	0.06	0.10	5.4	4.8	26.5
B21tg	.36	5.3	5.1	3.6	26.8	3.8	.56	.34	.03	.09	3.1	2.5	<.5
B22tg	.13	4.9	4.7	3.5	25.6	3.0	.32	.23	.02	.20	1.1	2.5	<.5
B3tg	.08	4.7	4.6	3.5	9.7	3.6	.15	.11	.02	.07	3.1	2.5	<.5
C1g	.07	4.7	4.6	3.4	--	20.3	.13	.15	.02	.23	1.6	1.8	<.5

* May be reclassified as the Rains series - Typic Ochraqualts; Fine loamy, siliceous, thermic.

Table 11A. Characteristics of the Dunbar Series*

Location: Wayne Co., Ga., wooded area 7 miles south of Mount Pleasant and 1 mile west of Post Road on land owned by Brunswick Pulp and Paper Co.

Cover: Scattered longleaf pine and sweetgum trees with wiregrass ground cover

Relief: Level

Drainage: Somewhat poor

Classification: Aeric Ochraquults; Clayey, kaolinitic, thermic (Red-Yellow Podzolic-Low Humic Gley)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-15(0-6)	N3	---	lfs	lmcr	mvfr	cs
A2	15-38(6-15)	2.5Y 8/4	7.5YR 6/8	lfs	lmcr	mvfr	cs
B1	38-56(15-22)	10YR 5/8	10YR 7/6	lfs	lmsbk	mfr	gw
B2tg	56-76(22-30)	5Y6/1,10YR5/8, 10YR 4/6	---	scl	2msbk	mfi	gw
B3tg	76-122+(30-48+)	N5,7.5YR5/8, 10R4/6	---	sc	2mabk	mvfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.11	1.33	6.79	85.29	6.48	83	12	5
A2	.29	1.37	5.86	79.63	12.86	85	8	7
B1	.13	1.36	6.31	79.28	12.92	85	8	7
B2tg	.10	.77	4.15	80.92	14.05	61	10	29
B3tg	.00	.68	3.57	73.04	22.71	51	14	35

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.37	9.56	6.01	4.36	3.46	2.68	0.046	0.70	0.48
A2	1.42	5.58	3.83	3.01	2.45	2.45	.028	1.34	0.60
B1	1.48	6.37	3.88	2.91	2.35	2.35	.031	1.89	0.12
B2tg	1.57	28.89	20.00	18.44	15.34	15.34	.108	4.08	--
B3tg	1.52	34.14	23.04	20.42	17.72	17.72	.119	9.52	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.40	4.8	4.5	3.5	14.3	4.4	0.44	0.12	0.02	0.05	4.1	<1.0	<0.5
A2	.24	5.4	5.1	4.2	9.7	3.6	.25	.04	.02	.04	4.2	<1.0	<.5
B1	.12	5.3	5.1	4.1	20.0	1.1	.22	.07	.03	.04	4.2	<1.0	<.5
B2tg	.25	5.4	4.9	3.8	56.0	5.8	1.60	1.54	.07	.04	2.5	<1.0	<.5
B3tg	.12	5.3	4.8	3.6	40.6	9.0	1.78	1.74	.07	.06	4.5	<1.0	<.5

* May be reclassified as the Lynchburg series - Aeric Ochraquults; Fine loamy, siliceous, thermic.

Table 11B. Characteristics of the Dunbar Series*

Location: Williamsburg Co., S.C., 1100 feet south of S.C. Hwy. 521, 1 1/4 miles east of Greeleyville, 125 feet south of ditch.

Cover: Cultivated

Relief: Nearly level

Drainage: Somewhat poor

Classification: Aeric Ochraquults; Clayey kaolinitic, thermic (Red-Yellow Podzolic-Low Humic Gley)

Parent Material: Sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-18(0-7)	10YR 3/2	---	fsl	lfgr	mvfr	as
B11	18-23(7-9)	10YR 5/3	---	fsl	1m&fsbk	mfr	cs
B12	23-33(9-13)	10YR 5/4	---	scl	1m&fsbk	mfr	cw
B21t	33-53(13-21)	10YR 5/4	10YR6/2,2.5YR4/8	scl	1mabk	mfi	cw
B22t	53-71(21-28)	10YR5/6,10YR6/2, 10R 4/8	---	scl	2mabk	ws	gw
B3t	71-91(28-36)	10YR6/1,10YR5/6, 10R 4/8	---	scl	2mabk	ws	gw
C	91-107(36-42)	N6,2.5YR 4/8	---	sc	m	ws	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	1.75	19.36	58.34	20.54	61	29	10
B11	0	2.36	19.92	59.82	17.91	57	23	20
B12	0	2.29	18.09	58.71	20.91	53	21	26
B21t	0	2.78	21.22	60.35	15.65	53	19	28
B22t	0	2.82	21.51	56.42	19.25	49	19	32
B3t	0	2.75	22.37	57.30	17.58	47	19	34
C	0	2.41	21.84	56.60	19.15	45	17	38

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.33	31.31	17.80	10.30	7.28	5.20	0.168	2.99
B11	1.55	24.44	18.01	11.92	9.73	8.03	.155	3.78
B12	1.59	27.06	20.88	14.75	12.33	10.49	.165	5.45
B21t	1.58	25.91	19.06	15.08	12.74	10.82	.130	8.09
B22t	1.61	28.97	22.42	17.95	15.66	13.51	.143	10.64
B3t	1.67	29.17	22.67	19.06	17.12	14.81	.131	13.30
C	1.69	32.92	25.63	20.91	18.77	16.27	.158	15.72

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	2.24	5.0	4.8	3.6	21.2	4.0	0.55	0.18	0.05	0.08	4.2	<1.0	< 0.5
B11	.60	5.0	4.7	3.8	11.2	5.8	.43	.09	.05	.07	4.8	<1.0	<.5
B12	.34	4.9	4.7	3.5	23.1	5.8	.88	.25	.05	.16	4.5	<1.0	<.5
B21t	.16	4.9	4.7	3.5	30.8	8.8	2.37	.2	.02	.10	10.1	<1.0	<.5
B22t	.15	5.1	4.9	3.3	29.4	8.1	1.88	.35	.03	.12	5.6	<1.0	<.5
B3t	.14	4.9	4.8	4.6	36.6	7.0	2.19	.24	.03	.10	5.1	<1.0	<.5
C	.12	4.9	4.9	4.3	35.5	10.6	3.25	.38	.02	.10	5.0	<1.0	<.5

* May be reclassified as the Lynchburg series - Aeric Ochraquults; Fine loamy, siliceous, thermic.

Table 11C. Characteristics of the Dunbar Series*

Location: Sumter Co., S.C., in cotton field on north side of State Hwy. 303, 5/8 mile east of Oswego, 400 feet from edge of woods along highway and 50 feet north of first culvert in road ditch.

Cover: Cultivated

Relief: Nearly level

Drainage: Somewhat poor

Classification: Aeric Ochraquults; Clayey, kaolinitic, thermic (Red-Yellow Podzolic-Low Humic Gley)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-15(0-6)	10YR 3/1	---	fsl	1fgr	mfr	as
B21t	15-28(6-11)	10YR 4/4	---	scl	1msbk	mfr	cs
B22t	28-43(11-17)	10YR 4/1	7.5YR 4/4	scl	1msbk	mfr	cw
B23t	43-69(17-27)	2.5Y 5/4	10YR5/2,10YR4/4	scl	1msbk	mfr	cw
B3tg	69-117(27-46)	10YR 3/1	7.5YR5/8,10YR4/4	scl	1msbk&2cpl	mfr	cw
Cg	117-137+(46-54+)	N6/,2.5YR4/8, 7.5YR 5/8	---	scl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.57	20.01	32.79	31.96	14.67	68	21	11
B21t	.25	23.12	35.19	28.24	13.19	60	15	25
B22t	1.06	25.35	34.52	27.35	11.71	60	13	27
B23t	.35	24.08	37.02	26.28	12.27	58	13	29
B3tg	.29	24.13	37.59	27.09	10.90	54	13	33
Cg	.28	26.11	37.23	25.49	10.90	52	13	35

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.42	20.21	14.47	8.50	6.31	4.45	0.142	2.16	0.01
B21t	1.59	21.09	14.80	12.15	10.76	9.02	.092	3.33	0.04
B22t	1.65	23.84	15.20	12.58	11.27	9.68	.091	4.72	0.05
B23t	1.62	21.77	15.37	13.63	12.43	10.95	.072	6.55	0.02
B3tg	1.54	24.38	18.01	16.38	14.95	13.53	.070	9.92	0.04
Cg	1.57	25.48	19.71	17.94	16.11	14.54	.081	11.57	

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	2.24	4.5	4.4	3.7	39.5	3.8	0.94	0.13	0.28	0.15	4.5	<1.0	22.5
B21t	.72	4.6	4.5	3.7	27.2	3.6	.57	.17	.11	.12	11.7	<1.0	7.5
B22t	.27	4.6	4.6	3.7	27.6	3.4	.69	.10	.04	.10	4.2	<1.0	4.5
B23t	.17	4.8	4.7	3.7	18.0	3.6	.41	.11	.02	.10	4.2	<1.0	1.5
B3tg	.18	5.0	4.9	3.7	16.1	3.8	.33	.13	.03	.12	4.2	<1.0	4.5
Cg	.17	5.0	4.9	3.5	32.6	5.0	.69	.17	.03	.12	15.6	<1.0	2.5

* May be reclassified as the Lynchburg series - Aeric Ochraquults; Fine loamy, siliceous, thermic.

