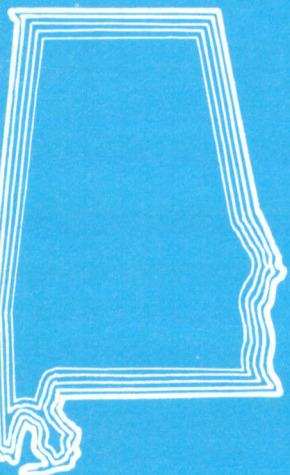


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SOIL ASSOCIATIONS OF ALABAMA

AGRICULTURAL EXPERIMENT STATION/AUBURN UNIVERSITY
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SOIL CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE/AUBURN, ALABAMA

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COVER PHOTO. View of the Limestone Valley and Upland Province.

ACKNOWLEDGMENTS

The information about Alabama soils in this report and on the map is the result of work done by many soil scientists. It was compiled from recorded soils information acquired through soil survey activities that started about 75 years ago. Essentially all credit for this publication goes to soil scientists, past and present, of the Soil Conservation Service, Auburn University Agricultural Experiment Station, and the Alabama Department of Agriculture and Industries.

Special recognition is given to the late L. G. Brackeen, who compiled the first soil map of Alabama.

SOIL ASSOCIATIONS OF ALABAMA

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THIS REPORT and the included soil map have been prepared for individuals who want a general description and visual display of soil resources of Alabama communities. More detailed descriptions and maps are available for many counties. These give soil information about specific, much smaller, areas of land.

The soil bodies outlined on the map are generally large areas, representing a group of soils common to whole communities. Consequently, each enclosed delineation on the map

represents an area containing more than one different kind of soil. Different kinds of soils are closely associated and characteristically found together within a landscape, which is why the delineations are called soil associations.

Soil associations used as units on the map have been grouped into seven soil provinces, designated on the map by different colors. The soil provinces of Alabama are closely related to the geologic nature of the materials in which soils formed.

DESCRIPTION OF THE SOIL ASSOCIATIONS

The soil associations described in this section represent the current level of information about the soils of Alabama. The location of each association in the State is shown on the "General Soil Map - State of Alabama" which accompanies this report. Each association or map unit is identified because of some unique characteristic of the soils in that association. More detailed maps require a larger scale, such as those in an individual county soil survey.

The important soil series in each soil association are described in terms of depth, drainage class, landscape position, and slope range. This is followed by a brief generalized de-

scription of a soil profile that best represents the series. The bedrock that underlies the representative soil profile is given if its depth is 40 inches or less from the surface. More detailed information about the individual soil series is located in Appendix Table 2. Each series description represents the current concept of that series. Series concepts will be refined as detailed soil surveys progress, and this will result in some new series being introduced.

More detailed information about the soils of individual counties is available for counties where a soil survey is in progress or has been completed.

Soils of the Limestone Valleys and Uplands

This soil province is the most intensively cultivated area in the State. Most of these soils were formed in material weathered from limestone. Topography is gently rolling to steep. The more gentle slopes are generally used for cultivation, whereas steeper slopes are generally wooded.

The soil series and land types in these associations were named to represent the most extensive soils in each association.

1—*Barfield-Rockland, limestone*

A typical landscape within this association is one of rolling to steep mountainous uplands that are mostly wooded. The trees are mostly eastern red cedar (*Juniperus Virginiana*) and mixed hardwoods. The Barfield series represents the major

soils in the association. Rockland, limestone, is a land type that represents the exposed limestone boulders, bedrock, and bluffs in this association.

Barfield soils are shallow, well drained, upland soils on slopes ranging from 0 to 30 percent. Typically, the surface layers have dark brownish colors and loamy textures. The subsoils are clayey and have dark brownish colors in the upper part and olive brown colors in the lower part. Barfield soils are over limestone bedrock.

2—*Cheaha-Leesburg*

A typical landscape within this association is one of steep mountainous uplands that are wooded. The trees are mostly mixed hardwoods with some pines. The Cheaha and Leesburg series represent the major series in this association.

Cheaha soils are moderately deep, well drained, upland soils on slopes ranging from 15 to 60 percent. They typically have brownish, stony, loamy surface layers and subsoils. Cheaha soils are over hard sandstone bedrock.

Leesburg soils are deep, well drained, and are on uplands.

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Decatur-Dewey Association of the Limestone Valley and Upland Province.

Slopes range from 2 to 30 percent. They typically have brownish, gravelly, loamy surface layers and subsoils.

3—Colbert-Conasauga-Firestone

A typical landscape within this association is one with nearly level pastureland intermingled with wooded areas in broad valleys between mountains. The Colbert, Conasauga, and Firestone series represent major soils in this association.

Colbert soils are deep, moderately well to somewhat poorly drained, and are on uplands. Slopes range from 1 to 20 percent. They typically have brownish, loamy, surface layers over brownish, clayey subsoils. Colbert soils are underlain by limestone.

Conasauga soils are moderately deep, moderately well drained, and are on uplands. Slopes range from 1 to 45 percent. They typically have brownish, loamy surface layers over brownish subsoils that are loamy in the upper part and clayey in the lower part. Conasauga soils are over fractured shale in horizontal beds.

Firestone soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have brownish, gravelly, loamy surface layers over reddish, clayey subsoils. Firestone soils are underlain by shale in horizontal beds.

4—Conasauga-Firestone-Talbott

A typical landscape within this association is one of gently rolling to hilly wooded areas with scattered open areas used for pasture. The Conasauga, Firestone, and Talbott series represent the major soils in this association.

Conasauga soils are moderately deep, moderately well drained, and are on uplands. Slopes range from 1 to 45 percent. They typically have brownish, loamy surface layers over brownish subsoils that are loamy in the upper part and clayey in the lower part. Conasauga soils are over fractured shale in horizontal beds.

Firestone soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typi-

cally have brownish, gravelly, loamy surface layers over reddish, clayey subsoils. Firestone soils are underlain by shale in horizontal beds.

Talbott soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have brownish, loamy, surface layers over clayey subsoils that are reddish in the upper part and brownish in the lower part.

5—Decatur-Dewey

A typical landscape within this association is one of gently rolling cultivated fields. The Decatur and Dewey series represent the major soils in this association.

Decatur soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have dark brownish, loamy surface layers and dark brownish, loamy upper subsoils over dark reddish, clayey lower subsoils.

Dewey soils are deep, well drained upland soils. Slopes range from 2 to 30 percent. They typically have dark brownish, loamy surface layers over reddish, clayey subsoils.

6—Decatur-Dewey-Allen

A typical landscape within this association is one with nearly level to gently sloping cultivated fields and pastures, joined by steep slopes that are wooded. The Decatur, Dewey, and Allen series represent the major soils in this association.

Decatur soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have dark brownish, loamy surface layers and dark brownish, loamy upper subsoils over dark reddish, clayey lower subsoils.

Dewey soils are deep, well drained, and are on uplands. Slopes range from 2 to 30 percent. They typically have dark brownish, loamy surface layers over reddish, clayey subsoils.

Allen soils are deep, well drained, and are on uplands. Slopes range from 2 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

7—Dickson-Fullerton

A typical landscape within this association is one of nearly level cultivated fields and pastureland. Scattered areas of woodland are common. Areas along the steeper drainages are wooded also. The Dickson and Fullerton series represent the major soils in this association.

Dickson soils are deep but have fragipans that are typically at about 25 inches. These moderately well drained upland soils have slopes ranging from 1 to 10 percent. Typically, they have brownish, loamy surface layers and brownish, loamy subsoils over brittle and compact, loamy fragipans. The fragipans have mottled colors in shades of brown, gray, and red and typically are underlain by a reddish, clayey subsoil layer.

Fullerton soils are deep, well drained, and are on uplands. Slopes range from 2 to 40 percent. They typically have brownish, cherty, and loamy surface layers over reddish, cherty, and clayey subsoils.

8—Holston-McQueen-Chewacla

A typical landscape within this association is one of large, nearly level, cultivated fields. The Holston, McQueen, and Chewacla series represent the major series within this association.

Holston soils are deep, well drained, and occupy stream terrace positions. Slopes range from 0 to 20 percent. They typically have brownish, loamy surface and subsoil layers.

McQueen soils are deep, well drained, and occupy stream terrace positions. Slopes range from 0 to 6 percent. They typically have brownish, loamy surface layers over reddish clayey subsoils.

Chewacla soils are deep, somewhat poorly drained, and occupy flood plain positions. Slopes are less than 2 percent. They typically have brownish, loamy surface and upper subsoil layers over grayish, loamy lower subsoils.

9—Lobelville-Lee

A typical landscape within this association is one of level and nearly level cultivated fields and pastures with bottomland hardwood timber areas along the drainages. The Lobelville and Lee series represent the major soils in the association.

Lobelville soils are deep, moderately well drained, and occupy bottomland positions. Slopes are less than 3 percent. They typically have brownish, cherty, and loamy surface layers over cherty and loamy subsoils that are brownish in the upper part and grayish in the lower part.

Lee soils are deep, poorly drained, and occupy bottomland positions. Slopes are less than 2 percent. They typically have brownish, cherty, and loamy surface layers over grayish, cherty, and loamy subsoils.

10—Minvale-Bodine-Fullerton

A typical landscape within this association is one with rolling pastureland alongside steep woodland. The Minvale, Bodine, and Fullerton series represent the major soils in this association.

Minvale soils are deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have brownish, cherty, and loamy surface layers over reddish, cherty, and loamy subsoils.

Bodine soils are deep, somewhat excessively drained, and are on uplands. Slopes range from 5 to 60 percent. They typically have brownish, cherty, and loamy surface and subsoil layers.

Fullerton soils are deep, well drained, and are on uplands. Slopes range from 2 to 40 percent. They typically have brownish, cherty, and loamy surface layers over reddish, cherty, and clayey subsoils.

11—Minvale-Fullerton

A typical landscape within this association is one of hilly woodlands and sloping pasturelands. The Minvale and Fullerton series represent the major soils in this association.

Minvale soils are deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have brownish, cherty, and loamy surface layers over reddish, cherty, and loamy subsoils.

Fullerton soils are deep, well drained, and are on uplands. Slopes range from 2 to 40 percent. They typically have brownish, cherty, and loamy surface layers over reddish, cherty, and clayey subsoils.

Soils of the Appalachian Plateau

This soil province is the most mountainous in Alabama. It is folded valleys and ridges, with both conifers and hardwoods on the slopes and narrow ridges.

The soil series named in each association were selected to represent the major kinds of soil in that association.

12—Hartsells-Linker-Albertville

A typical landscape within this association is one of nearly level and gently rolling cultivated fields with hardwood timber along the major drainages. The Hartsells, Linker, and Albertville series represent the major soils in the association.

Hartsells soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have brownish, loamy surface layers over brownish, loamy subsoils. Hartsells soils are underlain by sandstone.

Linker soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 20 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils and are underlain by sandstone.

Albertville soils are deep, well drained, and are on uplands. Slopes range from 2 to 15 percent. They typically have brownish, loamy surface layers over yellowish and brownish, clayey subsoils.

13—Hartsells-Rockland, limestone-Hector

A typical landscape within this association is one of steep wooded mountain slopes with numerous rock ledges, bluffs, and boulders. The Hartsells and Hector series represent the major soil series in this association. Rockland, limestone, is a land type that represents a large component of limestone exposed at the surface.

Hartsells soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have brownish, loamy surface layers over brown, loamy subsoils and are underlain by sandstone.

