LOCATION CANCIENNE LA

Established Series
Rev. JDS
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CANCIENNE SERIES

The Cancienne series consists of very deep, level to gently undulating, somewhat poorly drained mineral soils that are moderately slowly permeable. These soils formed in loamy and clayey alluvium. They are on high and intermediate positions on natural levees and deltaic fans of the Mississippi River and its distributaries. Slopes range from 0 to 3 percent.

TAXONOMIC CLASS: Fine-silty, mixed, superactive, nonacid, hyperthermic Fluvaquentic Epiaquepts

TYPICAL PEDON: Cancienne silt loam, on a natural levee in cropland. (Colors are for moist soil unless otherwise stated.)

Ap1--0 to 6 inches; dark grayish brown (2.5Y 4/2) silt loam; weak fine granular structure; friable; many fine and medium roots throughout; common fine and medium pores; moderately acid; clear smooth boundary.

Ap2--6 to 10 inches; dark grayish brown (2.5Y 4/2) silt loam; weak medium granular structure; friable; many fine and medium roots throughout; common fine and medium pores; strongly acid; clear smooth boundary.

Ap3--10 to 16 inches; dark grayish brown (2.5Y 4/2) silt loam; weak medium subangular blocky structure; firm; many very fine and fine roots throughout; few very fine and fine pores; 2 percent prominent irregular strong brown (7.5YR 4/6) masses of oxidized iron throughout; 2 percent distinct irregular gray (2.5Y 6/1) iron depletions throughout; 2 percent fine faint very dark grayish brown (10YR 3/2) iron-manganese masses on surfaces along root channels; 8 percent medium distinct irregular dark yellowish brown (10YR 4/6) masses of oxidized iron throughout; slightly acid; gradual wavy boundary.

Ap4--16 to 23 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many very fine and fine roots throughout; few very fine and fine pores; 5 percent fine faint very dark grayish brown (10YR 3/2) iron-manganese masses on surfaces along root channels; 8 percent medium prominent dark yellowish brown (10YR 4/6) masses of oxidized iron throughout; 10 percent faint light brownish gray (10YR 6/2) iron depletions throughout; 10 percent medium prominent strong brown (7.5YR 4/6) masses of oxidized iron throughout; slightly alkaline; gradual wavy boundary (combined thickness of the Ap horizon is 4 to 24 inches).

Bg1--23 to 34 inches; grayish brown (2.5Y 5/2) silt loam; weak medium subangular blocky structure; firm; many very fine and fine roots throughout; few very fine pores; moderately alkaline; gradual wavy boundary.

Bg2--34 to 42 inches; grayish brown (2.5Y 5/2) and olive yellow (2.5Y 6/6) silt loam; weak fine subangular blocky structure; firm; common very fine and fine roots throughout; few very fine pores; 5 percent fine distinct very dark grayish brown (10YR 3/2) iron-manganese masses on surfaces along root channels; moderately alkaline; gradual wavy boundary.

Bg3--42 to 55 inches; gray (2.5Y 5/1) silty clay; weak fine subangular blocky structure; firm; few very fine pores; 1 inch thick strata of light reddish brown (5YR 6/4) material; 8 percent medium faint irregular dark yellowish brown (10YR 4/4) masses of oxidized iron throughout; 10 percent fine distinct irregular brown (7.5YR 4/3) masses of oxidized iron throughout; moderately alkaline; gradual wavy boundary.

BCg1--55 to 67 inches; grayish brown (2.5Y 5/2) silty clay loam; structureless massive; firm; few very fine pores; 3 percent fine distinct very dark grayish brown (10YR 3/2) iron-manganese masses on surfaces along root channels; 8 percent fine and medium distinct irregular dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6) masses of oxidized iron throughout; moderately alkaline; gradual wavy boundary.

BCg2--67 to 74 inches; grayish brown (2.5Y 5/2) silt loam; structureless massive; firm; many fine and medium pores; 1 percent faint gray (2.5Y 5/1) iron depletions; 3 percent fine distinct very dark grayish brown (10YR 3/2) iron-manganese masses on surfaces along root channels; 3 percent fine and medium distinct irregular strong brown (7.5YR 4/6) masses of oxidized iron throughout; 5 percent fine and medium distinct irregular yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) masses of oxidized iron throughout; moderately alkaline; gradual wavy boundary.

BCg2--74 to 79 inches; grayish brown (2.5Y 5/2) silt loam; structureless massive; firm; many fine and medium pores; 1 percent faint gray (2.5Y 5/1) iron depletions; 3 percent fine distinct very dark grayish brown (10YR 3/2) iron-manganese masses on surfaces along root channels; 3 percent fine and medium distinct irregular strong brown (7.5YR 4/6) masses of oxidized iron throughout; 5 percent fine and medium distinct irregular yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) masses of oxidized iron throughout; moderately alkaline (combined thickness of the Bg and BCg horizons is 16 to more than 80 inches).

TYPE LOCATION: St. John the Baptist Parish, Louisiana, located from LaPlace, La., 8.06 miles northwest on US Highway 61, then 1.15 miles southeast on San Francisco Plantation Road, then 75 feet due east into field; Spanish Land Grant sec. 26; Latitude 30 degrees, 3 minutes, 36.89 seconds N., Longitude 90 degrees, 36 minutes, 27.36 seconds W., LaPlace, Louisiana 7.5 Minute USGS Quadrangle, NAD 83.