Table 12A. Characteristics of the Bladen Series

Location: Liberty Co., Ga., southeast corner of SE Tidewater Experiment Station, Fleming, Georgia

Drainage: Poor

Classification: Typic Ochraquults; Clayey, mixed, thermic (Low Humic Gley)

Cover: Loblolly pine and sweetgum

Parent Material: Marine clays and heavy sandy clays

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-10(0-4)	(N4)	---------	l	1fgr	mfr	cs
A2	10-18(4-7)	(N4)	(N7),2.5Y 8/4	cl	1fgr	mfr	gw
A3g	18-25(7-10)	2.5Y 5/2	2.5Y7/6,2.5Y7/2	cl	1fgr	mfr-fi	aw
B1tg	25-38(10-15)	2.5Y 5/2	10YR7/6,7.5YR5/6	c	1-2sbk	mfi	gi
B2tg	38-86(15-34)	10YR 5/1	10YR5/8,10YR7/8	c	m-lcabk	mvfi	d
B3tg	86-147(34-58)	10YR 5/1	7.5YR5/8,10YR7/8	c	m-lcabk	mvfi	d
Cg	147-167(58-66)	5Y 5/1	10YR5/8, 5Y 7/4	c	m	mvfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.28	1.67	4.66	59.22	34.18	29	46	25
A2	.31	1.97	5.32	64.66	27.75	32	40	28
A3g	.42	2.23	5.42	40.46	51.46	26	38	36
B1tg	.19	1.68	4.73	48.93	44.47	22	28	50
B2tg	.34	1.81	4.93	42.42	50.49	21	26	53
B3tg	.18	1.48	4.69	45.11	48.55	17	32	51
Cg	.36	1.59	3.80	35.30	58.95	15	24	61

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.42	--	23.74	19.33	16.18	10.57	0.187	1.91
A2	1.41	--	21.14	13.60	10.09	7.24	.196	3.40
A3g	1.47	--	23.67	18.28	13.73	9.72	.205	4.96
B1tg	1.45	--	31.48	21.29	16.13	12.43	.276	7.20
B2tg	1.50	--	31.97	28.16	20.70	16.51	.232	18.41
B3tg	1.47	--	31.23	27.29	23.73	19.43	.173	28.95
Cg	1.33	--	38.06	33.40	28.02	23.06	.200	32.97

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq /100 g)					(ppm)		
A1	2.53	4.7	4.8	3.2	22.1	13.1	1.69	0.11	0.04	1.04	3.9	<1.0	130.0
A2	.89	4.6	4.6	3.3	28.1	10.7	1.41	.09	.03	1.48	1.8	<1.0	7.2
A3g	.59	4.5	4.4	3.0	31.6	10.7	2.06	.12	.03	1.17	1.6	<1.0	4.2
B1tg	.62	4.4	4.4	3.1	24.4	11.1	1.41	.10	.03	1.04	1.5	<1.0	6.0
B2tg	.34	4.4	4.4	2.9	26.9	13.5	2.38	.17	.06	1.02	1.6	<1.0	5.8
B3tg	.20	4.4	4.1	2.8	47.6	11.4	3.93	.23	.01	1.17	2.3	<1.0	220.0
Cg	.15	4.3	4.0	2.8	58.8	21.8	11.00	.45	.14	1.22	2.6	<1.0	11.2

Table 12B. Characteristics of the Bladen Series

Location: Beaufort Co., S.C., 100 feet from east side of US Hwy. 17 in wooded area, 600 feet north from entrance of Dale Hwy. Nemours Plantation.

Drainage: Poor

Classification: Typic Ochraquults; Clayey mixed, thermic (Low Humic Gley)

Cover: Dominantly various oaks, occasional pine few sweet myrtle, switch cane, scrub palmetto and grasses

Parent Material: Marine clays and heavy sandy clays

Relief: Nearly level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-5(0-2)	10YR 4/1	---	fsl	lmgr	mfr	cs
A2	5-13(2-5)	10YR 5/1	---	l	lmgr	mfr	cs
B21tg	13-61(5-24)	10YR 5/1	10YR 5/6	c	lcsbk	ws&p	gw
B22tg	61-89(24-35)	10YR 5/1	10YR 5/6	c	m	wvs&vp	gw
B3tg	89-104(35-41)	10YR 5/1	10YR 5/3	c	m	wvs&vp	gw
Cg1	104-130(41-51)	10YR5/1,10YR5/2	5BG 4/1	c	m	wvs&vp	cw
Cg2	130-145+(51-57+)	10YR 5/1	2.5YR5/4,5BG4/1	sc	m	ws&p	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0	0.41	3.50	81.01	15.07	54	31	15
A2	.08	1.13	4.32	76.15	18.32	52	32	16
B21tg	.13	1.15	4.33	77.13	17.25	36	23	41
B22tg	.00	.93	3.89	73.72	21.46	34	21	45
B3tg	.12	.92	4.03	72.19	22.73	34	22	44
Cg1	.05	1.20	4.85	70.53	23.38	34	23	43
Cg2	.00	13.39	77.80	8.04	0.78	48	14	38

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.04	--	26.01	17.97	13.09	9.03	0.177	0.90
A2	1.32	--	21.35	14.86	10.57	7.21	.187	2.32
B21tg	1.30	--	31.88	27.51	22.47	17.93	.181	11.06
B22tg	1.40	--	34.55	28.84	23.91	19.41	.212	16.97
B3tg	1.53	--	34.65	29.82	24.08	18.78	.243	20.66
Cg1	1.52	--	34.42	29.49	23.63	18.44	.243	26.83
Cg2	1.63	--	33.90	29.12	23.58	19.23	.239	30.49

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	3.74	4.3	4.2	3.1	23.1	14.9	1.41	0.98	0.13	0.10	9.9	<1.0	<0.5
A2	1.74	4.3	4.3	3.8	12.3	12.8	.08	.41	.09	1.00	9.6	<1.0	<.5
B21tg	.79	4.4	4.5	3.8	13.8	22.0	.69	.30	.09	1.96	3.1	<1.0	<.5
B22tg	.26	4.4	4.3	4.1	4.9	22.0	.12	.38	.13	.44	3.4	<1.0	<.5
B3tg	.21	4.6	4.5	5.3	11.9	22.8	.91	.31	.13	4.35	7.0	<1.0	<.5
Cg1	.17	4.9	4.9	5.1	46.6	23.1	1.73	4.57	.12	4.35	2.3	<1.0	<.5
Cg2	.05	5.8	5.9	6.1	69.2	21.9	6.88	3.79	.13	4.35	3.6	<1.0	<.5

Table 12C. Characteristics of the Bladen Series

Location: Charleston Co., S.C., in wooded area 4 miles south of Adams Run village; 1 mile south of Seaboard Airline Railroad, 3/4 mile west of S.C. Hwy 174. On J. P. Sander's edge and field ditch and 115 feet in woods, south of woods edge and field ditch.

Drainage: Poor

Classification: Typic Ochraquults; Clayey, mixed, thermic (Low Humic Gley)

Cover: Woodland--gums, oaks, pines and scrub palmetto

Parent Material: Marine sandy clays

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-13(0-5)	10YR 4/1	---	l	lfgr	mvfr	cs
A2	13-23(5-9)	10YR 6/1	10YR 5/3	l	lfgr	mvfr	cw
B2tg	23-69(9-27)	10YR 5/1	7.5YR 5/8	c	lcsbk	mvfi	gs
Cg	69-102(27-40)	10YR 5/1	7.5YR5/8,2.5Y4/8	c	m	mvfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia. (%)	Silt 0.05-0.002 mm.dia. (%)	Clay <0.002 mm.dia. (%)
	(percent of total sand)							
A1	0	0.39	1.32	64.40	33.89	47	44	9
A2	0	.60	1.72	60.14	37.54	51	40	9
B2tg	0	.72	1.15	61.34	[illegible]	[illegible]		
Cg	0	.87	1.33	45.89	51.91	26	15	59

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.) (cm.)	Available Water (Cumulative) (cm.)
		(percent by weight)						
A1	1.20	--	16.17	9.28	6.30	4.25	0.143	1.82
A2	1.59	--	9.25	5.51	3.66	2.34	.110	2.94
B2tg	1.87	--	35.98	30.59	27.23	21.79	.265	15.05
Cg	2.07	--	34.85	29.22	24.99	19.68	.314	25.41

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
						(meq/100 g)					(ppm)		
A1	2.34	4.1	4.1	3.3	23.8	8.1	0.47	0.32	0.05	1.09	11.4	<1.0	<0.5
A2	.57	4.5	4.4	3.4	30.9	4.5	.33	.29	.02	.74	4.4	<1.0	<.5
B2tg	.18	4.6	4.6	3.4	23.2	28.4	.75	1.54	.17	4.13	5.3	<1.0	<.5
Cg	.09	4.5	4.4	3.8	48.2	15.8	1.41	1.74	.16	4.35	9.4	<1.0	<.5

Table 13A. Characteristics of Irvington Series

Location: Wayne Co., Ga., wooded area 2 miles southeast of Odum, 1 mile north of Bethel Church on east side of Little Satilla River, east side of dirt road.

Cover: Scattered slash pine with gallberry bushes and wiregrass ground cover.