Hector soils are shallow, well drained, and are on uplands. Slopes range from 2 to 60 percent. They typically have brownish, gravelly, loamy surface layers over brownish, loamy subsoils. Hector soils are underlain by sandstone.



Hartsells-Linker-Albertville Association of the Appalachian Plateau Province.

14—Hartsells-Wynnville-Albertville

A typical landscape within this association is one with nearly level and gently rolling cultivated fields. The Hartsells, Wynnville, and Albertville series represent the major soils in this association.

Hartsells soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have brownish, loamy surface layers over brownish, loamy subsoils. Hartsells soils are underlain by sandstone.

Wynnville soils are deep but typically have fragipans at about 23 inches. These moderately well drained upland soils have slopes ranging from 0 to 10 percent. They typically have brownish, loamy surface layers and upper subsoils over compact, brittle fragipans. The fragipans, mottled in shades of gray, brown, and red, overlie brownish, loamy lower subsoils.

Albertville soils are deep, well drained, and are on uplands. Slopes range from 2 to 15 percent. They typically have brownish, loamy surface layers over yellowish and brownish, clayey subsoils. Albertville soils are underlain by shale.

15—Hector-Rockland, limestone-Allen

A typical landscape within this association is one of steep wooded slopes and foot-slope areas that are open pastureland. The steep slopes have numerous rock ledges, bluffs, and large boulders. The Hector series represents the major soils on the steeper slopes. Rockland, limestone, is a land type that represents the large component of exposed rock. The Allen series represents the major soils on the foot slopes.

Hector soils are shallow, well drained, and are on uplands. Slopes range from 2 to 60 percent. They typically have brownish, gravelly, loamy surface layers over brownish, loamy subsoils, underlain by sandstone.

Allen soils are deep, well drained, and occupy upland positions. Slopes range from 2 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

16—Montevallo-Townley-Enders

A typical landscape within this association is one of steep mountainous wooded slopes with Virginia pine (*P. Virgiana*) being dominant. The Montevallo, Townley, and Enders series represent the major soils in the association.

Montevallo soils are shallow, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have grayish, shaly, loamy surface layers over brownish, shaly, and loamy subsurface layers and subsoils. These soils typically are underlain by level bedded shale.

Townley soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils. Townley soils typically are underlain by level bedded, consolidated shale.

Enders soils are deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have brownish, gravelly, loamy surface layers over reddish, clayey subsoils that have grayish and brownish mottles in the lower part.

Soils of the Piedmont Plateau

This soil province makes up an area of Alabama that formerly was extensively cultivated but is now mostly woodland. The topography is generally rolling to hilly becoming mountainous toward the north.

The soils of this province formed in the oldest rock exposed at the surface in Alabama. The soil series named in each association were selected to represent the most extensive and the major kinds of soils in each association.

17—Appling-Cecil

A typical landscape within this association is one of hilly woodlands of mixed pines and hardwoods. The Appling and Cecil series represent the major soils within this association.

Appling soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have brownish, loamy surface layers over brownish and yellowish, clayey subsoils.

Cecil soils are deep, well drained, and are on uplands. Slopes range from 0 to 25 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils.

18—Cecil-Grover-Madison

A typical landscape within this association is one of hilly woodlands of mixed pines and hardwoods. The Cecil, Grover, and Madison series represent the major soils in this association.

Cecil soils are deep, well drained, and are on uplands. Slopes range from 0 to 25 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils.

Grover soils are deep, well drained, and are on uplands. Slopes range from 3 to 25 percent. They typically have brownish, loamy surface layers over brownish and reddish, loamy subsoils.

Madison soils are moderately deep, well drained, and are on uplands. Slopes range from 0 to 35 percent. They typi-

cally have brownish, loamy surface layers over reddish, clayey subsoils. Madison soils are over mica schist.

19—Davidson-Hiwassee-Gwinnett

A typical landscape within this association is one of undulating to hilly woodland. The Davidson, Hiwassee, and Gwinnett series represent the major soils in this association.

Davidson soils are deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have dark brownish, loamy surface layers over thick, dark reddish, clayey subsoils.

Hiwassee soils are deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have dark brownish, loamy surface layers over dark reddish, clayey subsoils.

Gwinnett soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have dark reddish, loamy surface layers over dark reddish, clayey subsoils. Gwinnett and Hiwassee soils are typically underlain by weathered basic rock.

20—Iredell-Mecklenburg

A typical landscape within this association is an undulating valley with low quality woodlands intermingled with pasture or cultivated lands. The Iredell and Mecklenburg series represent the major soils in this association.

Iredell soils are moderately deep, moderately well to somewhat poorly drained, and are on uplands. Slopes range from 1 to 12 percent. They typically have brownish, loamy surface layers over brownish, clayey subsoils. The subsoils have grayish and olive colors in the lower part. Iredell soils developed over firm saprolite.

Mecklenburg soils are moderately deep, well drained, and are on uplands. They typically have brownish, loamy sur-



Musella-Gwinnett-Hiwassee Association of the Piedmont Province.

face layers over subsoils that are reddish and clayey in the upper part and brownish and loamy in the lower part. These soils are over weathered, basic rock.

21—Gwinnett-Cecil-Applying

A typical landscape within this association is one of rolling to hilly woodland. Some of the broad ridges are open and in cultivated crops or pasture. The Gwinnett, Cecil, and Applying series represent the major soils in the association.

Gwinnett soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have dark reddish, loamy surface layers over dark reddish, clayey subsoils. Gwinnett soils are typically underlain by weathered rock.

Cecil soils are deep, well drained, and are on uplands. Slopes range from 0 to 25 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils.

Applying soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have brownish, loamy surface layers over brownish and yellowish, clayey subsoils.

22—Madison-Louisa

A typical landscape within this association is one of hilly woodland. The Madison and Louisa series represent the major soils in the association.

Madison soils are moderately deep, well drained, and are on uplands. Slopes range from 0 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils. Madison soils are over mica schist.

Louisa soils are shallow, well to somewhat excessively drained, and are on uplands. Slopes range from 2 to 40 percent. They typically have brownish, gravelly, and loamy surface layers over brownish, gravelly, and loamy subsoils. These soils are over tilted layers of mica schist.

23—Madison-Tallapoosa

A typical landscape within this association is one of steep, mixed pine and hardwood woodland. The Madison and Tallapoosa series represent the major soils in the association.

Madison soils are moderately deep, well drained, and are on uplands. Slopes range from 0 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils. These soils are over mica schist.

Tallapoosa soils are shallow, well drained, and on uplands. Slopes range from 5 to 60 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils. Tallapoosa soils are over mica schist.

24—Musella-Gwinnett-Hiwassee

A typical landscape within this association is one of hilly woodland. The Musella, Gwinnett, and Hiwassee series represent the major soils in the association.

Musella soils are shallow, well drained, and are on uplands. Slopes range from 6 to 60 percent. They typically have dark brownish, gravelly, loamy surface layers over dark reddish, gravelly, loamy subsoils and are underlain by gneiss and diorite.

Gwinnett soils are moderately deep, well drained, and are on uplands. Slopes range from 2 to 45 percent. They typically have dark reddish, loamy surface layers over dark reddish, clayey subsoils. Gwinnett soils are typically underlain by weathered basic rock.

Hiwassee soils are deep, well drained, and are on uplands. Slopes range from 2 to 25 percent. They typically have dark brownish, loamy surface layers over dark reddish, clayey subsoils.

25—Tallapoosa-Tatum

A typical landscape within this association is one of steep, mixed hardwood and pine woodland. The Tallapoosa and Tatum series represent the major soils in the association.

Tallapoosa soils are shallow, well drained, and are on uplands. Slopes range from 5 to 60 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils. Tallapoosa soils are over mica schist.

Tatum soils are deep, well drained, and are on uplands. Slopes range from 0 to 25 percent. They typically have brownish, loamy surface layers over reddish, clay subsoils.

Soils of the Prairies

This soil province makes up an area of Alabama which is widely known as the "Black Belt." This name comes from the "blackish" surface colors of many of the soils.

The topography is generally rolling with some steep slopes and nearly level areas. Vegetation is mostly grass with scattered osage-orange (*Maclura pomifera*) on the non-acid soils and pine (*Pinus sp.*) on the acid soils. Large areas of these soils have neutral and calcareous subsoils and some are calcareous in their surface layers. Clayey soils with high shrink-swell properties are common.

The soil series named in the association were selected to represent the most extensive soils in the association.

26—Demopolis-Sumter-Oktibbeha

A typical landscape within this association is one of gently rolling to hilly pastureland and scattered woodland. The Demopolis, Sumter, and Oktibbeha series represent the major soils in this association.

Demopolis soils are shallow, well drained, and occupy upland positions. Slopes range from 1 to 20 percent. They typically have brownish, loamy surface layers over grayish, weathered chalk.

Sumter soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 17 percent. They typically have dark grayish, clayey surface layers over clayey subsoils dominated by shades of olive. The subsoil typically is underlain by platy chalk.

Oktibbeha soils are deep, moderately well drained, and are on uplands. Slopes range from 2 to 12 percent. They typically have dark brownish, clayey surface layers over clayey subsoils that are reddish in the upper part and mottled in shades of brown, yellow, red, and gray in the lower part. Oktibbeha subsoils are typically over clayey layers which grade to marly material with depth.

27—Sumter-Oktibbeha-Leeper

A typical landscape within this association is one of gently rolling pastureland with scattered woodland. The Sumter, Oktibbeha, and Leeper soils represent the major soils in this association.

Sumter soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 17 percent. They typically have dark grayish, clayey surface layers over clayey



Sumter-Oktibbeha-Leeper Association of the Prairie Province.

subsoils dominated by shades of olive. Their subsoils, typically, are underlain by platy chalk.

Oktibbeha soils are deep, moderately well drained, and are on uplands. Slopes range from 2 to 12 percent. They typically have dark brownish, clayey surface layers over clayey subsoils that are reddish in the upper part and mottled in shades of brown, yellow, red, and gray in the lower part. Their subsoils typically overlay clayey layers which grade to marly material with depth.

Leeper soils are deep, somewhat poorly drained, and are on flood plains. Slopes range from 0 to 3 percent. They typically have brownish clayey surface layers and grayish and brownish clayey subsoils.

28—*Wilcox-Mayhew-Eutaw*

A typical landscape within this association is one of rolling to hilly, pine woodland intermingled with scattered pastureland. The Wilcox, Mayhew, and Eutaw series represent the major soils in this association.

Wilcox soils are deep, somewhat poorly drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have brownish, loamy surface layers over clayey subsoils that are mottled in shades of brown, red, and gray.

Mayhew soils are deep, poorly drained, and are on uplands. Slopes range from 1 to 12 percent. They typically have brownish and grayish, loamy surface layers over grayish, clayey subsoils.

Eutaw soils are deep, poorly drained, and are on uplands. Slopes range from 0 to 2 percent. They typically have grayish, clayey surface layers over grayish, clayey subsoils.

29—*Boswell-Susquehanna*

A typical landscape within this association is one of gently rolling pastureland and woodland areas. The Boswell and Susquehanna series represent the major soils in this association.

Boswell soils are deep, moderately well drained, and are on uplands. Slopes range from 1 to 17 percent. Typically, they have brownish, loamy surface layers over reddish, clayey subsoils that are mottled with gray in the lower part.

Susquehanna soils are deep, somewhat poorly drained, and are on uplands. Slopes range from 1 to 17 percent. They typically have grayish, loamy surface layers, brownish, loamy subsurface layers, and clayey subsoils. Subsoils are reddish in the upper part, mottled in shades of gray, red, and brown in the middle part, and grayish in the lower part.

