

LOCATION LORAIN OH
Established Series
Rev. AR-STP-DJB
08/2005

LORAIN SERIES

The Lorain series consists of very deep, very poorly drained soils that formed in Wisconsin age fine-textured glaciolacustrine sediments. This soil formed in depressions on lake plains, terraces and till plains. Permeability is moderately slow in the surface soil and very slow in the subsoil and substratum. Slope ranges from 0 to 2 percent. Mean annual precipitation is about 33 inches, and mean annual temperature is about 51 degrees F.

TAXONOMIC CLASS: Fine, illitic, mesic Mollic Epiaqualfs

TYPICAL PEDON: Lorain silty clay loam - on a nearly level area in a cultivated field. Elevation is about 652 feet above msl. (Colors are for moist soil unless otherwise stated.)

Ap-- 0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary. (6 to 10 inches thick.)

Btg1-- 8 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure parting to strong medium angular blocky; firm; many faint clay films on vertical faces of peds; common faint clay films on horizontal faces of peds; common distinct black (10YR 2/1) organic stains on faces of peds; moderately acid; clear wavy boundary.

Btg2-- 15 to 36 inches; dark gray (N 4/0) silty clay; weak coarse prismatic structure parting to moderate coarse angular blocky; firm; many distinct clay films on vertical faces of peds; few faint thin clay films on horizontal faces of peds; common distinct very dark gray (N 3/0) organic stains on vertical faces of peds; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulations; slightly acid; clear wavy boundary. (Combined thickness of the Bt horizons is 15 to 45 inches thick.)

BCg1-- 36 to 44 inches; dark gray (N 4/0) silty clay; weak coarse angular blocky structure; firm; many medium prominent strong brown (7.5YR 5/6) and light olive brown (2.5Y 5/4) masses of iron accumulations; neutral; gradual wavy boundary.

BCg2-- 44 to 56 inches; dark gray (N 4/0) clay; massive; firm; few very thin layers of silty clay loam; common medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/8) masses of iron accumulations; neutral; gradual wavy boundary. (Combined thickness of the BC horizons is 0 to 35 inches.)

Cg-- 56 to 60 inches; dark gray (N 4/0) clay; massive; firm; few very thin layers of silty clay loam; weak effervescence; slightly alkaline.

TYPE LOCATION: Lorain County, Ohio; Brownhelm Township; 50 feet south of Brownhelm Station Road, 3/4 mile east of High Bridge Road. USGS Vermillion East, OH topographic quadrangle; Latitude 41 degrees, 24 minutes, 41 seconds N. and Longitude 82 degrees, 18 minutes, 59 seconds W., NAD 1983.

RANGE IN CHARACTERISTICS: Thickness of the solum and depth to carbonates ranges from 35 to 65 inches. The particle size control section is 35 to 55 percent clay and 0 to 15 percent sand. Rock fragments, mainly pebbles, range from 0 to 2 percent in the solum and 0 to 5 percent in the substratum.

The Ap or A horizon has hue of 10YR, 2.5Y or is neutral, value of 2 or 3 (4 or 5 dry), and chroma of 0 to 2. Texture is silt loam, silty clay loam, silty clay, or clay. Clay content ranges from 15 to 40 percent. Sand content averages 3 to 15 percent. Structure is weak or moderate, fine or medium, granular or subangular blocky. It is strongly acid to slightly acid, except where limed.

The Bg horizon has hue of 10YR, 2.5Y, 5Y, or is neutral; value of 4 or 5; chroma of 0 to 2. Below a depth of 30 inches, some pedons have subhorizons 2 to 16 inches thick that have chroma of 3 to 6 and low chroma redoximorphic depletions. Texture is clay, silty clay loam, or silty clay. Clay content ranges from 30 to 55 percent. Average sand content ranges from 3 to 15 percent. Structure is weak or medium, fine to very coarse angular blocky, subangular blocky, or prismatic. It is strongly acid to slightly acid in the upper part and slightly acid to neutral in the lower part.

The C horizon has hue of 10YR, 2.5Y, or 5Y, or is neutral; value of 4 or 5; and chroma of 0 to 2. Texture is silty clay loam, silty clay, or clay. Clay content is 30 to 55 percent. Sand content ranges from 3 to 15 percent. Some pedons have loamy sand, sandy loam, loam, or silt loam below a depth of 40 inches. In these areas, sandy, loamy, or silty substratum phases are recognized. Reaction is neutral to moderately alkaline.

COMPETING SERIES: These are the [Hoytville](#), [Miner](#), and [Monee](#) series. Hoytville and Miner soils contain more rock fragments. Monee soils have an albic horizon and are not stratified in the substratum.

GEOGRAPHIC SETTING: Lorain soils formed in Wisconsin age glaciolacustrine sediments in depressions on lake plains, terraces, and till plains. Slope ranges from 0 to 2 percent. Frost free days range from 133 to 198 days. Elevation ranges from 575 to 1300 feet above sea level. Mean annual precipitation ranges from about 29 to 43 inches, and mean annual temperature ranges from about 48 to 54 degrees F.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the [Canadice](#), [Caneadea](#), [Ellsworth](#), [Mahoning](#), [Miner](#), [Rittman](#), Valley, and [Wadsworth](#) soils. Canadice soils are on similar landscape positions but do not have the dark surface layer. Caneadea soils also do not have the dark surface layer and are on slightly higher topographic positions. Ellsworth, Mahoning, Miner, Rittman, and Wadsworth soils formed in till and are on adjacent till plains. Valley soils are on similar landscapes as Lorain but have glaciolacustrine sediments underlain by till within 35 to 60 inches.

DRAINAGE AND PERMEABILITY: Very poorly drained. Potential for surface runoff is negligible or very low. Permeability is moderately slow in the surface soil and very slow in the subsoil and substratum. In undrained sites depth to the apparent water table ranges from +0.5 to 0.5 foot from November to June in most years and commonly ponds sometime during this time.

USE AND VEGETATION: Cleared and drained areas are used for growing hay, corn, small grain, and pasture. Some undrained areas are pastured but most remain in native vegetation. Native vegetation consists of water tolerant hardwoods and shrubs.

DISTRIBUTION AND EXTENT: Northeastern Ohio. MLRA 124 and 139. The series is of moderate extent, about 22,000 acres.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Amherst, Massachusetts

SERIES ESTABLISHED: Lake County, Ohio, 1925.

REMARKS: Diagnostic horizons and features recognized in this pedon are:
a) Ochric epipedon - from the surface to a depth of about 8 inches (Ap - this horizon would qualify for a mollic epipedon except for thickness);
b) Argillic horizon - the zone from a depth of about 8 to about 36 inches (Btg1, Btg2).

Classification remains Epiqualfs, but this needs reevaluated to consider as Endoqualfs upon more comprehensive MLRA soil survey study.

Acreage based on 2004 data.

08/2005-The competing series have been compared by the 9th Edition of Keys to Soils Taxonomy.

ADDITIONAL DATA: Characterization data for the Lorain series include pedons CO-129, MH-17, and ST-11 samples analyzed by The Ohio State University Soil Characterization Laboratory, Columbus, Ohio.

National Cooperative Soil Survey
U.S.A.