Relief: Level

Drainage: Moderately well

Classification: Plinthic Ochreptic Fragiudults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic-Planosol)

Parent Material: Marine sands overlying clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-13(0-5)	N5	---	s	0	ml	cw
A2	13-25(5-10)	10YR 6/3	---	s	0	ml	cw
B1t	25-64(10-25)	10YR 7/8	10YR 6/1	ls	lmcr	mvfr	gw
B2t	64-79(25-31)	10YR 7/6	10YR 6/8,7.5YR5/8	scl	lgr	mvfr	gw
C	79-117+(31-46+)	10YR 7/8	10YR 7/4,7.5YR5/8 5YR 4/8	scl	lfsbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.82	9.25	32.94	47.63	9.36	87	9	4
A2	1.86	11.35	31.11	45.42	10.25	87	8	5
B1t	1.60	12.17	28.94	46.55	10.75	83	6	11
B2t	2.88	13.56	29.66	43.46	10.44	76	4	20
C	1.66	11.53	31.15	45.33	10.32	72	7	21

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
A1	1.32	5.73	4.96	4.23	3.60	2.69	0.030	0.38
A2	1.45	3.19	3.00	2.61	2.21	1.75	.018	.61
B1t	1.54	5.79	5.26	4.88	4.43	3.94	.020	1.37
B2t	1.57	11.26	9.43	9.07	8.22	7.36	.032	1.86
C	1.54	13.04	11.53	11.11	10.04	9.18	.036	3.23

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.53	5.1	5.1	3.8	43.6	4.4	0.91	0.17	0.01	0.83	7.2	5.3	<0.5
A2	.34	5.8	5.6	4.1	54.7	1.5	.37	.14	.01	.30	.8	5.6	< .5
B1t	.13	6.0	5.7	4.3	72.9	2.0	.66	.41	.02	.43	2.6	2.8	1.5
B2t	.20	5.6	5.3	4.2	56.9	3.6	.88	.68	.01	.48	12.1	5.8	1.0
C	.13	5.4	5.0	3.7	30.3	3.6	.28	.34	.12	.35	3.5	4.8	222.0

Table 13B. Characteristics of the Irvington Series

Location: Bryan Co., Ga., 5.3 miles west of Pembroke, Ga., 3/4 mile north of U.S. Hwy. 280 on private road and 25 ft. north of dirt road at 75 degree curve on Continental Can Co. property.

Cover: Longleaf and slash pines with understory of wiregrass and gallberry

Relief: Nearly level

Drainage: Moderately well

Classification: Plinthic Ochreptic Fragiudults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic-Planosol)

Parent Material: Marine sands and sandy clays of Wicomoco formation.

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A11	0-13(0-5)	10YR 4/1	---------	lfs	lfgr	mvfr	cw
A12	13-23(5-9)	2.5Y 6/2	---------	ls	lfgr	mvfr	cw
A2	23-41(9-16)	2.5Y 6/4	---------	ls	lmgr	mvfr	gw
B1	41-51(16-20)	2.5Y 7/6	---------	ls	vfsbk	mfr	gw
B2t	51-69(20-27)	2.5Y 7/8	---------	fsl	fsbk	mfr-mfi	gw
B3tgx	69-102(27-40)	2.5YR 6/8	10YR5/8,2.5Y6/6	scl	2fsbk	mfi	gw
C	102-127(40-50)	N7	10YR5/8,7.5YR5/8	fsl	m	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A11	0	4.64	28.69	52.69	13.98	84	13	3
A12	0	6.87	29.68	49.92	13.53	86	10	4
A2	0	6.44	27.67	49.28	16.61	86	8	6
B1	0	7.02	27.90	49.20	15.88	82	10	8
B2t	0.14	7.82	26.00	48.79	17.24	78	10	12
B3tgx	.23	9.02	28.35	47.66	14.75	72	8	20
C	.14	7.53	28.20	48.85	15.29	74	10	16

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A11	1.26	12.43	7.54	4.57	3.56	2.84	0.059	0.75	0.48
A12	1.47	8.12	4.78	2.92	2.27	1.75	.045	1.21	1.32
A2	1.54	8.02	4.38	2.99	2.51	2.07	.036	1.85	0.36
B1	1.58	9.30	5.26	3.94	3.46	2.97	.036	2.22	0.60
B2t	1.73	9.68	6.72	5.84	5.36	4.63	.036	2.86	1.44
B3tgx	1.71	14.83	11.32	10.37	9.66	8.73	.044	4.31	--
C	1.76	16.37	11.44	10.30	9.29	8.38	.054	5.68	0.02

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A11	1.93	4.6	4.5	3.6	12.4	4.6	0.25	0.12	0.02	0.18	1.5	5.8	<0.5
A12	.43	5.2	5.2	4.1	13.6	2.2	.06	.12	.07	.05	2.5	2.5	<.5
A2	.20	5.5	5.5	4.0	11.3	2.4	.05	.16	.01	.05	1.5	5.8	<.5
B1	.16	5.3	5.3	3.8	25.2	2.5	.13	.31	.01	.18	.9	1.8	<.5
B2t	.15	5.4	5.4	3.8	25.4	3.5	.32	.35	.01	.21	4.2	1.8	<.5
B3tgx	.10	5.3	5.4	3.9	16.0	5.0	.38	.16	.02	.24	3.8	1.8	<.5
C	.04	5.3	5.3	3.8	17.7	3.0	.19	.23	.01	.10	3.4	4.1	<.5

Table 13C. Characteristics of Irvington Series

Location: Pierce Co., Ga., cultivated field, property of A. L. Byrd, 1/4 mile northeast of Mershon.

Cover: Cultivated

Relief: Nearly level

Drainage: Moderately well

Classification: Plinthic Ochreptic Fragiudults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic-Planosol)

Parent Material: Marine sands overlying sandy clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-25(0-10)	10YR 4/1	---	s	1fgr	mvfr	cw
A3	25-43(10-17)	2.5Y 7/6	---	ls	1fgr	mvfr	gw
B1t	43-64(17-25)	10YR 7/6	10YR 6/8	ls	1fgr	mvfr	gw
B2tcn	64-81(25-32)	10YR 6/6	10YR 5/8	fsl	1fsbk	cw	gw
B3t	81-112+(32-44)	10YR 7/6	10YR5/8,10YR7/1	scl	1fsbk	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.44	11.00	37.92	42.80	7.83	88	9	3
A3	.27	6.91	29.19	47.30	16.32	86	9	5
B1t	.38	7.36	28.54	48.63	15.09	82	7	11
B2tcn	.85	8.89	28.24	45.46	16.56	75	8	17
B3t	.51	9.21	30.50	45.66	14.11	72	7	21

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.52	6.23	4.08	2.80	2.26	1.70	0.036	0.91	0.48
A3	1.69	6.29	4.21	3.20	2.81	2.40	.031	1.46	0.12
B1t	1.59	11.38	7.35	5.66	5.00	4.53	.045	2.37	5.52
B2tcn	1.59	17.66	11.77	9.49	8.45	7.62	.066	3.54	0.12
B3t	1.50	18.76	13.58	11.20	10.52	9.63	.059	5.34	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g.)					(ppm)		
A1	0.75	5.8	5.8	4.1	27.4	2.3	0.44	0.07	0.09	0.03	0.3	3.3	34.5
A3	.20	5.1	5.1	4.1	27.9	1.9	.38	.07	.04	.04	.2	3.3	6.5
B1t	.15	4.6	4.6	3.9	20.4	2.3	.32	.07	.05	.03	.3	4.0	<.5
B2tcn	.12	4.8	4.8	4.0	46.0	2.5	.67	.38	.07	.03	<.1	2.5	<.5
B3t	.09	5.2	5.1	4.1	38.3	2.3	.50	.34	.01	.03	.3	2.5	<.5

Table 14A. Characteristics of Edisto Series

Location: Charleston Co., S.C., cropland planted to corn, 1 1/2 miles southeast of Hollywood on north side of field road, about 650 feet south of Seaboard Airline Railroad and 950 feet west of County Road 79.

Drainage: Somewhat poor

Classification: Aqueptic Fragiudalfs; Coarse loamy, siliceous, thermic (Low-Humic Gley - Red-Yellow Podzolic)

Cover: Cultivated

Relief: Level

Parent Material: Marine sands and sandy clays

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-25(0-10)	10YR 3/2	---------	lfs	lfcr	mvfr	cs
A2	25-36(10-14)	10YR 6/3	---------	lfs	lfcr	mvfr	cw
B2t	36-48(14-19)	2.5Y 5/4	10YR 5/6	scl	lmsbk	mvfr	gw
B3t	48-91(19-36)	10YR 6/2	10YR5/6,10YR5/3	fsl	lmsbk	mfr	gi
C	91-127+(36-50+)	10YR6/1,10YR6/3, 10YR 5/6	-------	vfsl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	2-1 mm.dia.	1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.46	1.12	65.74	28.68	79	16	5
A2	0	.51	.78	67.56	31.15	79	13	8
B2t	0	.36	.90	66.94	31.80	68	12	20
B3t	0	.38	.73	68.93	29.96	76	11	13
C	0	.00	.67	68.13	31.20	78	10	12

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.49	6.14	4.99	4.87	3.93	2.53	0.037	0.94	0.96
A2	1.50	7.78	4.88	4.48	3.67	2.69	.033	1.28	0.05
B2t	1.57	16.12	11.66	11.16	9.65	8.01	.057	2.00	0.06
B3t	1.49	10.91	7.71	7.10	6.18	5.03	.040	3.72	0.24
C	1.58	13.34	8.40	8.06	6.74	5.40	.047	5.39	0.12

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.13	5.6	5.4	3.6	51.7	5.8	2.69	0.16	0.08	0.07	2.6	<1.0	20.7
A2	.27	5.1	5.1	3.9	42.6	5.0	1.63	.15	.29	.06	9.7	<1.0	21.5
B2t	.26	5.1	5.1	3.8	36.0	4.8	1.13	.32	.21	.07	2.3	3.12	3.5
B3t	.15	5.6	5.4	4.0	52.1	4.8	1.82	.30	<.01	.37	2.7	<1.0	1.5
C	.05	5.1	5.1	3.6	53.9	5.4	2.13	.24	.10	.43	2.6	<1.0	<.5

Table 14B. Characteristics of Edisto Series

Location: Beaufort Co., S.C., St. Helena Island, between 8th and 9th tomato rows from west edge of field and 70 feet from south end of rows.