Soils of the Coastal Plains

This soil province is the largest one in the State. It is part of the Coastal Plain belt that extends unbroken from Virginia to Texas.

The Coastal Plains in Alabama are generally gently rolling to hilly woodlands that are dominated by pine. There are, however, large areas of open land used for cultivated crops

and pasture. Deep soils with sandy surface layers are common. Soils with clayey subsoils are common on side slopes in highly dissected areas.

The soil series named in the associations were selected to represent the most extensive and major kinds of soils in each association.



Orangeburg-Red Bay-Dothan-Troup Association of the Coastal Plains Province.

30—Dothan-Fuquay-Wagram

A typical landscape within this association is one of nearly level to sloping pine woodlands. There are many large open areas used for pasture. Some cultivated fields are on the nearly level slopes. The Dothan, Fuquay, and Wagram series represent the majority of the soils in this association.

Dothan soils are deep, well drained, and are on uplands. Slopes range from 0 to 10 percent. They typically have brownish, loamy surface layers and subsoils with reddish plinthite nodules in their lower parts.

Fuquay soils are deep, well drained, and are on uplands. Slopes range from 1 to 5 percent. They typically have thick, brownish, sandy surface layers over subsoils that are loamy with brownish colors in the upper part, reticulately mottled with shades of yellow, red, and gray in the middle, and yellowish in the lower part.

Wagram soils are deep, well drained, and are on uplands. Slopes range from 1 to 8 percent. They typically have thick, brownish, sandy surface layers over brownish, loamy subsoils.

31—Dothan-Orangeburg-Esto

A typical landscape within this association is one with nearly level to gently rolling cultivated fields with some pasture and woodland. Most of the area has soils with loamy or sandy surface layers. The Dothan, Orangeburg, and Esto series represent the majority of the soils in the association.

Dothan soils are deep, well drained, and are on uplands. Slopes range from 0 to 10 percent. They typically have brownish, loamy surface layers and subsoils with reddish plinthite nodules in their lower parts.

Orangeburg soils are deep, well drained, and are on up-

lands. Slopes range from 0 to 15 percent. They typically have brownish, sandy surface layers over brownish and reddish, loamy subsoils.

Esto soils are deep, well drained, and are on uplands. Slopes range from 2 to 17 percent. Typically, Esto soils have brownish, loamy surface layers and yellowish, loamy upper subsoils over clayey lower subsoils that are mottled yellow, red, brown, and gray.

32—Flomaton-Smithdale-Rockland, limestone

A typical landscape within this association is one of sloping to steep side slopes with oak-hickory or oak-pine vegetation. Narrow ridgetops are open and used for pasture in many places. This association is at the boundary of the Coastal Plains and the Limestone Valley and Upland region. Consequently, the Coastal Plains sediments and cherty soils are mixed on many landscapes in this association. The Flomaton and Smithdale series represent most of the soils in this association. The Rockland, limestone, represents a rather large component of shallow soils and areas where bedrock is at the surface.

Flomaton soils are deep, excessively drained, and are on uplands. Slopes range from 2 to 40 percent. Typically, they have brownish, gravelly, and sandy surface layers over yellowish, gravelly, and sandy subsurfaces and subsoils.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

33—Luverne-Smithdale-Boswell

A typical landscape within this association is rolling to hilly pine woodland. Scattered open areas are used for

pasture. The Luverne, Smithdale, and Boswell series represent the majority of the soils in this association.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Boswell soils are deep, moderately well drained, and are on uplands. Slopes range from 1 to 17 percent. Typically, they have brownish, loamy surface layers over clayey subsoils that are reddish in the upper part and mottled with gray in the lower part.

34—Malbis-Orangeburg-Pansey

A typical landscape within this association is one of large, nearly level to gently sloping, cultivated fields. The Malbis, Orangeburg, and Pansey series represent the majority of the soils in this association.

Malbis soils are deep, moderately well drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have brownish colors and loamy textures in the surface and subsoil layers. They have plinthite nodules and some ironstone fragments in the lower part of the subsoil.

Orangeburg soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have brownish, sandy surface layers over brownish and reddish, loamy subsoils.

Pansey soils are deep, poorly drained, and are on uplands. Slopes range from 0 to 2 percent. Typically, they have grayish, loamy surface layers and subsoils with reddish, yellowish, and brownish mottles. Plinthite nodules are in the lower part of the subsoil.

35—McLaurin-Troup-Ruston

A typical landscape within this association is one with gently rolling cultivated fields and pasture intermingled with pine woodland. The McLaurin, Troup, and Ruston series represent the major soils in this association.

McLaurin soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. Typically, they have brownish, sandy surface layers over reddish, loamy subsoils.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

Ruston soils are deep, well drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have brownish, loamy surface layers over reddish, loamy subsoils.

36—Orangeburg-Dothan-Luverne-Red Bay

A typical landscape within this association is one with nearly level cultivated fields and sloping pasture and wooded areas. The Orangeburg, Dothan, Luverne, and Red Bay series represent the majority of the soils in the association.

Orangeburg soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have brownish, sandy surface layers over brownish and reddish, loamy subsoils.

Dothan soils are deep, well drained, and are on uplands. Slopes range from 0 to 10 percent. They typically have brownish, loamy surface layers and subsoils with reddish plinthite nodules in the lower part.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

Red Bay soils are deep, well drained, and are on uplands. Slopes range from 1 to 15 percent. They typically have dark brownish, loamy surface layers over dark reddish, loamy subsoils.

37—Orangeburg-Red Bay-Dothan-Troup

A typical landscape within this association is one with broad, nearly level, cultivated fields. Pasture and woodland areas are common in this association in western Alabama. The Orangeburg, Red Bay, Dothan, and Troup soils represent the majority of the soils in the association.

Orangeburg soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have brownish, sandy surface layers over brownish and reddish, loamy subsoils.

Red Bay soils are deep, well drained, and are on uplands. Slopes range from 1 to 15 percent. They typically have dark brownish, loamy surface layers over dark reddish, loamy subsoils.

Dothan soils are deep, well drained, and are on uplands. Slopes range from 0 to 10 percent. They typically have brownish, loamy surface layers and subsoils with reddish plinthite nodules in their lower parts.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

38—Poarch-Benndale-Escambia

A typical landscape within this association is one of nearly level cultivated fields with scattered areas of pastureland and pine woodland. The Poarch, Benndale, and Escambia series represent the major soils in this association.

Poarch soils are deep, moderately well and well drained, and are on uplands. Slopes range from 0 to 5 percent. They typically have grayish, loamy surface layers, brownish, loamy subsurface layers, and yellowish, loamy subsoils with plinthite nodules in the lower part.

Benndale soils are deep, well drained, and are on uplands. Slopes range from 0 to 12 percent. Typically, they have brownish, loamy surface layers over loamy subsoils that are dominated by various shades of brown.

Escambia soils are deep, somewhat poorly drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have grayish, loamy surface layers over yellowish, loamy subsoils with gray mottles which become dominant with depth.

39—Lucedale-Bama

A typical landscape within this association is one of nearly level cultivated fields and pastureland with some areas of pine woodland. The Lucedale and Bama series represent the major soils and comprise a large portion of this association.

Lucedale soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have dark brownish, loamy surface layers over thick, dark reddish, loamy subsoils.

Bama soils are deep, well drained, and are on uplands.

Slopes range from 0 to 12 percent. They typically have brownish, loamy surface layers over thick, reddish, loamy subsoils.

40—Ruston-Dickson

A typical landscape within this association is one of nearly level cultivated fields and sloping pastureland. The Ruston series represents the major soils formed in Coastal Plains sediments in this association. The Dickson series represents the major soils formed in the cherty limestone part of the association.

Ruston soils are deep, well drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have thick, brownish, loamy surface layers over reddish, loamy subsoils.

Dickson soils are deep but have fragipans that are typically at about 25 inches. These moderately well drained upland soils have slopes ranging from 1 to 10 percent. Typically, they have brownish, loamy surface layers and brownish, loamy subsoils over brittle and compact, loamy fragipans. The fragipans have mottled colors in shades of brown, gray, and red and typically are underlain by reddish, clayey subsoil layers.

41—Savannah-Ruston-Stough

A typical landscape within this association is one of nearly level cultivated fields. The Savannah, Ruston, and Stough series represent the major soils in this association.

Savannah soils are deep but have fragipans at about 28 inches. These soils occupy stream terrace and nearly level upland positions. Slopes range from 0 to 8 percent. They typically have brownish, loamy surface layers and brownish, loamy subsoils over brittle, compact loamy fragipans that are mottled in shades of brown, gray, and red.

Ruston soils are deep, well drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have brownish, loamy surface layers over thick reddish, loamy subsoils.

Stough soils are deep, somewhat poorly drained, and are on stream terraces and uplands. Slopes range from 0 to 5 percent. They typically have brownish, loamy surface layers and loamy subsoils that are mottled in shades of brown and gray. About 40 to 55 percent of the lower subsoils of Stough soils are brittle and compact.

42—Smithdale-Luverne-Flomaton

A typical landscape within this association is hilly woodland, with the broader ridges cleared and used for pasture. The Smithdale, Luverne, and Flomaton series represent the major soils of this association.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

Flomaton soils are deep, excessively drained, and are on uplands. Slopes range from 2 to 40 percent. Typically, they have brownish, gravelly, and sandy surface layers over yellowish, gravelly, and sandy subsurface layers and subsoils.

43—Smithdale-Luverne-Troup

A typical landscape within this association is dominated by rolling to hilly, pine and hardwood woodland. Some culti-

vated fields are on the broader ridges. Open areas used for pasture are common. The Smithdale, Luverne, and Troup series represent the major soils in this association.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

44—Smithdale-Troup-Lucedale-Luverne

A typical landscape within this association is rolling to hilly woodlands that are dominated by pine. The Smithdale, Troup, Lucedale, and Luverne series are representative of the major soils in the association.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

Lucedale soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have dark brownish, loamy surface layers over dark reddish, loamy subsoils.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

45—Smithton-Escambia-Troup

A typical landscape within this association is one dominated by nearly level to gently rolling, pine woodlands intermingled with open areas. The Smithton, Escambia, and Troup series represent the major soils in this association.

Smithton soils are deep, poorly drained, and are on uplands. Slopes range from 0 to 2 percent. They typically have brownish, loamy surface layers and grayish, loamy subsoils.

Escambia soils are deep, somewhat poorly drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have grayish, loamy surface layers over yellowish, loamy subsoils that have gray mottles which become dominant with depth.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

46—Troup-Alaga-Lucy

A typical landscape within this association is dominated by broad flats and gently undulating areas. Areas along some drainage ways are sloping to steep. Nearly level areas are cultivated, whereas the more sloping areas are commonly in low quality hardwoods and pine. The Troup, Alaga, and Lucy series represent the major soils in the association.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

Alaga soils are deep, well to somewhat excessively drained, and are on uplands. Slopes range from 0 to 25 percent. They typically have brownish and yellowish, sandy surface layers and subsoils.

Lucy soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

47—Troup-Luverne-Dothan-Orangeburg

A typical landscape within this association is one of narrow ridgetops and moderately steep side slopes, with pine trees being the dominant vegetation. Open areas are scattered throughout the area. Some of the more nearly level areas are cultivated. The Troup, Luverne, Dothan, and Orangeburg series represent the major soils in the association.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

Dothan soils are deep, well drained, and are on uplands. Slopes range from 0 to 10 percent. They typically have brownish, loamy surface layers over subsoils that have reddish plinthite nodules in their lower parts.