RANGE IN CHARACTERISTICS:
Solum thickness: 20 to more than 80 inches
Clay content in the Control Section: 18 to 30 percent
Redoximorphic features: Depleted matrix with masses of iron concentration throughout the subsoil and substratum.
Other distinctive soil features: Lenses or layers with more than 35 percent clay are at more than 40 inches deep
Concentrated minerals: Some pedons have slight or very slight effervescence in cold dilute HCl in any of the layers.

A or Ap horizon:
Color--Hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 3. Under sugercane culture the lower part of the Ap horizon of some pedons has hue of 5Y. Where value is 3, thickness is less than 10 inches.
Redoximorphic features-- Iron accumulations, where present, are in shades of brown and iron depletions are in shades of gray.
Texture--Silt loam, very fine sandy loam, loam, or silty clay loam.
Reaction--Strongly acid to moderately alkaline

Bg or BC horizon:
Color--Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2. In many pedons, the entire B horizon has been truncated by bedding for sugarcane cultivation and is part of the Ap horizon. A B horizon, or the lower part of the Ap horizon with a dominent matrix chroma of 2 must begin within a depth of 20 inches.
Redoximorphic features--Masses of iron accumulation in shades of red are in the upper part in some pedons. Masses of iron accumulation in shades of brown or yellow are throughout.
Other features--Some pedons have dark gray or very dark grayish brown organic coatings on ped surfaces.
Texture--Silt loam, loam, or silty clay loam with or without thin to thick strata of silty clay below a depth of 40 inches.
Reaction--Neutral to moderately alkaline

Ab horizon: (where present)
Color--Hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2.
Redoximorphic features--Iron accumulations, where present, are in shades of brown and iron depletions are in shades of gray.
Texture--Silt loam, very fine sandy loam, loam, or silty clay loam.
Reaction--Neutral to moderately alkaline.
Thickness--0 to 12 inches

BCgb or BCssgb horizon: (where present)
Color--Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2.
Redoximorphic features--Masses of iron accumulation in shades of brown or yellow are throughout.
Texture--Silty clay
Other features--Depth to this horizon, where present, is more than 50 inches.
Reaction--Neutral to moderately alkaline
Thickness--0 to more than 20 inches

Cg horizon: (where present)
Color--Hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 or 2. Strata of very fine sandy loam with chroma of 3 are in some pedons.
Redoximorphic features--Masses of iron accumulation in shades of brown or yellow are throughout.
Texture--Commonly is stratified, with textures ranging from silt loam or very fine sandy loam to silty clay.
Reaction--Neutral to moderately alkaline.

COMPETING SERIES: There are no other series in the same family. Commerce, Carville and Mhoon soils are in closely related families. Commerce soils are in a thermic soil temperature family. Carville soils average less than 18 percent clay in the 10 to 40 inch control section. Mhoon soils have a depleted gray or olive gray matrix throughout the subsoil and substratum.

GEOGRAPHIC SETTING: Cancienne soils are on natural levee positions on the alluvial plain of the lower Mississippi River and its distributaries. Slopes gradients are mainly less than 1 percent but may range to 3 percent. The climate at the type location is humid subtropical; mean annual rainfall is about 147 centimeters, and mean annual temperature is about 20 degrees C.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the closely related Carville and Mhoon soils, and Gramercy, Schriever, and Vacherie soils. Carville soils are on similar positions, or on younger natural levees and are coarse-silty. Mhoon soils are on the lower parts or on flats on natural levees and have a reduced, gray or olive gray matrix throughout the subsoil and substratum. Gramercy and Schriever soils are on lower backswamp positions and are clayey to depths of more than 30 inches. Vacherie soils are on the lower parts of natural levees and have coarse-silty upper solum over a clayey discontinuity beginning within a depth of 40 inches.

DRAINAGE AND PERMEABILITY: Cancienne soils are somewhat poorly drained; runoff is medium to slow and permeability is moderately slow. A saturated zone is perched above the clayey lenses or layers and is at 1.5 to 4 feet below the surface during December through April. Most areas are protected from flooding by levees. Along the larger leveed waterways, water between the clayey lenses or layers in the lower part of the solum may be under pressure due to the hydraulic head maintained by the higher water level in the river. Unprotected areas are subject to occasional or frequent flooding for brief to long durations.

USE AND VEGETATION: Areas are used mainly for cropland; sugarcane, soybeans, corn, and wheat are the principal crops. Some acreage is in pasture and hay crops. A significant acreage has been developed for urban, industrial or residential uses.

DISTRIBUTION AND EXTENT: The lower Mississippi River Valley in Southern Louisiana (MLRA 131). This soil is of moderate extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: AUBURN, ALABAMA

SERIES ESTABLISHED: The series was typified in Iberville Parish, Louisiana, 1998, and established in Terrebonne Parish in 2001. The type location was moved from Iberville Parish to St. John the Baptist Parish in 2002 based on data from the hyperthermic study. Cancienne soils formerly were included with the Commerce series.

REMARKS: Diagnostic horizons and features in this pedon include:
Ochric Epipedon--------0 to 11 inches (Ap horizons)
Cambic Horizon--------10 to 79 inches (Ap3, Ap4, Bg, and BCg horizons)
Irregular organic carbon decrease---23 to 50 inches (Bg horizons)
Aquic conditions---saturation, reduction and redoximorphic features (including chroma 2 matrix) within a depth of 20 inches.

ADDITIONAL DATA: Characterization data for the type location pedon are available (S02LA-095-001; NSSL, Lincoln, Nebraska).

National Cooperative Soil Survey
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