Drainage: Somewhat poor

Classification: Aqueptic Fragiudalfs; Coarse loamy, siliceous, thermic (Low Humic Gley - Red-Yellow Podzolic)

Cover: Cultivated

Parent Material: Marine sediments

Relief: Flat with minor depressions

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-20(0-8)	10YR 4/2	---------	lfs	lfgr	mvfr	cs
A2	20-38(8-15)	10YR 6/3	10YR 5/4	lfs	lmgr	mvfr	cw
B2t	38-53(15-21)	10YR 5/3	10YR 5/6,10YR5/1	scl	lmsbk	mfr	cw
B3t	53-91(21-36)	10YR5/3,10YR6/1, 10YR 5/6	-------	fsl	lcsbk	mfr	gw
C	91-127(36-50)	10YR6/1,10YR5/6, 10YR 4/5	-------	fsl	lcsbk	mvfr	gw
D	127+ (50+)	10YR 7/1	10YR 6/4	fsl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.28	1.67	87.46	10.60	86	10	4
A2	0	.20	1.17	83.55	15.09	85	11	4
B2t	0	.18	1.10	83.62	15.11	72	8	20
B3t	0.08	.21	1.28	84.56	13.87	76	8	16
C	0	0	.97	78.60	20.43	74	8	18
D	0	0	1.86	76.09	22.04	76	6	18

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.21	6.35	4.11	3.48	2.91	2.43	0.020	0.41	0.48
A2	1.46	4.51	2.22	1.92	1.17	.86	.020	.77	--
B2t	1.54	15.09	11.42	10.71	9.37	7.63	.058	1.65	--
B3t	1.62	12.78	9.83	9.18	7.86	6.35	.056	3.78	0.02
C	1.59	15.41	12.14	11.57	9.73	7.74	.070	6.27	--
D	1.62	14.33	12.22	11.64	9.58	7.55	.076	--	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.06	5.0	5.0	4.4	51.8	3.4	1.16	0.48	0.04	0.08	3.5	5.42	220.0
A2	.13	4.5	4.5	3.8	49.6	2.3	.50	.13	.04	.52	5.0	<1.0	35.5
B2t	.25	4.4	4.3	3.6	56.0	7.7	1.94	1.19	.05	1.13	2.6	<1.0	63.0
B3t	.14	4.9	4.8	3.5	25.9	9.1	.78	.31	.03	1.26	3.6	<1.0	150.0
C	.09	4.5	4.4	3.4	27.7	7.5	.50	.48	.06	1.04	8.6	<1.0	210.0
D	.06	4.5	4.4	3.2	25.6	7.1	.07	.78	.06	.91	2.8	<1.0	22.0

Table 14C. Characteristics of Edisto Series

Location: Charleston Co., S.C., 200 feet west of S.C. Hwy. 41, 2 miles northwest of U.S. Hwy. 17 in broom straw field, 100 feet south of group of 5 pecan trees, 100 feet north of house under construction.

Drainage: Somewhat poor

Classification: Aqueptic Fragiudalfs; Coarse loamy, siliceous, thermic (Low-Humic Gley - Red-Yellow Podzolic)

Cover: An old cultivated area, now in grass and weeds for several years.

Parent Material: Marine sands and clays

Relief: Level

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-18(0-7)	10YR 3/1	---	lfs	lfgr	mfr	cs
A2	18-28(7-11)	2.5Y 6/2	2.5Y 5/4	lfs	lfgr	mfr	cs
B21t	28-48(11-19)	2.5Y 5/4	10YR 5/8	scl	lmsbk	mfr	cw
B22tg	48-61(19-24)	2.5Y 6/2	10YR 5/8	fsl	lmsbk	mfr	gw
B3	61-109(24-43)	2.5Y 6/2	10YR 5/8	fsl	lmsbk	mfr	--
Cg	109-147+(43-58+)	10YR 7/1	10YR 6/8 to 7.5YR 5/6	vfsl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.14	0.40	78.53	20.93	78	18	4
A2	0	.12	.35	69.11	30.42	79	15	6
B21t	0	.46	.77	89.02	9.74	65	13	22
B22tg	0	.12	.25	73.25	26.38	69	12	19
B3	0	.04	.19	72.18	27.59	70	13	17
Cg	0	.00	.16	68.22	31.62	71	9	20

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.41	16.62	9.28	5.60	3.93	2.57	0.095	1.69
A2	1.44	11.63	6.91	3.84	2.72	1.81	.073	2.43
B21t	1.49	23.71	15.39	11.41	9.61	7.86	.112	4.71
B22tg	1.65	22.74	14.16	10.62	8.81	7.22	.115	6.17
B3	1.59	21.36	13.81	11.11	9.56	7.91	.094	10.70
Cg	1.55	23.40	14.84	12.14	10.41	8.39	.100	14.51

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.23	5.6	5.5	4.4	17.4	8.2	1.13	0.16	0.04	0.10	<0.1	1.8	9.0
A2	.29	5.6	5.5	4.1	40.0	2.1	.44	.11	.02	.27	.3	1.8	<.5
B21t	.23	5.4	5.4	3.8	50.7	4.2	1.75	.10	.04	.24	.2	1.8	<.5
B22tg	.14	5.1	5.1	3.7	49.1	5.4	1.50	.83	.04	.28	<.1	1.8	<.5
B3	.09	4.9	4.9	3.7	41.3	5.2	1.00	.90	.04	.21	1.6	2.5	<.5
Cg	.06	5.1	5.1	3.5	35.1	5.1	.44	.79	.07	.49	.3	1.8	<.5

Table 15A. Characteristics of Charleston Series

Location: Charleston Co., S.C., idle crop field, 3 miles southwest of Charleston on east side of Harbor View Road.

Cover: Broom Straw; 4 years out of truck crop usage

Relief: Level

Drainage: Moderately well

Classification: Umbraqualtic Hapludalfs; Coarse loamy, mixed, thermic (Red-Yellow Podzolic)

Parent Material: Marine sands and sandy loams

Profile Description

Horizon	Depth cm. (in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-20-(0-8)	10YR 3/3	---	fs	1fcr	mvfr	cs
A2	20-41(8-16)	10YR 5/4	---	1fs	1fcr	mvfr	cs
B2t	41-61(16-24)	7.5YR 4/4	---	fsl	1m-csbk	mfr	cs
B31t	61-91(24-36)	10YR 5/4	10YR6/2,5YR4/8	fsl	1msbk	mfr	gw
B32t	91-112(36-44)	10YR 5/6	7.5YR5/6,10YR6/2	fsl	1msbk	mfr	gw
C	112-132+(44-52+)	10YR6/3,5Y6/3	---	fs	--	mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.14	1.19	6.49	82.43	9.75	87	8	5
A2	.21	.83	4.87	78.58	15.52	85	9	6
B2t	0	.91	5.50	76.04	17.55	73	8	19
B31t	0	.78	5.33	77.36	16.53	81	6	13
B32t	0	1.13	7.52	78.85	12.49	79	5	16
C	.26	1.34	6.38	87.08	4.93	89	4	7

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.42	7.54	5.99	5.83	5.16	3.69	0.033	0.67	0.12
A2	1.55	5.11	4.03	3.71	3.13	2.40	.025	1.18	0.24
B2t	1.63	13.13	10.84	10.40	9.35	7.96	.047	2.14	0.01
B31t	1.66	8.49	6.78	6.48	5.67	4.73	.034	3.17	0.01
B32t	1.66	10.94	9.16	8.81	7.77	6.55	.043	4.05	0.002
C	1.52	8.90	7.80	7.57	7.08	6.19	.024	4.54	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.02	5.5	5.5	4.0	35.7	5.6	1.30	0.30	0.054	0.55	2.6	4.9	4.5
A2	.16	5.3	5.4	3.7	49.6	2.8	.66	.21	.076	.44	4.4	3.1	<.5
B2t	.18	5.3	5.2	3.8	41.1	9.1	2.38	.68	.026	.65	6.2	<1.0	<.5
B31t	.05	4.8	4.9	3.7	45.7	5.3	1.57	.37	.038	.44	4.5	<1.0	<.5
B32t	.05	4.6	4.6	3.5	38.9	7.5	2.05	.27	.026	.55	.2	<1.0	<.5
C	.04	4.6	4.6	3.6	21.9	8.8	.94	.32	.058	.61	1.9	<1.0	<.5

Table 15B. Characteristics of Charleston Series

Location: Liberty Co., Ga., pasture 1/4 mile south of U.S. Hwy. 17, 1/4 mile north of Freedman on farm of Mr. Jesse Coleman.

Cover: Pasture

Relief: Level

Drainage: Moderately well.