Orangeburg soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have thick, brownish, sandy surface layers over brownish and reddish, loamy subsoils.

48—Troup-Plummer-Escambia

A typical landscape within this association is one of nearly level to moderately steep soils. Most of this association is pine woodland. There are a few open areas in cultivation or pasture. The Troup, Plummer, and Escambia series represent the major soils in this association.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

Plummer soils are deep, poorly drained, and are on uplands. Slopes range from 0 to 2 percent. They typically have thick, grayish, sandy surface layers over grayish, loamy subsoils.

Escambia soils are deep, somewhat poorly drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have grayish, loamy surface layers over yellowish, loamy subsoils. The subsoils have gray mottles that become dominant with depth.

49—Troup-Smithdale-Esto

A typical landscape within this association is one with rolling and hilly slopes with pine woodland. The Troup, Smithdale, and Esto series represent the major soils within this association.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick,

brownish, sandy surface layers over reddish, loamy subsoils.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Esto soils are deep, well drained, and are on uplands. Slopes range from 2 to 17 percent. Typically, Esto soils have brownish, loamy surface layers and yellowish, loamy upper subsoils over mottled yellowish, reddish, brownish, and grayish clayey lower subsoils.

50—Troup-Smithdale-Malbis-Escambia

A typical landscape within this association is one of nearly level to sloping cultivated fields intermingled with areas of pine woodland. The Troup, Smithdale, Malbis, and Escambia series represent the major soils in the association.

Troup soils are deep, well drained, and are on uplands. Slopes range from 1 to 25 percent. They typically have thick, brownish, sandy surface layers over reddish, loamy subsoils.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Malbis soils are deep, moderately well drained, and are on uplands. Slopes range from 0 to 8 percent. Typically, they have brownish colors and loamy textures in the surface and subsoil layers. They have plinthite nodules in the lower parts of the subsoil.

51—Luverne-Boswell-Quitman-Smithdale

A typical landscape within this association is one of nearly level to rolling areas of intermingled pine woodland and open pastureland. The Luverne, Boswell, Quitman, and Smithdale series represent the major soils in this association.

Luverne soils are moderately deep, well drained, and are on uplands. Slopes range from 1 to 35 percent. They typically have brownish, loamy surface layers over reddish, clayey subsoils which are underlain by stratified loamy materials.

Boswell soils are deep, moderately well drained, and are on uplands. Slopes range from 1 to 17 percent. Typically, they have brownish, loamy surface layers over reddish, clayey subsoils that are mottled with gray in their lower parts.

Quitman soils are deep, somewhat poorly to moderately well drained, and are on uplands. Slopes range from 0 to 5 percent. They typically have grayish, loamy surface layers over brownish, loamy subsoils that have grayish mottles.

Smithdale soils are deep, well drained, and are on uplands. Slopes range from 5 to 40 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

52—Red Bay-Orangeburg

A typical landscape within this association is one dominated by nearly level and gently undulating cultivated fields. Exposed surface soil is dark red in the cultivated fields. A few areas are in pasture. Small patches of woodland occur but are not common. The Red Bay and Orangeburg series represent the major soils in this association.

Red Bay soils are deep, well drained, and are on uplands. Slopes range from 1 to 15 percent. They typically have dark brownish, loamy surface layers over dark reddish, loamy subsoils.

Orangeburg soils are deep, well drained, and are on uplands. Slopes range from 0 to 15 percent. They typically have brownish, sandy surface layers over brownish and reddish, loamy subsoils.

Soils of the Major Flood Plains and Terraces

This soil province, as shown on the "General Soil Map," represents only the Flood Plain and Stream Terrace areas that are wide enough to be shown at the scale of the map. The soil series named in the association were chosen to represent the major kinds of soils in the association.

53—*Cahaba-Chewacla-Myatt*

A typical landscape within this association is one with level and nearly level cultivated fields and bottomland hardwood woodland along the streams. The Cahaba, Chewacla, and Myatt series represent the major soils in this association.

Cahaba soils are deep, well drained, and are on terraces along the larger streams. Slopes range from 0 to 5 percent. They typically have brownish, loamy surface layers over reddish, loamy subsoils.

Chewacla soils are deep, somewhat poorly drained, and occupy nearly level flood plains. Slopes are less than 2 percent. They typically have brownish, loamy surface layers over loamy subsoils that are brownish in the upper part and grayish in the lower part.

Myatt soils are deep, poorly drained, and are on low stream terraces. Slopes range from 0 to 2 percent. They typically have grayish, loamy surface layers and subsoils.



Cahaba-Chewacla-Myatt Association of the Flood Plains and Terrace Province.

Soils of the Coastal Marshes

This soil province is the area of nearly level and level bottomlands and flats along the Mobile River, Mobile Bay, and Gulf of Mexico. The soils and land types named were selected to represent the most extensive soils in each association.

54—*Dorovan-Plummer-Tidal Marsh*

A typical landscape within this association is one of level lowland along meandering streams and sloughs. Large areas of marsh grasses are common in the southern part of the association. The Dorovan and Plummer series and the Tidal Marsh land type represent the major soils in this association.

Dorovan soils are deep, very poorly drained, and occupy flood plain positions. Slopes are less than 1 percent. They typically have dark brownish, peat surface layers which overlie thick, blackish muck which, in turn, is over brownish sand.

Plummer soils are deep, poorly drained, and occupy positions along drainageways. Slopes range from 0 to 2 percent. They typically have dark grayish, sandy surface layers over grayish, sandy subsurface layers and subsoils.

55—*Osier-Johnston*

A typical landscape within this association is one of level, dense, lowland hardwoods along meandering streams and sloughs. The Osier and Johnston series represent the major soils in this association.

Osier soils are deep, poorly drained, and occupy flood plain positions. They typically have dark grayish, sandy surface layers over grayish, sandy layers.

Johnston soils are deep, poorly drained, and occupy flood plain positions. They typically have thick, blackish, mucky and loamy surface layers over grayish, sandy and loamy layers.



Dorovan-Plummer-Tidal Marsh Association of the Coastal Marsh Province.

APPENDIX

Soil Associations and Interpretations for Selected Uses

The interpretations for some selected uses of soils are given in Appendix Table 1. The rating and kinds of limitations given are for the dominant soil in the association. Areas within each delineation on the map have ratings and kinds of

limitations that differ significantly from those given for the dominant soils. The ratings and limitations given in the table, however, are applicable to "communities" and are useful for general planning purposes.

Selected Properties of Soil Series

Selected properties of each of the soil series listed on the general soil map legend are summarized in Appendix Table 2. The properties listed and discussed below were selected because they relate to the most common interpretations made of soil maps. These properties are for the entire range of each series as it is currently defined.

The **profile characteristics** given in the table are brief. The statements about color and texture represent the dominant condition of the layer being described. The **drainage class** and the **permeability class** are from the latest official series descriptions. **Depth to bedrock** is given for both hard bedrock and rippable bedrock. In this report, hard bedrock means that the bedrock is too hard to cut with a spade.

Rippable bedrock, conversely, can be cut with a spade. The **seasonal high water table** is a zone of saturation at the highest average depth during the wettest season. It is at least 6 inches thick and persists in the soil for more than a few days. (Terms used for the kind of water table and its duration are defined in the Glossary.) **Flooding** is temporary covering of the soil surface by water from any source. Shallow water standing during or shortly after a rain is excluded from the definition of flooding. (Flooding frequency and duration terms are defined in the Glossary.) The **shrink-swell potential** is for the subsoil layer and represents that part of the soil with the highest shrink-swell potential. The **slope range** is from the most current official series descriptions.

Classification of Soils

Soil classification is useful in several ways. The classification system used makes it easier to remember significant characteristics and to assemble knowledge about soils; to see their relationship to one another and to the whole environment; and to develop principles that help in an understanding of soil behavior and response to manipulation. First through classification, and then through use of soil maps, knowledge of soils can be applied to specific fields and other tracts of land.

The narrow categories of classification, such as those used in detailed soil surveys, facilitates the organization of knowledge about soils for practical use in managing farms, fields, and woodlands; in developing rural areas; in engineering work; and in many other ways. Soils are placed in broad classes to facilitate study and comparison in large areas, such as countries and continents.

The system of soil classification currently used was adopted by the National Cooperative Soil Survey in 1965. It is called the Soil Taxonomy.

The Soil Taxonomy has six categories. Beginning with broadest, these categories are order, suborder, great group, subgroup, family, and series. The criteria used as a basis for classification are soil properties that are observable and measurable, but the properties are chosen so that the soils of similar genesis or mode of origin are grouped. In Appendix Table 3, the soil series of Alabama are classified according to the Soil Taxonomy. Classes of the Soil Taxonomy are briefly defined.

Order. Ten soil orders are recognized. The properties used to differentiate among soil orders are those that tend to give broad climatic groupings of soils. The three exceptions are the Entisols, Inceptisols, and Histosols, which occur in many different climates. Each order is named with a word of three or four syllables ending in *sol*.

Suborder. Each order is subdivided into suborders, based primarily on soil characteristics that seem to produce classes with the greatest genetic similarity. The suborders narrow the broad climatic range permitted in the orders. Soil properties used to separate suborders are mainly those that reflect either the presence or absence of water-logging, or soil

differences resulting from climate or vegetation. The names of suborders have two syllables, the last of which indicates the order.

Great group. Soil suborders are separated into great groups on the basis of uniformity in the kinds and sequence of major soil horizons and features. The horizons used to make separations are those in which clay, iron, or humus have accumulated; those that have pans that interfere with growth of roots, movement of water, or both; and thick, dark-colored surface horizons. Such features as the self-mulching properties of clay, soil temperature, major differences in chemical composition (mainly calcium, magnesium, sodium, and potassium), and dark red and dark brown colors associated with basic rocks are used in separating great groups. The names of great groups have three or four syllables and are made by adding a prefix to the name of the suborder.

Subgroup. Great groups are subdivided into subgroups, one representing the central (typic) segment of the group and others called intergrades that have properties of the group and also one or more properties of another great group, suborder, or order. Subgroups also may be made in instances where soil properties intergrade outside the range of any other great group, suborder, or order. The names of subgroups are derived by placing one or more adjectives before the name of the great group.

Family. Soil families are separated within a subgroup primarily on the basis of properties important to the growth of plants or on the behavior of soils when used for engineering. Among the properties considered are texture, mineralogy, reaction, soil temperature, permeability, thickness of horizons, and consistence. A family name consists of a series of adjectives preceding the subgroup name. The adjectives are the class names for texture, mineralogy, and other properties used as family differentiae, Appendix Table 3.

Series. The series is the lowest category in this system. The differentiae used for series are mostly the same as those used for classes in other categories, but the range permitted in one or more properties is less than is permitted in a family or in some other higher category. Purpose of the series category, like that of the family, is mainly pragmatic. The series category is closely allied to interpretative uses of the system.

APPENDIX TABLE 1. SOIL ASSOCIATIONS AND INTERPRETATIONS FOR SELECTED USES

Map symbol and soil association	Dominant slope, percent	Soil suitability and major limitation for			Soil limitations for							
		Cropland	Pastureland	Woodland	Septic tank absorption fields	Local roads and streets	Small commercial buildings	Dwellings without basements	Camp areas	Picnic areas	Playgrounds	Paths and trails
1. Barfield-Rockland, limestone	6-35	poor: slope, depth to rock	poor: slope, depth to rock	poor: depth to rock	severe: depth to rock, slope, percs slowly	severe: depth to rock, slope	severe: depth to rock, slope	severe: depth to rock, slope	severe: slope	severe: slope, depth to rock	severe: slope, depth to rock	moderate: slope, rock outcrops
2. Cheaha-Leesburg	20-50	poor: slope, large stones	poor: slope	good	severe: slope, depth to rock	severe: slope	severe: slope	severe: slope	severe: slope, large stones	severe: slope	severe: slope, large stones	severe: slope, large stones
3. Colbert-Conasauga-Firestone	1-6	fair: too clayey	good	fair: too clayey	severe: percs slowly	severe: low strength, shrink-swell	severe: low strength, shrink-swell	severe: low strength, shrink-swell	severe: percs slowly	moderate: wetness	severe: percs slowly	moderate: wetness
4. Conasauga-Firestone-Talbott	1-6	fair: slope, too clayey	good	fair: too clayey	severe: percs slowly	severe: low strength	moderate: low strength, shrink-swell	moderate: low strength, shrink-swell	moderate: percs slowly, wetness	moderate: wetness	moderate: wetness, percs slowly, slope	slight
5. Decatur-Dewey	1-10	good	good	good	slight	moderate: low strength	moderate: low strength	moderate: low strength	slight	slight	slight	slight
6. Decatur-Dewey-Allen	1-10	good	good	good	slight	moderate: low strength	moderate: low strength	moderate: low strength	slight	slight	slight	slight
7. Dickson-Fullerton	1-15	good	good	good	severe: percs slowly	moderate: low strength	moderate: wetness, slope	moderate: wetness	slight	slight	moderate: percs slowly, slope	slight
8. Holston-McQueen-Chewacla	0-6	good	good	good	slight	moderate: low strength	moderate: low strength	moderate: low strength	slight	slight	slight	slight
9. Lobelville-Lee	0-3	fair: wetness, floods	good	good	severe: wetness, floods	severe: floods	severe: floods	severe: floods	severe: floods	moderate: floods	moderate: floods, small stones	slight
10. Minvale-Bodine-Fullerton	6-35	poor: slope, small stones, droughty	fair: slope, droughty	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: slope
11. Minvale-Fullerton	2-20	fair: slope	good	good	moderate: slope	moderate: low strength, slope	severe: slope	moderate: slope	moderate: slope	moderate: slope	moderate: slope	slight
12. Hartsells-Linker-Albertville	2-15	good	good	good	severe: depth to rock	moderate: depth to rock	moderate: slope, depth to rock	moderate: depth to rock	slight	slight	moderate: slope	slight
13. Hartsells-Rockland, limestone-Hector	15-40	poor: slope, droughty	poor: droughty, slope	fair: depth to rock	severe: depth to rock, slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope

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Continued

APPENDIX TABLE 1 (Continued). SOIL ASSOCIATIONS AND INTERPRETATIONS FOR SELECTED USES

Map symbol and soil association	Dominant slope, percent	Soil suitability and major limitation for				Soil limitations for							
		Cropland	Pastureland	Woodland	Septic tank absorption fields	Local roads and streets	Small commercial buildings	Dwellings without basements	Camp areas	Picnic areas	Playgrounds	Paths and trails	
14. Hartsells-Wynnville Albertville	0-15	good	good	good	severe: depth to rock	moderate: depth to rock	moderate: slope, depth to rock	moderate: depth to rock	slight	slight	moderate: slope	slight	
15. Hector-Rockland, limestone-Allen	25-40	poor: slope, depth to rock	poor: slope, droughty	poor: depth to rock	severe: depth to rock, slope	severe: depth to rock, slope	severe: slope, depth to rock	severe: slope, depth to rock	severe: slope	severe: slope	severe: slope, depth to rock	severe: slope	
16. Montevallo-Townley-Enders	6-40	poor: slope, depth to rock	poor: slope, droughty	poor: depth to rock	severe: depth to rock, slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope, depth to rock	severe: slope	
17. Appling-Cecil	2-15	fair: slope	good	good	moderate: percs slowly	moderate: low strength	severe: slope	moderate: slope	moderate: slope	moderate: slope	severe: slope	slight	
18. Cecil-Grover-Madison	2-25	poor: slope	good	good	moderate: percs slowly	moderate: low strength	severe: slope	moderate: slope	moderate: slope	slope moderate:	severe: slope	slight	
19. Davidson-Hiwassee-Gwinnett	2-30	fair: slope	good	good	moderate: percs slowly	moderate: low strength	severe: slope	moderate: slope	moderate: slope	moderate: slope	severe: slope	slight	
20. Iredell-Mecklenburg	2-10	fair: too clayey	good	fair: too clayey	severe: percs slowly	severe: low strength, shrink-swell	severe: shrink-swell	severe: shrink-swell	moderate: percs slowly, too clayey	moderate: too clayey	moderate: percs slowly, slope	moderate: too clayey, slope	
21. Gwinnett-Cecil-Appling	2-30	fair: slope	good	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: slope	
22. Madison-Louisa	6-40	poor: slope	fair: slope	good	severe: slope	severe: slope, low strength	severe: slope, low strength	severe: low strength, slope	severe: slope	severe: slope	severe: slope	severe: slope	
23. Madison-Tallapoosa	2-25	poor: slope	fair: slope	good	moderate: slope, percs slowly	severe: slope, low strength	severe: slope, low strength	severe: low strength	moderate: slope	moderate: slope	severe: slope	moderate: slope	
24. Musella-Gwinnett-Hiwassee	1-25	fair: slope, droughty	good	good	moderate: slope, percs slowly	moderate: low strength	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: slope	
25. Tallapoosa-Tatum	6-50	poor: slope, droughty	poor: slope	good	severe: slope, depth to rock	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	
26. Demopolis-Sumter-Oktibbeha	3-17	poor: droughty	fair: droughty	fair: too clayey, depth to rock	severe: percs slowly, depth to rock	severe: shrink-swell, low strength	severe: shrink-swell, low strength	severe: shrink-swell, low strength	moderate: slope, too clayey	moderate: slope, too clayey	severe: slope	moderate: too clayey	

Continued

APPENDIX TABLE 1 (Continued). SOIL ASSOCIATIONS AND INTERPRETATIONS FOR SELECTED USES

Map symbol and soil association	Dominant slope, percent	Soil suitability and major limitation for			Soil limitations for								
		Cropland	Pastureland	Woodland	Septic tank absorption fields	Local roads and streets	Small commercial buildings	Dwellings without basements	Camp areas	Picnic areas	Playgrounds	Paths and trails	
27. Sumter-Oktibbeha-Leeper	0-12	fair: droughty	good	fair: too clayey	severe: percs slowly, depth to rock	severe: shrink-swell, low strength	severe: shrink-swell, low strength	severe: shrink-swell, low strength	moderate: slope, too clayey	moderate: slope, too clayey	moderate: slope, percs slowly	moderate: too clayey	
28. Wilcox-Mayhew-Eutaw	0-5	poor: too clayey	fair: too clayey	good	severe: percs slowly	severe: shrink-swell, low strength	severe: shrink-swell, low strength	severe: shrink-swell, low strength	severe: percs slowly	moderate: too clayey, wetness	severe: percs slowly	moderate: wetness, too clayey	
29. Boswell-Susquehanna	2-15	fair: too clayey	good	good	severe: percs slowly	severe: low strength, shrink-swell	severe: low strength, shrink-swell	severe: low strength, shrink-swell	severe: percs slowly	moderate: slope, wetness	severe: percs slowly, slope	moderate: wetness	
30. Dothan-Fuquay-Wagram	2-15	good	good	good	moderate: percs slowly	slight	moderate: slope	slight	slight	slight	slight	moderate: slope	
31. Dothan-Orangeburg-Esto	0-5	good	good	good	moderate: percs slowly	slight	slight	slight	slight	slight	moderate: slope	slight	
32. Flomaton-Smithdale-Rockland-limestone	15-35	poor: slope, droughty	fair: droughty, slope	fair: droughty	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	
33. Luverne-Smithdale-Boswell	6-30	poor: slope	fair: slope	good	severe: percs slowly, slope	severe: slope, low strength	severe: slope, low strength	severe: slope, low strength	severe: slope	severe: slope	severe: slope	moderate: slope	
34. Malbis-Orangeburg-Pansey	0-5	good	good	good	moderate: percs slowly	moderate: low strength	slight	slight	slight	slight	moderate: slope	slight	
35. McLaurin-Troup-Ruston	2-10	good	good	good	slight	slight	moderate: slope	slight	slight	slight	moderate: slope	slight	
36. Orangeburg-Dothan-Luverne-Red Bay	2-15	fair: slope	good	good	slight	slight	moderate: slope	slight	slight	slight	moderate: slope	slight	
37. Orangeburg-Red Bay-Dothan-Troup	2-10	fair: slope	good	good	slight	slight	moderate: slope	slight	slight	slight	moderate: slope	slight	
38. Poarch-Benndale-Escambia	0-5	good	good	good	severe: wetness	moderate: low strength	moderate: low strength	moderate: low strength	slight	slight	moderate: slope	slight	
39. Lucedale-Bama	0-5	good	good	good	slight	slight	slight	slight	slight	slight	slight	slight	
40. Ruston-Dickson	2-10	good	good	good	severe: percs slowly	moderate: low strength	moderate: wetness, slope	moderate: wetness	slight	slight	moderate: percs slowly, slope	slight	

APPENDIX TABLE 1 (Continued). SOIL ASSOCIATIONS AND INTERPRETATIONS FOR SELECTED USES

Map symbol and soil association	Dominant slope, percent	Soil suitability and major limitation for			Soil limitations for								
		Cropland	Pastureland	Woodland	Septic tank absorption fields	Local roads and streets	Small commercial buildings	Dwellings without basements	Camp areas	Picnic areas	Playgrounds	Paths and trails	
41. Savannah-Ruston-Stough	0-6	good	good	good	severe: percs slowly	moderate: low strength	moderate: wetness	moderate: wetness	slight slight	moderate:	slope	slight	
42. Smithdale-Luverne-Flomaton	10-35	poor: slope	fair: slope	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: slope	
43. Smithdale-Luverne-Troup	6-35	poor: slope	fair: slope	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: slope	
44. Smithdale-Troup-Lucedale-Luverne	5-30	poor: slope	fair: slope	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: slope	
45. Smithton-Escambia-Troup	0-5	poor: wetness	fair: wetness	good	severe: wetness	severe: wetness	severe: wetness	severe: wetness	severe: wetness	severe: wetness	severe: wetness	severe: wetness	
46. Troup-Alaga-Lucy	0-6	fair: droughty	fair: droughty	good	slight	slight	slight	slight	moderate: too sandy	moderate: too sandy	severe: too sandy	moderate: too sandy	
47. Troup-Luverne-Dothan-Orangeburg	2-30	poor: slope	poor: slope	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: too sandy, slope	
48. Troup-Plummer-Escambia	0-5	fair: droughty	fair: droughty	good	slight	slight	slight	slight	moderate: too sandy	moderate: too sandy	severe: too sandy	moderate: too sandy	
49. Troup-Smithdale-Esto	2-25	poor: slope	poor: slope	good	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	severe: slope	moderate: too sandy, slope	
50. Troup-Smithdale-Malbis-Escambia	0-12	fair: droughty, slope	fair: droughty	good	slight	slight	moderate: slope	slight	moderate: too sandy	moderate: too sandy	severe: too sandy, slope	moderate: too sandy	
51. Luverne-Boswell-Quitman-Smithdale	0-30	fair: slope	fair: slope	good	severe: slope, percs slowly	severe: low strength, slope	severe: low strength, slope	severe: low strength, slope	severe: slope	severe: slope	severe: slope	moderate: slope	
52. Red Bay-Orangeburg	0-8	good	good	good	slight	slight	moderate: slope	slight	slight	slight	slight	slight	
53. Cahaba-Chewacla-Myatt	0-5	good	good	good	severe: floods	severe: floods	severe: floods	severe: floods	severe: floods	severe: floods	severe: floods	severe: floods	
54. Dorovan-Plummer-Tidal Marsh	0-1	poor: wetness, floods	poor: wetness, floods	poor: wetness, floods	severe: wetness, floods	severe: wetness, floods, low strength	severe: wetness, floods, low strength	severe: wetness, floods, low strength	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	
55. Osier-Johnston	0-2	poor: wetness, floods	poor: wetness, floods	fair: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	severe: wetness, floods	