Classification: Umbraqualtic Hapludalfs; Coarse loamy, mixed, thermic (Red-Yellow Podzolic)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-23(0-9)	2.5Y 4/2	---------	fsl	1mgr	mvfr	aw
B1t	23-71(9-28)	10YR 6/3	---------	scl	1fgr	mvfr	gw
B21t	71-79(28-31)	10YR 5/4	10YR 6/3	scl	1mgr	mfr	gw
B22t	79-112(31-44)	10YR 5/8	10YR6/4,5YR4/6	scl	1msbk	mfr	gw
C	112-137+(44-54+)	2.5YR5/8,10YR5/8, 2.5Y 6/2	------	scl	1msbk	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.90	5.01	70.79	23.29	69	23	8
B1t	0	1.23	4.28	65.09	29.40	66	12	22
B21t	0	.43	1.99	65.62	31.97	60	8	32
B22t	0	.37	1.37	80.08	18.19	62	6	32
C	0	.36	1.32	77.03	[illegible]	[illegible]		

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10	1/3	1	4	15 (percent by weight)	Available Water (Per cm.)	Available Water (Cumulative) (cm.)
Ap	1.53	21.07	13.77	8.77	5.78	3.87	0.151	3.46
B1t	1.56	23.75	16.80	13.13	10.28	7.96	.138	10.11
B21t	1.35	28.79	22.25	18.56	15.63	12.69	.129	11.09
B22t	1.61	27.82	19.75	17.68	15.52	12.67	.114	14.86
C	1.56	26.37	18.48	16.49	13.97	11.49	.109	17.63

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca	Mg	K	Na	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
Ap	1.11	5.6	5.4	4.7	24.6	6.6	0.42	0.21	0.34	0.65	3.0	6.2	40.5
B1t	.32	5.3	5.0	3.0	69.1	6.8	3.84	.41	.06	.39	7.0	<1.0	6.0
B21t	.12	4.8	4.6	3.1	58.2	6.1	3.43	.92	.08	.52	3.9	<1.0	<.5
B22t	.17	4.7	4.4	3.6	46.8	6.6	1.34	1.15	.08	.52	3.4	<1.0	<.5
C	.05	4.7	4.4	3.2	20.8	11.1	1.00	.88	.08	.35	6.9	<1.0	<.5

Table 15C. Characteristics of Charleston Series

Location: Charleston Co., S.C., pecan orchard about 7 miles southwest of Hollywood and 6 miles south of Adams Run village, on west side of paved county Hwy. 10-89, 2 3/4 miles southeast of junction of Hwy. 89 and 174.

Cover: Pastured pecan orchard (In orchard and pasture for 25 years+.)

Relief: Level (0 to 2% slope)

Drainage: Moderately well

Classification: Umbraqualfic Hapludalfs; Coarse loamy, mixed, thermic (Red-Yellow Podzolic)

Parent Material: Marine sands and sandy loams

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-23(0-9)	10YR 3/2	---	lfs	lfgr	mvfr	cs
A2	23-53(9-21)	10YR 6/3	---	lfs	lfgr	mvfr	cs
B2t	53-76(21-30)	10YR 5/6	7.5YR 5/6	scl	lmsbk	mfr	cw
B3	76-109(30-43)	10YR 5/6	7.5YR5/6,10YR6/2	fs	lcsbk	mfr	gs
C	109-132+(43-52+)	10YR 6/4	10YR7/2,7.5YR5/6	fs	lfgr	mvfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.65 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.46	2.84	89.05	7.65	82	11	7
A2	0	.16	.57	83.89	15.39	84	10	6
B2t	0	.20	.41	77.53	21.86	69	10	21
B3	0	.12	.95	82.55	16.38	88	6	6
C	0	.17	1.20	85.45	13.17	87	7	6

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.30	11.66	5.72	5.06	3.89	2.84	0.037	0.85	1.20
A2	1.33	7.63	3.11	2.63	1.90	1.33	.024	1.58	0.44
B2t	1.56	19.19	11.86	11.13	9.57	8.01	.060	2.95	0.04
B3	1.40	6.34	3.84	3.67	3.17	2.47	.019	3.58	0.02
C	1.43	11.09	7.13	6.28	5.34	4.24	.032	4.31	0.72

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	0.83	5.8	5.8	4.5	42.0	6.0	2.22	0.35	0.13	0.78	3.4	9.4	180.0
A2	.13	5.7	5.6	2.9	80.7	2.8	.07	.25	.07	.87	5.5	<1.0	5.7
B2t	.24	4.5	4.7	3.1	60.4	9.2	1.91	.78	.14	.70	8.6	<1.0	1.5
B3	.09	4.9	5.1	3.5	37.3	3.4	.06	.31	.03	.87	3.7	<1.0	31.0
C	.08	5.0	5.2	3.5	30.5	4.1	.07	.35	.05	.78	2.8	<1.0	63.0

Table 16A. Characteristics of the Goldsboro Series

Location: Bryan Co., Ga., 1/4 mile north of Lanier, Ga., on east side of road.

Drainage: Moderately well drained

Classification: Aquic Paleudults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic)

Cover: Seven year old stand of planted slash pine with understory of broom sedge and dog fennel.

Parent Material: Marine sands and clay.

Relief: Nearly level.

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-18(0-7)	2.5Y 4/2	---------	s	1fgr	mvfr	as
A2	18-33(7-13)	2.5Y 6/6	---------	s	1fgr	mvfr	cw
B1t	33-61(13-24)	10YR 6/8	---------	ls	1fgr	mvfr	gw
B2t	61-91(24-36)	2.5Y 5/6	2.5YR4/8,10YR5/8	scl	1fsbk	mfr	gw
B3t	91-117(36-46)	10YR 5/6	2.5Y7/2,10YR5/8	scl	lmsbk	mfr	gw
C	117-152(46-60)	10YR 6/6	2.5Y7/2,2.5YR5/6	scl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(----------percent of total sand----------)					(%)	(%)	(%)
Ap	3.42	18.29	37.19	33.18	7.91	91	6	3
A2	4.68	19.23	35.78	31.82	8.48	87	7	6
B1t	4.19	15.30	32.80	38.01	9.70	79	7	14
B2t	4.64	15.89	34.32	36.69	8.47	71	7	22
B3t	3.49	15.54	34.71	39.08	7.18	71	5	24
C	0.91	5.41	22.51	66.33	4.83	69	5	26

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(----------percent by weight----------)					(cm.)	(cm.)	(ft/day)
Ap	1.60	3.70	3.32	2.97	2.20	1.55	0.028	0.50	2.40
A2	1.62	3.20	3.06	2.89	2.45	1.92	.066	1.50	0.60
B1t	1.69	8.67	7.99	7.44	6.71	5.81	.037	2.54	0.04
B2t	1.69	15.71	13.78	13.33	11.91	10.66	.053	4.15	0.05
B3t	1.56	16.21	14.35	13.87	12.23	11.09	.051	5.45	--
C	1.50	19.44	18.17	16.52	14.87	13.15	.060	7.59	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(----------meq/100 g----------)					(----------ppm----------)		
Ap	0.78	5.7	5.7	4.0	26.0	4.3	0.84	0.18	0.02	0.07	4.4	<1.0	4.2
A2	.15	5.0	5.0	3.8	28.2	1.7	.37	.02	.02	.07	3.1	<1.0	2.5
B1t	.13	4.5	4.5	3.7	10.3	3.2	.18	.03	.02	.10	4.7	<1.0	<.5
B2t	.10	5.2	5.1	3.9	28.9	7.3	1.63	.36	.01	.11	8.1	<1.0	<.5
B3t	.07	5.1	4.9	3.6	21.3	5.2	.53	.39	.02	.17	2.6	<1.0	1.5
C	.10	5.1	4.8	3.7	25.4	6.3	.88	.41	.02	.29	1.1	<1.0	<.5

Table 16B. Characteristics of Goldsboro Series

Location: Williamsburg Co., S.C., Troublefield cross roads, 0.1 mile east of cross roads, 50 ft. south of center line of road, 20th cotton row east of corn.

Cover: Cultivated

Relief: Nearly level

Drainage: Moderately well

Classification: Aquic Paleudults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-20(0-8)	10YR 4/1	---------	fs	lfgr	mvfr	as
A2	20-36(8-14)	2.5Y 5/4	---------	lfs	lfgr	mvfr	cw
B2t	36-76(14-30)	10YR 5/6	---------	fsl	lmsbk	mfr	gw
B3	76-114(30-45)	10YR 5/4 & 5/8	10YR6/2,7.5YR5/8	lfs	lmsbk	mfr	gw
C	114-130+(45-51+)	10YR 5/6	2.5YR5/8,10YR7/1	lfs	----	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.17	7.70	19.95	68.64	3.54	89	5	6
A2	.26	7.21	19.32	70.44	2.77	85	3	12
B2t	.19	11.74	22.14	63.65	2.28	78	4	18
B3	.47	11.85	22.82	62.45	2.41	85	2	13
C	.95	13.70	22.28	60.23	2.83	87	4	9

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.55	7.25	3.57	3.14	2.43	1.59	0.031	0.63
A2	1.59	8.49	4.09	3.80	3.23	2.53	.025	1.01
B2t	1.55	13.75	7.64	7.30	6.72	5.65	.031	2.27
B3	1.55	9.95	6.13	5.92	5.05	4.37	.027	4.32
C	1.62	7.06	4.19	4.00	3.26	2.73	.024	4.68

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	0.70	5.5	5.3	3.3	18.1	3.6	0.37	0.13	0.10	0.05	3.9	<1.0	<0.5
A2	.19	5.0	4.8	3.2	41.0	3.0	1.00	.08	.08	.07	3.3	<1.0	52.0
B2t	.18	4.8	4.6	2.9	27.0	6.0	1.18	.25	.12	.07	2.8	<1.0	4.0
B3	.06	5.0	4.9	3.8	24.0	4.3	.70	.23	.04	.06	5.5	<1.0	5.0
C	.04	4.8	4.7	3.7	16.0	3.0	.30	.10	.02	.06	5.6	<1.0	5.5

Table 16C. Characteristics of Goldsboro Series

Location: Sumter Co., S.C., 1/2 mile south of Oswego, along north side of county road in fallow field 50 ft. from corner of woods.