APPENDIX TABLE 2. SELECTED PROPERTIES OF SOIL SERIES

Series	Profile characteristics	Drainage class	Permeability class	Reaction ¹	Depth to bedrock		High water table			Flooding			Shrink-swell potential (subsoil)	Slope range, percent
					Hard, inches	Rippable, inches	Depth, feet	Kind	Months	Frequency	Duration	Months		
Alaga	deep soil with brownish and yellowish sandy surface and subsoil	well to somewhat excessive	rapid	strongly acid	60	60	>6	---	---	none	---	---	low	0-25
Albertville	deep soil with brownish loamy surface over brownish clayey subsoil	well	moderately slow	strongly acid	>60	40-72	>6	---	---	none	---	---	moderate	2-25
Allen	deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	2-40
Appling	deep soil with brownish loamy surface over brownish and yellowish clayey subsoil	well	moderate	strongly acid	>60	40-60	>6	---	---	none	---	---	moderate	0-15
Bama	deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	0-12
Barfield	shallow soil with brownish loamy surface over brownish clayey subsoil	well	moderately slow	neutral	8-20	---	>6	---	---	none	---	---	moderate	1-30
Benndale	deep soil with brownish loamy surface over brownish loamy subsoil	well	moderate	very strongly acid	>60	>60	>6	---	---	none	---	---	low	0-12
Bodine	deep soil with brownish loamy and cherty surface and subsoil	somewhat excessive	rapid	strongly acid	>60	>60	>6	---	---	none	---	---	low	5-60
Boswell	deep soil with brownish loamy surface and reddish and grayish subsoils	moderately well	very slow	strongly acid	>60	>60	>6	---	---	none	---	---	high	1-17
Cahaba	deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none, occasional	brief	Nov.-Feb.	low	0-5 0-5
Cecil	deep soil with brownish loamy surface over reddish clayey subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	moderate	0-25
Cheaha	moderately deep soil with brownish, stony, loamy surface and subsoil	well	moderate	strongly acid	20-40	---	>6	---	---	none	---	---	low	15-60
Chewacla	deep soil with brownish loamy surface over brownish and grayish loamy subsoil	somewhat poorly	moderate	strongly acid	>60	>60	1.0-1.5	apparent	Nov.-Apr.	frequent	brief	Feb.-May	low	0-2
Colbert	deep soil with brownish loamy surface over brownish clayey subsoil	moderately well to somewhat poorly	very slow	strongly acid	40-60	---	>6	---	---	none	---	---	high	1-20
Conasauga	moderately deep soil with brownish loamy surface over brownish clayey subsoil	moderately well	slow	strongly acid	>60	20-40	>6	---	---	none	---	---	high	1-45

Continued

APPENDIX TABLE 2 (Continued). SELECTED PROPERTIES OF SOIL SERIES

Series	Profile characteristics	Drainage class	Permeability class	Reaction ¹	Depth to bedrock		High water table			Flooding			Shrink-swell potential (subsoil)	Slope range, percent
					Hard, inches	Rippable, inches	Depth, feet	Kind	Months	Frequency	Duration	Months		
Davidson	deep soil with dark brownish loamy surface over dark reddish clayey subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	moderate	2-25
Decatur	deep soil with dark brownish loamy surface over dark reddish clayey subsoil	well	moderate	very strongly acid	>60	>60	>6	---	---	none	---	---	moderate	1-25
Demopolis	shallow calcareous soil with brownish loamy surface over chalk	well	moderate	moderately alkaline	>60	4-16	>6	---	---	none	---	---	moderate	1-20
Dewey	deep soil with brownish loamy surface over reddish clayey subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	moderate	2-30
Dickson	deep soil with brownish loamy surface, subsoil, and fragipan	moderately well	moderately slow	strongly acid	>60	>60	>6	---	---	none	---	---	low	1-10
Dorovan	deep blackish muck underlain by sand	very poorly	very slow	very strongly acid	>60	>60	<0.5	apparent	Jan.-Dec.	frequent	long	Jan.-Dec.	low	0-1
Dothan	deep soil with brownish loamy surface and subsoil	well	moderately slow	strongly acid	>60	>60	3.5-4.5	perched	Jan.-Apr.	none	---	---	low	0-10
[23] Enders	deep soil with brownish gravelly and loamy surface over reddish clayey subsoil with grayish mottles in lower part	well	very slow	very strongly acid	>60	40-96	>6	---	---	none	---	---	high	2-45
Escambia	deep soil with brownish loamy surface over yellowish loamy subsoil that has grayish and reddish mottles in the lower part	somewhat poorly	slow	very strongly acid	>60	>60	1.5-2.5	apparent	Dec.-Mar.	none	---	---	low	0-8
Esto	deep soil with brownish loamy surface over a clayey subsoil that is mottled in shades of yellow, brown, and red	well or moderately well	slow	very strongly acid	>60	>60	>6	---	---	none	---	---	moderate	2-17
Eutaw	deep soil with grayish clayey surface and subsoil	poorly	very slow	extremely acid	>60	>60	0.5	perched	Dec.-Apr.	none	---	---	very high	0-2
Firestone	moderately deep soil with brownish loamy and gravelly surface over reddish clayey subsoil	well	slow	very strongly acid	>60	20-40	>6	---	---	none	---	---	high	2-25
Flomaton	deep soil with brownish gravelly and sandy surface and subsoil	excessive	rapid	strongly acid	>60	>60	>6	---	---	none	---	---	low	2-40
Fullerton	deep soil with brownish cherty and loamy surface over reddish cherty and clayey subsoil	well	moderate	very strongly acid	>60	>60	>6	---	---	none	---	---	low	2-40

Continued

APPENDIX TABLE 2 (Continued). SELECTED PROPERTIES OF SOIL SERIES

Series	Profile characteristics	Drainage class	Permeability class	Reaction ¹	Depth to bedrock		High water table			Flooding			Shrink-swell potential (subsoil)	Slope range, percent
					Hard, inches	Rippable, inches	Depth, feet	Kind	Months	Frequency	Duration	Months		
Fuquay	deep soil with thick brownish sandy surface over brownish loamy subsoil	well	slow	strongly acid	>60	>60	>6	---	---	none	---	---	low	1-5
Grover	deep soil with brownish loamy surface over brownish and reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	moderate	3-25
Gwinnett	moderately deep soil with dark reddish loamy surface over dark reddish clayey subsoil	well	moderate	strongly acid	>60	20-40	>6	---	---	none	---	---	moderate	2-45
Hartsells	moderately deep soil with brownish loamy surface and subsoil	well	moderate	very strongly acid	20-40	---	>6	---	---	none	---	---	low	2-35
Hector	shallow soil with brownish gravelly surface over brownish loamy subsoil	well	moderately rapid	strongly acid	10-20	---	>6	---	---	none	---	---	low	2-60
Hiwassee	deep soil with dark brownish loamy surface over dark reddish clayey subsoil	well	moderate	medium acid	>60	>60	>6	---	---	none	---	---	moderate	2-25
[24] Holston	deep soil with brownish loamy surface and subsoil	well	moderate	very strongly acid	>60	>60	>6	---	---	none	---	---	low	0-20
Iredell	moderately deep soil with brownish loamy surface over brownish clayey subsoil	moderately well to somewhat poorly	slow	neutral	40-60	20-40	1-2	perched	Nov.-Mar.	none	---	---	very high	0-10
Johnston	deep soil with a blackish mucky loamy surface over grayish sandy subsoil	very poorly	moderately rapid	very strongly acid	>60	>60	(1)-1.5 ²	apparent	Nov.-July	frequent	long	Nov.-July	low	0-2
Lee	deep soil with brownish cherty loamy surface over grayish cherty loamy subsoil	poorly	moderate	strongly acid	>60	>60	1-2	apparent	Dec.-Apr.	common	brief	Dec.-Mar.	low	0-2
Leeper	deep soil with brownish loamy surface over brownish and grayish clayey subsoil	somewhat poorly	very slow	moderately alkaline	>60	>60	1-2	apparent	Jan.-Mar.	common	brief	Jan.-Mar.	high	0-3
Leesburg	deep soil with brownish gravelly and loamy surface and subsoil	well	moderate	very strongly acid	>60	>60	>6	---	---	none	---	---	low	2-30
Linker	moderately deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	very strongly acid	20-40	---	>6	---	---	none	---	---	low	1-20
Lobelville	deep soil with brownish cherty and loamy surface over brownish and grayish cherty and loamy subsoil	moderately well	moderate	strongly acid	>60	>60	1-2.5	apparent	Dec.-Mar.	occasional	brief	Dec.-Apr.	low	0-3

Continued

APPENDIX TABLE 2 (Continued). SELECTED PROPERTIES OF SOIL SERIES

Series	Profile characteristics	Drainage class	Permeability class	Reaction ¹	Depth to bedrock		High water table			Flooding			Shrink-swell potential (subsoil)	Slope range, percent
					Hard, inches	Rippable, inches	Depth, feet	Kind	Months	Frequency	Duration	Months		
Louisa	shallow soil with brownish gravelly and loamy surface and subsoil	well to somewhat excessive	moderately rapid	very strongly acid	36-120	10-20	>6	---	---	none	---	---	low	2-40
Lucedale	deep soil with dark reddish surface and dark brownish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	0-15
Lucy	deep soil with thick brownish sandy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	0-15
Luverne	moderately deep soil with brownish loamy surface over reddish clayey subsoil over stratified materials	well	moderately slow	strongly acid	>60	>60	>6	---	---	none	---	---	moderate	1-35
Madison	moderately deep soil with brownish loamy and gravelly surface over reddish clayey subsoil	well	moderate	strongly acid	36-120	21-48	>6	---	---	none	---	---	moderate	0-35
Malbis	deep soil with brownish loamy surface and subsoil	moderately well	moderately slow	strongly acid	>60	>60	2.5-4	perched	Dec.-Mar.	none	---	---	low	0-8
Mayhew	deep soil with brownish loamy surface over grayish clayey subsoil	poorly	very slow	very strongly acid	>60	>60	0-1	apparent	Jan.-Mar.	none	---	---	high	1-12
McLaurin	deep soil with brownish sandy surface over reddish loamy subsoil	well	moderately rapid to rapid	strongly acid	>60	>60	>6	---	---	none	---	---	low	1-25
McQueen	deep soil with brownish loamy surface over reddish clayey subsoil	well	slow	strongly acid	>60	>60	>6	---	---	occasional-rare	brief	Jan.-Mar.	moderate	0-6
Mecklenburg	moderately deep soil with brownish loamy surface over reddish clayey subsoil	well	slow	slightly acid	48-96	20-45	>6	---	---	none	---	---	moderate	2-20
Minvale	deep soil with brownish cherty and loamy surface over reddish cherty and loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	2-45
Montevallo	shallow soil with grayish shaly and loamy surface over brownish shaly and loamy subsoil	well	moderate	strongly acid	>60	10-20	>6	---	---	none	---	---	low	2-45
Musella	shallow soil with brownish gravelly and loamy surface over reddish gravelly and loamy subsoil	well	moderate	medium acid	40-60	10-20	>6	---	---	none	---	---	low	6-60