Cover: Cultivated

Relief: Nearly level

Drainage: Moderately well

Classification: Aquic Paleudults; Fine loamy, siliceous, thermic (Red-Yellow Podzolic)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-20(0-8)	10YR 4/2	---	ls	1fgr	mfr	cs
A2	20-28(8-11)	10YR 6/3	---	fsl	1fgr	mfr	cs
B21t	28-46(11-18)	10YR 5/4	---	scl	lmsbk	mfr	gw
B22t	46-91(18-36)	10YR 5/4	7.5YR5/6,10YR6/1, 2.5YR 4/8	scl	1fsbk	mfr	gw
B3t	91-132+(36-52+)	7.5YR 5/8	10YR 7/1,2.5YR5/8	scl	m	mfr	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.05	9.10	23.91	44.53	22.41	77	17	6
A2	.13	10.96	27.05	41.71	20.15	67	17	16
B21t	.07	13.09	27.65	42.06	17.14	59	12	29
B22t	.09	10.43	24.94	41.58	22.96	61	14	25
B3t	.05	10.53	26.36	44.00	19.05	57	10	33

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.41	15.51	9.14	4.77	3.57	2.48	0.094	1.91	0.60
A2	1.72	17.48	10.74	8.32	6.78	5.53	.090	2.59	0.02
B21t	1.45	23.94	16.73	13.73	12.01	10.46	.091	4.21	--
B22t	1.74	23.05	16.17	13.03	11.25	9.91	.109	9.19	0.36
B3t	1.71	27.57	20.20	17.18	15.21	13.38	.117	13.95	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	1.14	5.4	5.3	3.3	33.3	3.6	0.69	0.30	0.13	0.08	15.6	<1.0	1.5
A2	.37	5.6	5.5	4.0	51.0	2.0	.15	.09	.08	.10	5.0	<1.0	34.5
B21t	.30	5.0	5.0	3.9	50.0	4.0	1.69	.14	.06	.11	5.1	<1.0	6.8
B22t	.10	5.0	5.0	4.0	17.7	3.1	.28	.11	.02	.13	5.1	<1.0	6.2
B3t	.10	5.0	5.0	3.8	24.8	2.7	.44	.11	.02	.10	5.3	<1.0	5.5

Table 17A. Characteristics of the Fairhope Series

Location: McIntosh Co., Ga., wooded area north side of graded road, 1/4 mile east of Briardam Road, 6.5 miles south of Townsend, Ga.

Cover: Mixed slash and longleaf pines, with scattered sweetgum and water oak.

Relief: Level

Drainage: Moderately well

Classification: Aquic Paleudults; Clayey mixed, thermic (Red-Yellow Podzolic)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
O	2.5-0(1-0)	Thin layer of leaf mold and other plant material					
A1	0-2.5(0-1)	10YR 3/1	---	fsl	2mgr	mvfr	aw
A2	2.5-20(1-8)	10YR 4/4	---	fsl	2mgr	mvfr	aw
B21t	20-25(8-10)	2.5YR 4/6	---	scl	3mabk	mvfi	as
B22t	25-61(10-24)	2.5YR 4/6	10YR 5/2	c	2mabk	mvfi	aw
B3t	61-76(24-30)	2.5YR 4/6	10YR5/2,7.5R3/8	sc	2mabk	mvfi	aw
C	76-102(30-40)	2.5YR 4/6	10YR5/2,10YR6/8	scl	m	mvfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.17	0.82	2.45	86.35	10.22	69	23	8
A2	.36	.83	2.18	76.59	20.04	69	22	9
B21t	.15	.82	2.18	77.66	19.19	60	17	23
B22t	0	.53	1.58	78.91	18.98	32	11	57
B3t	0	.58	1.93	87.83	9.65	52	5	43
C	0	.24	0.66	93.44	5.66	71	2	27

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10 (percent by weight)	1/3	1	4	15	Available Water (Per cm.) (cm.)	Available Water (Cumulative) (cm.)	Hyd. Cond. (ft/day)
A1	1.23	25.48	11.70	9.06	7.23	5.17	0.080	0.20	--
A2	1.48	16.71	6.01	5.44	3.92	2.62	.050	1.09	0.24
B21t	1.45	20.95	13.09	11.19	9.46	7.29	.034	1.52	0.01
B22t	1.28	--	32.11	30.92	27.41	23.20	.114	5.58	--
B3t	1.40	--	23.17	22.41	20.00	16.76	.090	6.95	0.001
C	1.64	--	14.59	13.84	12.51	10.58	.066	8.63	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca	Mg	K	Na	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
A1	3.32	4.7	4.5	3.4	16.1	10.1	1.19	0.40	0.03	0.10	3.3	9.4	<0.5
A2	.61	5.3	5.0	3.9	27.1	3.1	.44	.28	.03	.09	3.1	<1.0	<.5
B21t	.46	4.9	4.7	3.6	9.0	14.9	1.03	.17	.07	.07	5.5	<1.0	<.5
B22t	.39	5.0	4.7	3.3	9.9	17.6	1.30	.31	.07	.07	5.1	<1.0	<.5
B3t	.18	4.7	4.6	3.4	5.6	14.2	.47	.22	.04	.07	1.9	<1.0	<.5
C	.10	4.7	4.6	3.5	24.9	5.9	.18	1.20	.03	.06	3.0	<1.0	<.5

Table 17B. Characteristics of the Fairhope Series

Location: Liberty Co., Ga., pasture, 3.7 miles north of Midway, 1.3 miles south of SE Tidewater Experiment Station, 1/4 mile east of U.S. Hwy. 17 and G. P. Coleman residence, 50 yards south of north pasture fence running east and west.

Drainage: Moderately well

Classification: Aquic Paleudults; clayey mixed, thermic (Red-Yellow Podzolic - Low Humic Gley)

Cover: Pasture

Parent Material: Marine sandy clays and clays of Pamlico formation

Relief: Very gently sloping

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-13(0-5)	2.5Y 5/2	---------	lfs	lfgr	mvfr	as
A2	13-20(5-8)	5Y 6/3	---------	lfs	lfgr	mvfr	as
B1t	20-33(8-13)	7.5YR 5/6	---------	scl	lfsbk	mfr-fi	gw
B2t	33-61(13-24)	5YR 4/6	---------	scl	2fsbk	mfi	gw
B3t	61-86(24-34)	2.5YR 4/8	5YR4/6, N7	scl	lfsbk	mfi	gw
C	86-127+(34-50+)	2.5YR4/8,7.5YR5/8-------10YR 6/1		scl	m	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(----------percent of total sand----------)					(%)	(%)	(%)
A1	0	1.00	4.73	61.39	32.88	81	13	6
A2	0	1.02	5.33	66.49	27.17	81	11	8
B1t	0	.83	4.09	60.01	35.06	67	11	22
B2t	0	.48	2.60	64.80	32.12	65	9	26
B3t	0	.19	1.13	62.66	36.02	67	4	29
C	0	.17	1.01	66.77	32.04	65	6	29

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)
	(gm./cc)	(----------percent by weight----------)					(cm.)	(cm.)
Ap	1.52	9.79	5.72	3.52	2.64	1.84	0.059	0.75
A2	1.44	9.53	5.50	3.37	2.52	1.81	.053	1.15
B1t	1.69	22.73	15.24	11.72	9.89	7.99	.123	2.71
B2t	1.72	22.74	15.57	13.37	11.68	9.62	.102	5.57
B3t	1.70	24.30	17.20	15.15	13.38	11.16	.103	8.19
C	1.69	23.91	16.91	14.98	13.25	11.08	.099	12.21

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	Dry	Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(----------meq/100 g)			------)		(--------ppm--------)		
Ap	0.47	5.9	5.9	4.9	13.4	3.1	0.18	0.16	0.09	0.06	2.5	<1.0	21.0
A2	.47	6.1	6.0	5.2	52.8	3.1	1.40	.12	.09	.08	5.5	<1.0	16.0
B1t	.29	6.5	6.5	4.0	84.2	2.4	1.35	.44	.16	.07	22.1	<1.0	2.0
B2t	.17	5.2	5.2	4.0	36.7	2.1	.25	.35	.10	.07	5.6	<1.0	<.5
B3t	.09	4.5	4.5	3.6	13.1	3.5	.11	.18	.10	.07	2.6	<1.0	<.5
C	.07	4.5	4.6	3.7	39.8	5.2	.56	1.34	.09	.08	2.8	<1.0	<.5

Table 17C. Characteristics of the Fairhope Series

Location: Chatham Co., Ga., wooded area 1.8 miles NW of junction of Quacco road on Albert Liabastre property.

Cover: Oaks, sweetgum, hickory and dogwood with understory of small oaks.

Relief: Very gently sloping

Drainage: Moderately well drained

Classification: Aquic Paleudults; Clayey mixed, thermic (Red Yellow Podzolic - Low Humic Gley)

Parent Material: Marine clays and sandy clays of the Pamlico formation

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-10(0-4)	10YR 3/2	----------	lfs	lfgr	mvfr	cs
A2	10-41(4-16)	10YR 6/6	----------	lfs	lfgr	mvfr	as
B1t	41-48(16-19)	10YR 4/6	----------	fsl	lfsbk	mfr	gw
B2t	48-71(19-28)	2.5YR 4/6	10YR 6/2	scl	lmsbk	mfi	gw
B3t	71-91(28-36)	2.5YR 4/8	10YR7/2,7.5YR5/8	scl	lfsbk	mfi	gw
C	91-127+(36-50+)	2.5YR 4/8	10YR5/8,10YR7/2	scl	---	mfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.04	3.63	16.57	67.54	10.21	81	13	6
A2	.22	6.66	15.68	60.76	16.69	85	9	6
B1t	.05	5.67	14.31	66.42	13.54	77	9	14
B2t	.08	4.02	10.64	71.76	13.50	59	6	35
B3t	.02	2.26	5.55	81.15	11.02	63	4	33
C	0	.87	2.77	86.71	9.64	69	2	29

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density (gm./cc)	Water at bars tension of: 1/10 (percent by weight)	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative) (cm.)	Hyd. Cond. (ft/day)
A1	1.04	17.43	11.84	9.16	6.70	5.06	0.071	0.72	1.08
A2	1.37	8.01	5.41	4.01	3.09	2.36	.042	2.00	2.64
B1t	1.55	13.66	9.83	7.27	6.35	5.17	.072	2.55	--
B2t	1.62	27.53	21.17	19.17	16.41	13.72	.121	5.31	--
B3t	1.66	26.11	20.03	17.85	15.46	12.86	.119	7.55	--
C	1.67	21.53	17.14	15.05	12.94	10.77	.106	11.32	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter (%)	pH Wet	pH Dry	pH Salt	Base Saturation (%)	C.E.C. (meq/100 g)	Ca	Mg	K	Na	Zn (ppm)	Mn (ppm)	Extractable P (ppm)
A1	2.78	5.2	5.2	4.0	14.1	6.1	0.72	0.02	0.05	0.07	1.9	<1.0	1.0
A2	.48	5.4	5.3	3.5	15.0	3.4	.28	.11	.02	.09	4.4	<1.0	1.5
B1t	.19	4.9	4.7	3.4	6.7	4.5	.13	.05	.03	.09	5.1	<1.0	1.5
B2t	.27	4.7	4.6	3.4	6.2	7.9	.16	.18	.06	.09	11.7	<1.0	2.0
B3t	.14	4.6	4.5	3.3	21.3	3.8	.13	.50	.08	.10	11.7	<1.0	2.0
C	.10	4.6	4.5	4.0	22.2	7.4	1.13	.36	.06	.09	11.2	<1.0	4.2

Table 18A. Characteristics of the Eulonia Series

Location: McIntosh Co., Ga., wooded area south side of dirt road, 1.6 miles east of Townsend, on road to Huxford from Townsend.

Cover: Planted stand of slash pine with wiregrass ground cover

Relief: Level

Drainage: Moderately well

Classification: Paraquic Paleudults; Fine loamy over fine, mixed, thermic (Red-Yellow Podzolic - Low Humic Gley)

Parent Material: Marine sands and clays

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
A1	0-10(0-4)	10YR 4/2	---------	lfs	lfgr	mvfr	gw
A2	10-36(4-14)	2.5Y 6/4	---------	lfs	lfcr	mvfr	aw
B21t	36-46(14-18)	10YR 5/8	---------	fsl	2msbk	mfr	aw
B22t	46-64(18-25)	10YR 5/4	2.5YR 4/8	scl	2mabk	mfi	aw
IIC	64-91+(25-36+)	10YR 5/1	2.5YR 4/6	scl	m	mvfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	Sand 1-0.5 mm.dia.	Sand 0.5-0.25 mm.dia.	Sand 0.25-0.10 mm.dia.	Sand 0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
A1	0.47	4.20	14.42	70.60	10.31	81	14	5
A2	.46	3.82	12.82	69.94	12.96	83	10	7
B21t	.54	3.67	13.42	64.87	17.49	73	10	17
B22t	.32	3.56	15.25	64.18	16.69	61	8	31
IIC	.26	2.09	6.65	79.23	11.78	69	4	27

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
A1	1.45	8.12	5.89	4.92	3.70	2.57	0.048	0.49	0.48
A2	1.54	6.40	4.31	3.96	3.15	2.26	.032	1.30	--
B21t	1.67	11.46	8.93	8.56	7.45	6.28	.044	1.74	1.20
B22t	1.42	22.34	18.98	18.51	16.23	13.46	.078	3.13	--
IIC	1.59	20.37	15.00	14.58	12.83	10.78	.067	5.00	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
A1	1.19	4.7	4.6	3.4	15.1	3.5	0.37	0.12	0.01	0.03	6.1	<1.0	<0.5
A2	.32	4.9	4.9	3.9	13.9	3.8	.33	.13	.03	.04	3.1	<1.0	<.5
B21t	.17	5.0	4.8	3.5	27.1	4.5	.72	.41	.05	.04	3.4	<1.0	<.5
B22t	.31	4.9	4.6	3.4	15.4	10.0	.56	.86	.05	.05	1.8	<1.0	4.5
IIC	.09	4.9	4.6	3.5	12.2	7.8	.18	.68	.04	.05	2.8	<1.0	22.0

Table 18B. Characteristics of the Eulonia Series

Location: Beaufort Co., S.C., 1/2 mile SE of fire tower at Sheldon, southside and adjacent to Hwy. 21, McLeod Bros. farm.

Drainage: Poor

Classification: Paraquic Paleudults; Fine loamy over fine, mixed, thermic (Red-Yellow Podzolic - Low Humic Gley)

Cover: Cultivated

Parent Material: Marine sands and clays

Relief: Gently sloping

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-20(0-8)	2.5YR 3/2	---	lfs	fgr	mvfr	as
A2	20-38(8-15)	10YR 6/3	10YR 6/4	lfs	fgr	mvfr	cs
B21t	38-53(15-21)	10YR 4/4	---	scl	msbk	mfi	cw
B22t	53-69(21-27)	10YR5/4,5YR4/8	10YR 6/2	scl	msbk	mfi	cw
C1	69-112(27-44)	10YR 5/4	10YR6/1,2.5YR4/8	scl	msbk	ws-sp	gw
C2	112-127+(44-50+)	10YR5/1,10YR5/4, 2.5YR5/6	---	fsl	--	--	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0.06	0.67	3.87	81.95	13.46	86	9	5
A2	.15	.66	3.51	78.87	16.80	83	12	5
B21t	.03	.56	3.18	76.02	20.19	69	8	23
B22t	.13	.59	3.25	74.37	21.66	69	8	23
C1	.00	.54	3.50	78.11	17.86	67	9	24
C2	.08	.45	3.02	82.26	14.18	69	15	16

BULK DENSITY AND MOISTURE CHARACTERISTICS

Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	(Cumulative)	Hyd. Cond.
	(gm./cc)	(percent by weight)					(cm.)	(cm.)	(ft/day)
Ap	1.29	9.05	4.78	3.77	3.06	2.10	0.035	0.71	1.68
A2	1.46	6.83	3.22	2.09	1.46	1.04	.032	1.28	1.68
B21t	1.73	23.48	13.29	12.39	10.76	8.79	.078	2.47	--
B22t	1.69	17.49	13.70	12.73	11.12	9.12	.077	3.65	--
C1	1.70	18.26	14.45	13.40	11.60	9.40	.086	7.37	--
C2	1.67	10.90	8.76	8.19	6.84	5.60	.053	8.18	--

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	Dry	Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	0.82	5.2	5.2	4.4	33.6	2.8	0.03	0.34	0.16	0.06	9.5	7.8	<0.5
A2	.13	5.3	5.3	4.1	57.8	1.8	.75	.21	.04	.04	9.7	<1.0	<.5
B21t	.19	5.4	5.4	4.0	73.0	5.7	3.19	.76	.12	.09	3.4	<1.0	<.5
B22t	.13	5.4	5.3	4.2	66.1	8.4	5.09	.33	.07	.06	1.8	<1.0	<.5
C1	.10	5.5	5.3	3.8	61.5	9.5	5.09	.58	.10	.07	1.8	<1.0	<.5
C2	.03	4.7	4.3	3.5	35.5	6.5	1.97	.23	.04	.07	4.4	<1.0	<.5

Table 18C. Characteristics of the Eulonia Series

Location: Charleston Co., S.C., former truck crop land, planted to pine trees, 2 1/2 miles south of Hollywood, 0.4 mile south of county Hwy. 128 and 1/2 mile west of State Hwy. 165, east side of dirt farm road, between 4th and 5th rows of pine trees parallel to road and 55 feet N of grassed fire break road.

Drainage: Moderately well

Classification: Paraquic Paleudults; Fine loamy over fine, mixed, thermic (Red-Yellow Podzolic - Low Humic Gley)

Cover: Young pine trees and weeds

Parent Material: Marine sandy clay loams

Relief: Level

Profile Description

Horizon	Depth cm.(in.)	Dominant color	Color of mottles	Texture	Structure	Consistence	Boundary
Ap	0-25(0-10)	10YR 4/2	---------	lfs	lfgr	mvfr	as
A2	25-41(10-16)	10YR 6/3	10YR 6/4	lfs	lfgr	mvfr	cs
B1t	41-48(16-19)	10YR 5/6	7.5YR5/8,10YR6/3	scl	lmcsbk	mfr	cw
B21t	48-58(19-23)	10YR 5/6	7.5YR5/8,2.5YR4/8	scl	lmsbk	mfr	cw
B22t	58-81(23-32)	10YR 5/8	10YR5/1,2.5YR4/8	scl	lmcsbk	mfr	cw
C1	81-112+(32-44+)	10YR 6/1	7.5YR5/8,2.5YR4/8	scl	m	msfi	--

PARTICLE SIZE DISTRIBUTION

Horizon	Sand 2-1 mm.dia.	1-0.5 mm.dia.	0.5-0.25 mm.dia.	0.25-0.10 mm.dia.	0.10-0.05 mm.dia.	Sand 2-0.05 mm.dia.	Silt 0.05-0.002 mm.dia.	Clay <0.002 mm.dia.
	(percent of total sand)					(%)	(%)	(%)
Ap	0	0.22	1.77	88.56	9.45	78	16	6
A2	0	.12	.23	66.10	33.55	80	14	6
B1t	0	.12	.26	62.91	36.71	66	12	22
B21t	0	.12	.15	63.92	35.81	64	10	26
B22t	0	.09	.23	63.11	36.56	64	8	28
C1	0	0	.20	67.93	31.86	65	9	36