Continued

APPENDIX TABLE 2 (Continued). SELECTED PROPERTIES OF SOIL SERIES

Series	Profile characteristics	Drainage class	Permeability class	Reaction ¹	Depth to bedrock		High water table			Flooding			Shrink-swell potential (subsoil)	Slope range, percent
					Hard, inches	Rippable, inches	Depth, feet	Kind	Months	Frequency	Duration	Months		
Myatt	deep soil with grayish loamy surface and subsoil	poorly	slow	very strongly acid	>60	>60	0-1	apparent	Nov.-Apr.	common	brief	Nov.-Mar.	low	0-2
Oktibbeha	moderately deep soil with brownish clayey surface over reddish clayey subsoil	moderately well	very slow	very strongly acid	>60	20-50	>6	---	---	none	---	---	high	1-12
Orangeburg	deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	very strongly acid	>60	>60	>6	---	---	none	---	---	low	0-15
Osier	deep soil with brownish sandy surface over grayish sandy subsurface	poorly or very poorly	rapid	very strongly acid	>60	>60	0-1	apparent	Nov.-Apr.	common	brief	Dec.-Apr.	low	0-2
Pansey	deep soil with grayish loamy surface and subsoil	poorly	slow	strongly acid	>60	>60	0-1.5	apparent	Dec.-Mar.	common	brief	Dec.-Mar.	low	0-2
Plummer	deep soil with very thick grayish sandy surface over grayish loamy subsoil	poorly	moderate	very strongly acid	>60	>60	0-1.5	apparent	Dec.-Apr.	occasional	brief	Dec.-Mar.	very low	0-2
Poarch	deep soil with grayish loamy surface over yellowish loamy subsoil	well and moderately well	moderate to moderately slow	strongly acid	>60	>60	2.5-5	apparent	Dec.-Mar.	none	---	---	low	0-5
Quitman	deep soil with brownish loamy surface and subsoil	somewhat poorly to moderately well	moderate	strongly acid	>60	>60	1.5-2	perched	Jan.-Mar.	none	---	---	low	0-5
Red Bay	deep soil with dark brownish loamy surface over dark reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	1-15
Ruston	deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	0-8
Savannah	deep soil with brownish loamy surface, subsoil, and fragipan	moderately well	moderately slow	very strongly acid	>60	>60	1.5-3	perched	Jan.-Feb.	none	---	---	low	0-8
Smithdale	deep soil with brownish loamy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	5-40
Smithton	deep soil with brownish loamy surface over grayish loamy subsoil	poorly	moderately slow	very strongly acid	>60	>60	0-1	perched	Dec.-May	none-occasional	brief-long	Dec.-May	low	0-2
Stough	deep soil with brownish loamy surface over brownish and grayish loamy subsoil	somewhat poorly	moderately slow	strongly acid	>60	>60	1-1.5	perched	Jan.-Apr.	none	---	---	low	0-5
Sumter	moderately deep soil with grayish clayey surface over grayish and olive clayey subsoil	well	slow	moderately alkaline	>60	20-40	>6	---	---	none	---	---	high	1-17

APPENDIX TABLE 2 (Continued). SELECTED PROPERTIES OF SOIL SERIES

Series	Profile characteristics	Drainage class	Permeability class	Reaction ¹	Depth to bedrock		High water table			Flooding			Shrink-swell potential (subsoil)	Slope range, percent
					Hard, inches	Rippable, inches	Depth, feet	Kind	Months	Frequency	Duration	Months		
Susquehanna	deep soil with grayish loamy surface over mottled grayish, reddish, and brownish clayey subsoil	somewhat poorly	very slow	very strongly acid	>60	>60	>6	---	---	none	---	---	high	1-17
Talbott	moderately deep soil with brownish loamy surface over reddish clayey subsoil	well	moderately slow	strongly acid	20-40	---	>6	---	---	none	---	---	high	2-25
Tallapoosa	shallow soil with brownish loamy surface over reddish loamy subsoil	well	moderate	very strongly acid	>60	3-20	>6	---	---	none	---	---	low	5-60
Tatum	moderately deep soil with brownish loamy surface over reddish clayey subsoil	well	moderate	very strongly acid	>60	40-60	4-6	apparent	Jan.-Apr.	none	---	---	moderate	0-25
Townley	moderately deep soil with brownish loamy surface over reddish clayey subsoil	well	slow	strongly acid	>60	20-40	>6	---	---	none	---	---	moderate	2-45
[27] Troup	deep soil with very thick brownish sandy surface over reddish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	1-25
Wagram	deep soil with thick brownish sandy surface over brownish loamy subsoil	well	moderate	strongly acid	>60	>60	>6	---	---	none	---	---	low	1-8
Wilcox	deep soil with brownish loamy surface over grayish, brownish, and reddish clayey subsoil	somewhat poorly	slow	very strongly acid	>60	40-80	1.5-3	perched	Jan.-Apr.	none	---	---	high	1-25
Wynnville	deep soil with brownish loamy surface over brownish loamy subsoil and brownish and grayish loamy fragipan	moderately well	slow	very strongly acid	48-84	---	1.5-2.5	perched	Dec.-Feb.	none	---	---	low	0-10

¹ Reaction refers to degree of acidity of the upper subsoil layer:

extremely acid.....<4.5
 very strongly acid.....4.5-5.0
 strongly acid.....5.1-5.5
 medium acid.....5.6-6.0
 slightly acid.....6.1-6.5
 neutral.....6.6-7.3
 mildly alkaline.....7.4-7.8
 moderately alkaline.....7.9-8.4

² Numbers in parentheses indicate water table above the surface.

APPENDIX TABLE 3. SOIL SERIES CLASSIFIED ACCORDING TO THE CURRENT SYSTEM OF CLASSIFICATION

Series	Family	Subgroup	Order
Alaga	Thermic, Coated	Typic Quartzipsamments	Entisols
Albertville	Clayey, Mixed, Thermic	Typic Hapludults	Ultisols
Allen	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Appling	Clayey, Kaolinitic, Thermic	Typic Hapludults	Ultisols
Bama	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Barfield	Clayey, Mixed, Thermic	Lithic Hapludolls	Mollisols
Benndale	Coarse-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Bodine	Loamy-Skeletal, Siliceous, Thermic	Typic Paleudults	Ultisols
Boswell	Fine, Mixed, Thermic	Vertic Paleudalfs	Alfisols
Cahaba	Fine-Loamy, Siliceous, Thermic	Typic Hapludults	Ultisols
Cecil	Clayey, Kaolinitic, Thermic	Typic Hapludults	Ultisols
Cheaha	Fine-Loamy, Mixed, Thermic	Typic Hapludults	Ultisols
Chewacla	Fine-Loamy, Mixed, Thermic	Fluvaquentic Dystrochrepts	Inceptisols
Colbert	Very Fine, Montmorillonitic, Thermic	Vertic Hapludalfs	Alfisols
Conasauga	Fine, Mixed, Thermic	Typic Hapludalfs	Alfisols
Davidson	Clayey, Kaolinitic (Oxidic), Thermic	Rhodic Paleudults	Ultisols
Decatur	Clayey, Kaolinitic, Thermic	Rhodic Paleudults	Ultisols
Demopolis	Loamy-Skeletal, Carbonatic, Thermic, Shallow	Typic Udorthents	Entisols
Dewey	Clayey, Kaolinitic, Thermic	Typic Paleudults	Ultisols
Dickson	Fine-Silty, Siliceous, Thermic	Glossic Fragiudults	Ultisols
Dorovan	Dysic, Thermic	Typic Medisaprists	Histosols
Dothan	Fine-Loamy, Siliceous, Thermic	Plinthic Paleudults	Ultisols
Enders	Clayey, Mixed, Thermic	Typic Hapludults	Ultisols
Escambia	Coarse-Loamy, Siliceous, Thermic	Plinthaquic Paleudults	Ultisols
Esto	Clayey, Kaolinitic, Thermic	Typic Paleudults	Ultisols
Eutaw	Very Fine, Montmorillonitic, Thermic	Entic Pelluderts	Vertisols
Firestone	Very Fine, Mixed, Thermic	Typic Hapludalfs	Alfisols
Flomaton	Sandy-Skeletal, Siliceous, Thermic	Psammentic Paleudults	Ultisols
Fullerton	Clayey, Kaolinitic, Thermic	Typic Paleudults	Ultisols
Fuquay	Loamy, Siliceous, Thermic	Arenic Plinthic Paleudults	Ultisols
Grover	Fine-Loamy, Micaceous, Thermic	Typic Hapludults	Ultisols
Gwinnett	Clayey, Kaolinitic, Thermic	Typic Rhodudults	Ultisols
Hartsells	Fine-Loamy, Siliceous, Thermic	Typic Hapludults	Ultisols
Hector	Loamy, Siliceous, Thermic	Lithic Dystrochrepts	Inceptisols
Hiwassee	Clayey, Kaolinitic (Oxidic), Thermic	Typic Rhodudults	Ultisols
Holston	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Iredell	Fine, Montmorillonitic, Thermic	Typic Hapludalfs	Alfisols
Johnston	Coarse-Loamy, Siliceous, Acid, Thermic	Cumulic Humaquepts	Inceptisols
Lee	Fine-Loamy, Siliceous, Acid, Thermic	Typic Fluvaquents	Entisols
Leeper	Fine, Montmorillonitic, Nonacid, Thermic	Vertic Haplaquepts	Inceptisols
Leesburg	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Linker	Fine-Loamy, Siliceous, Thermic	Typic Hapludults	Ultisols
Lobelville	Fine-Loamy, Siliceous, Thermic	Fluvaquentic Dystrochrepts	Inceptisols
Louisa	Loamy, Micaceous, Thermic, Shallow	Ruptic-Ultic Dystrochrepts	Inceptisols
Lucedale	Fine-Loamy, Siliceous, Thermic	Rhodic Paleudults	Ultisols
Lucy	Loamy, Siliceous, Thermic	Arenic Paleudults	Ultisols
Luverne	Clayey, Mixed, Thermic	Typic Hapludults	Ultisols
Madison	Clayey, Kaolinitic, Thermic	Typic Hapludults	Ultisols
Malbis	Fine-Loamy, Siliceous, Thermic	Plinthic Paleudults	Ultisols
Mayhew	Fine, Montmorillonitic, Thermic	Vertic Ochraqualfs	Alfisols
McLaurin	Coarse-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
McQueen	Clayey, Mixed, Thermic	Typic Hapludults	Ultisols
Mecklenburg	Fine, Mixed, Thermic	Ultic Hapludalfs	Alfisols
Minvale	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Montevallo	Loamy-Skeletal, Mixed, Thermic, Shallow	Typic Dystrochrepts	Inceptisols
Musella	Loamy, Mixed, Thermic, Shallow	Typic Rhodudults	Ultisols
Myatt	Fine-Loamy, Siliceous, Thermic	Typic Ochraqualts	Ultisols
Oktibbeha	Very Fine, Montmorillonitic, Thermic	Vertic Hapludalfs	Alfisols
Orangeburg	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Osier	Siliceous, Acid, Thermic	Typic Psammaquents	Entisols
Pansey	Fine-Loamy, Siliceous, Thermic	Plinthic Paleaquults	Ultisols
Plummer	Loamy, Siliceous, Thermic	Grossarenic Paleaquults	Ultisols
Poarch	Coarse-Loamy, Siliceous, Thermic	Plinthic Paleudults	Ultisols
Quitman	Fine-Loamy, Siliceous, Thermic	Aquic Paleudults	Ultisols
Red Bay	Fine-Loamy, Siliceous, Thermic	Rhodic Paleudults	Ultisols
Ruston	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Savannah	Fine-Loamy, Siliceous, Thermic	Typic Fragiudults	Ultisols
Smithdale	Fine-Loamy, Siliceous, Thermic	Typic Paleudults	Ultisols
Smithton	Coarse-Loamy, Siliceous, Thermic	Typic Paleaquults	Ultisols
Stough	Coarse-Loamy, Siliceous, Thermic	Fragiaquic Paleudults	Ultisols
Sumter	Fine-Silty, Carbonatic, Thermic	Rendollic Eutrochrepts	Inceptisols
Susquehanna	Fine, Montmorillonitic, Thermic	Vertic Paleudalfs	Alfisols
Talbott	Fine, Mixed, Thermic	Typic Hapludalfs	Alfisols
Tallapoosa	Loamy, Micaceous, Thermic, Shallow	Ochreptic Hapludults	Ultisols
Tatum	Clayey, Mixed, Thermic	Typic Hapludults	Ultisols
Townley	Clayey, Mixed, Thermic	Typic Hapludults	Ultisols
Troup	Loamy, Siliceous, Thermic	Grossarenic Paleudults	Ultisols
Wagram	Loamy, Siliceous, Thermic	Arenic Paleudults	Ultisols
Wilcox	Fine, Montmorillonitic, Thermic	Vertic Hapludalfs	Alfisols
Wynnville	Fine-Loamy, Siliceous, Thermic	Glossic Fragiudults	Ultisols