BULK DENSITY AND MOISTURE CHARACTERISTICS

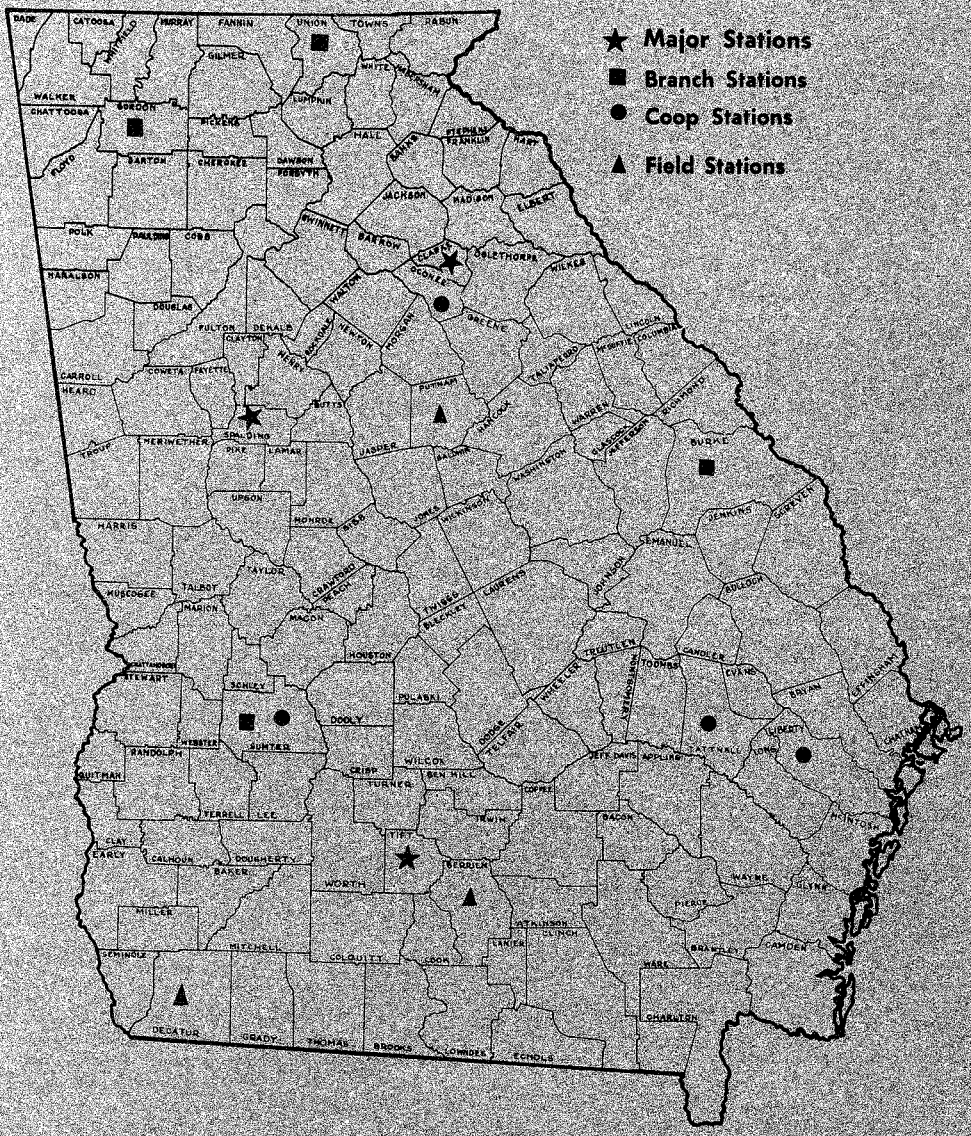
Horizon	Bulk Density	Water at bars tension of: 1/10	1/3	1	4	15	Available Water (Per cm.)	Available Water (Cumulative)
	(gm./cc)	(percent by weight)					(cm.)	(cm.)
Ap	1.42	11.95	5.87	4.41	3.50	2.54	0.047	1.19
A2	1.47	8.74	3.68	2.34	1.60	1.17	.037	1.75
B1t	1.42	27.04	17.11	14.43	11.80	9.17	.113	2.62
B21t	1.39	31.98	20.86	17.78	13.98	10.92	.138	4.01
B22t	1.56	29.76	20.97	17.83	13.98	11.13	.154	7.54
C1	1.63	27.25	19.57	16.92	12.90	10.37	.150	12.12

CHEMICAL CHARACTERISTICS

Horizon	Organic Matter	pH Wet	pH Dry	pH Salt	Base Saturation	C.E.C.	Ca	Mg	K	Na	Zn	Mn	Extractable P
	(%)				(%)	(meq/100 g)					(ppm)		
Ap	0.81	6.0	5.8	4.3	38.4	4.9	1.33	0.31	0.17	0.06	3.5	6.2	150.0
A2	.09	6.7	6.7	4.7	76.0	3.0	1.92	.14	.14	.08	4.7	<1.0	33.0
B1t	.16	6.6	6.7	5.0	93.4	6.1	4.98	.27	.38	.07	2.3	<1.0	33.0
B21t	.15	6.9	6.9	4.3	84.4	6.6	4.66	.51	.30	.10	5.6	<1.0	4.0
B22t	.11	6.6	6.2	4.0	85.0	13.7	10.69	.58	.27	.10	4.2	<1.0	<.5
C1	.07	4.6	4.5	3.9	52.2	7.9	3.47	.41	.13	.10	4.5	<1.0	<.5

Table 19. Available moisture capacity of the surface 90 cm. of three sites each of eighteen soil series.

Soil series	Reference table November	Available moisture 0-90 cm. depth (cm)	Series Average (cm)
Lakeland	1A	1.94	
"	1B	1.19	1.93
"	1C	2.65	
Chipley	2A	2.52	
"	2B	3.74	2.85
"	2C	2.30	
Leon	3A	2.02	
"	3B	2.50	2.10
"	3C	1.77	
Ona	4A	1.09	
"	4B	2.71	1.67
"	4C	1.22	
Meggett	5A	21.79	
"	5B	15.58	19.26
"	5C	20.41	
Kiawah	6A	2.81	
"	6B	1.98	2.84
"	6C	3.73	
Rains	7A	7.67	
"	7B	7.69	10.20
"	7C	15.24	
Coxville	8A	17.19	
"	8B	16.30	14.55
"	8C	10.15	
Lynchburg	9A	5.97	
"	9B	9.15	7.14
"	9C	6.30	
Grady	10A	12.42	
"	10B	8.76	10.96
"	10C	11.71	
Dunbar	11A	5.75	
"	11B	13.17	8.54
"	11C	6.70	
Bladen	12A	19.10	
"	12B	17.21	19.32
"	12C	21.64	
Irvington	13A	2.26	
"	13B	3.78	3.37
"	13C	4.07	
Edisto	14A	3.68	
"	14B	3.72	5.43
"	14C	8.90	
Charleston	15A	3.14	
"	15B	12.34	6.23
"	15C	3.22	
Goldsboro	16A	4.08	
"	16B	2.65	6.85
"	16C	13.83	
Fairhope	17A	7.87	
"	17B	8.59	7.96
"	17C	7.43	
Eulonia	18A	4.93	
"	18B	5.46	6.43
"	18C	8.89	


★ Major Stations
■ Branch Stations
● Coop Stations
▲ Field Stations
DADE
CATOOSA
WHITFIELD
MURRAY
FANNIN
UNION
TOWNS
RABUN
GILMER
WHITE
HABERSHAM
WALKER
CHATTOOGA
GORDON
PICKENS
LUMPKIN
HALL
BANKS
STEPHENS
FRANKLIN
HART
FLOYD
BARTOW
CHEROKEE
DAWSON
FORSYTH
JACKSON
MADISON
ELBERT
POLK
PAULDING
COBB
GWINNETT
BARROW
CLARKE
OGLETHORPE
WILKES
HARALSON
OCONEE
WALTON
DOUGLAS
FULTON
DEKALB
CLAYTON
ROCKDALE
NEWTON
MORGAN
GREENE
LINCOLN
COLUMBIA
McDUFFIE
TALIAFERRO
CARROLL
HEARD
COWETA
FAYETTE
HENRY
PUTNAM
BUTTS
HANCOCK
WARREN
RICHMOND
SPALDING
TROUP
MERIWETHER
PIKE
LAMAR
JASPER
BALDWIN
GLASCOCK
JEFFERSON
BURKE
WASHINGTON
UPSON
HARRIS
MONROE
BIBB
JONES
WILKINSON
JENKINS
SCREVEN
EMANUEL
TAYLOR
CRAWFORD
PEACH
TALBOT
MUSCOGEE
MARION
MACON
TWIGGS
BLECKLEY
LAURENS
JOHNSON
BULLOCH
HOUSTON
TREUTLEN
CANDLER
TOOMBS
EVANS
STEWART
SCHLEY
PULASKI
WHEELER
MONTGOMERY
BRYAN
EFFINGHAM
DODGE
TELFAIR
DOOLY
WEBSTER
SUMTER
RANDOLPH
LIBERTY
CHATHAM
JEFF DAVIS
APPLING
TATTNALL
LONG
WILCOX
CRISP
BEN HILL
QUITMAN
TURNER
COFFEE
FERRELL
LEE
IRWIN
BACON
McINTOSH
CLAY
EARLY
CALHOUN
DOUGHERTY
TIFT
BERRIEN
BAKER
WORTH
WAYNE
GLYNN
PIERCE
MILLER
ATKINSON
CLINCH
LANIER
BRANTLEY
CAMDEN
SEMINOLE
MITCHELL
COLQUITT
COOK
WARE
CHARLTON
DECATUR
GRADY
THOMAS
BROOKS
LOWNDES
ECHOLS