GLOSSARY

AGGREGATE, SOIL. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as crumbs, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

ALLUVIUM. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

AVAILABLE WATER CAPACITY (also termed available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

CLAY. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

COLLUVIUM. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

CONCRETIONS. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrations of compounds, or of soil grains cemented together. The composition of some concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are examples of material commonly found in concretions.

CONSISTENCE, SOIL. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose. Noncoherent when dry or moist; does not hold together in a mass.

Friable. When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm. When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic. When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky. When wet, adheres to other material; tends to stretch somewhat and pull apart, rather than to pull free from other materials.

Hard. When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft. When dry, breaks into powder or individual grains under slight pressure.

Cemented. Hard and brittle; little affected by moistening.

DRAINAGE CLASS (natural). Refers to the conditions of frequency and duration of periods of saturation or partial saturation that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven different classes of natural soil drainage are recognized.

Excessively-drained soils are commonly highly porous and rapidly permeable and have a low water-holding capacity.

Somewhat excessively-drained soils are also rapidly permeable and are free from mottling throughout their profile.

Well-drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well-drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A and upper B horizons and mottling in the lower B and the C horizons.

Somewhat poorly-drained soils are wet for significant periods but not all the time; in Podzolic soils they commonly have mottlings below 6 to 16 inches, in the lower A horizon, and in the B and C horizons.

Poorly-drained soils are wet for long periods and are light gray and generally mottled from the surface downward; mottling may be absent or nearly so in some soils.

Very poorly-drained soils are wet nearly all the time. They have a dark gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

FERTILITY, SOIL. The quality of a soil that enables it to provide compounds, in adequate amounts and in proper balance, for the growth of specified plants, when other growth factors such as light, moisture, temperature, and the physical condition of the soil are favorable.

FIRST BOTTOM. The normal flood plain of a stream, subject to frequent or occasional flooding.

FLOOD PLAIN. Nearly level land, consisting of stream sediments, that borders a stream and is subject to flooding unless protected artificially.

FRAGIPAN. A loamy, brittle subsurface horizon that is low in organic matter and clay but is rich in silt or very fine sand. The layer is seemingly cemented. When dry, it is hard and has a high bulk density in comparison with the horizon or horizons above it. When moist, the fragipan tends to rupture suddenly if pressure is applied, rather than to deform slowly. The layer is generally mottled, is slowly permeable to water, and has few or many bleached fracture planes that form polygons. Fragipans are a few inches to several feet thick; they generally occur below the B horizon, 15 to 40 inches below the surface.

HORIZON, SOIL. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes. These are the major horizons:

O horizon. The layer of organic matter on the surface of a mineral soil, consisting of decaying plant residues.

A horizon. The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active and, therefore, is marked by the accumulation of humus. The horizon may have lost one or more soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon. The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused by (1) accumulation of clay, sesquioxides, humus, or some combination of these; (2) prismatic or blocky structure; (3) redder or stronger colors than the A horizon; or (4) some combination of these. Combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon. The weathered rock material immediately beneath the solum. In most soils this material is presumed to be like that from which the overlying horizons were formed. If the material is known to be different from that in the solum, a roman numeral precedes the letter C.

R layer. Consolidated rock beneath the soil. The rock usually underlies a C horizon but may be immediately beneath an A or B horizon.

INFILTRATION. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

LEACHING. The removal of soluble materials from soils or other material by percolating water.

MOTTLING, SOIL. Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are: abundance—few, common, and many; size—fine, medium, and coarse; and contrast—faint, distinct, and prominent. The size measurements are: fine, less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; medium, ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and coarse, more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

PARENT MATERIAL. Disintegrated and partly weathered rock from which soil has formed.

PERMEABILITY. The quality of a soil horizon that enables water or air to move through it. Terms used to describe permeability are: very slow, slow, moderately slow, moderate, moderately rapid, rapid, and very rapid.

pH VALUE. A numerical means for designating relatively weak acidity and alkalinity in soils. A pH value of 7.0 indicates precise neutrality; a higher value, alkalinity; and a lower value, acidity.

PROFILE, SOIL. A vertical section of the soil through all its horizons and extending into the parent material.

REACTION, SOIL. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soil is one that gives an acid reaction; an alkaline soil is one that is alkaline in reaction. In words, the degrees of acidity or alkalinity are expressed thus:

	pH
Extremely acid.....	Below 4.5
Very strongly acid.....	4.5 to 5.0
Strongly acid.....	5.1 to 5.5
Medium acid.....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral.....	6.6 to 7.3
Mildly alkaline.....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline.....	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

RELIEF. The elevations or inequalities of a land surface, considered collectively.

SAND. Individual rock or mineral fragments in soils having diameters ranging from 0.05 to 2.0 millimeters. Most sand grains consist of quartz, but they may be of any mineral composition. The textural class name of any soil that contains 85 percent or more sand and not more than 10 percent clay.

SILT. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

SOIL. A natural, three-dimensional body on the earth's surface that supports plants and that has properties resulting from the integrated effect of climate and living matter acting on an earthy parent material, as conditioned by relief over periods of time.

SOIL SEPARATES. Mineral particles, less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are: very coarse sand (2.0 to 1.0 millimeters); coarse sand (1.0 to 0.5 millimeter); medium sand (0.5 to 0.25 millimeter); fine sand (0.25 to 0.10 millimeter); very fine sand (0.10 to 0.05 millimeter); silt (0.05 to 0.002 millimeter); and clay (less than 0.002 millimeter). The separates recognized by the International Society of Soil Science are: I (2.0 to 0.2 millimeters); II (0.2 to 0.02 millimeter); III (0.02 to 0.002 millimeter); IV (less than 0.002 millimeter).

SOLUM. The upper part of a soil profile, above the parent material, in which the processes of soil formation are active. The solum in mature soil includes the A and B horizons. Generally the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and other plant and animal life characteristic of the soil are largely confined to the solum.

STRUCTURE, SOIL. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are: platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular) and granular. Structureless soils are (1) single grain (each grain by itself as in dune sand), or (2) massive (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

SUBSOIL. Technically the B horizon; roughly, the part of the solum below plow depth.

SUBSTRATUM. Technically the part of the soil below the solum.

TERRACE. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surplus runoff so that it may soak into the soil or flow slowly to a prepared outlet without harm. Terraces in fields are generally built so they can be farmed. Terraces intended mainly for drainage have a deep channel that is maintained in permanent sod.

TERRACE (GEOLOGICAL). An old alluvial plain, ordinarily flat or undulating, bordering a river, lake, or the sea. Stream terraces are frequently called second bottoms, as contrasted to flood plains, and are seldom subject to overflow. Marine terraces were deposited by the sea and are generally wide.

TEXTURE, SOIL. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

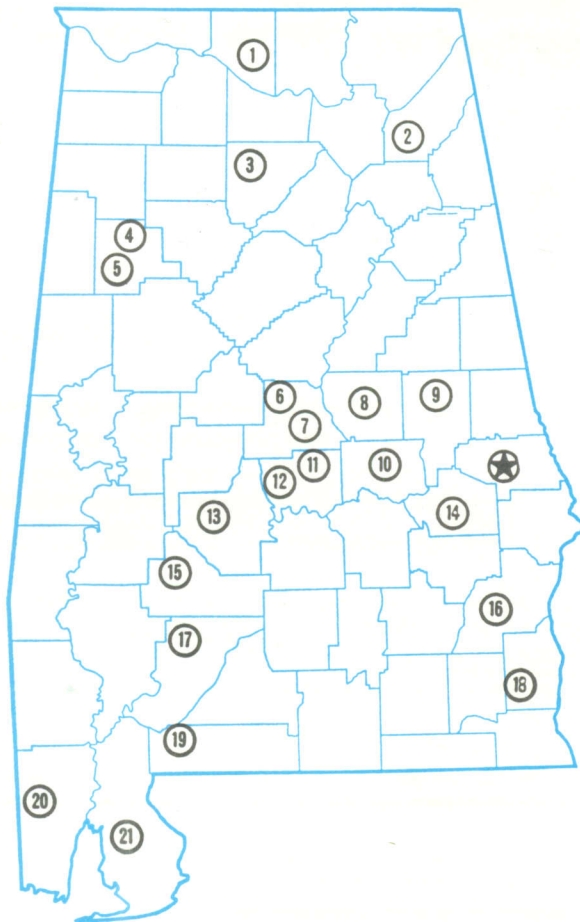
TILTH, SOIL. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

UPLAND (geology). Land consisting of material unworked by water in recent geologic time and lying, in general, at a higher elevation than the alluvial plain or stream terrace. Land above the lowlands along the rivers.

Alabama's Agricultural Experiment Station System

AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the State has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Thorsby Foundation Seed Stocks Farm, Thorsby.
7. Chilton Area Horticulture Substation, Clanton.
8. Forestry Unit, Coosa County.
9. Piedmont Substation, Camp Hill.
10. Plant Breeding Unit, Tallassee.
11. Forestry Unit, Autauga County.
12. Prattville Experiment Field, Prattville.
13. Black Belt Substation, Marion Junction.
14. Tuskegee Experiment Field, Tuskegee.
15. Lower Coastal Plain Substation, Camden.
16. Forestry Unit, Barbour County.
17. Monroeville Experiment Field, Monroeville.
18. Wiregrass Substation, Headland.
19. Brewton Experiment Field, Brewton.
20. Ornamental Horticulture Field Station, Spring Hill.
21. Gulf Coast Substation, Fairhope.