

The pedon 20 consists of very deep, very poorly drained soils formed in highly decomposed organic material underlain by fine textured alluvium from mixed sources. Pedon 20 soils are in fresh water marshes, deltas and river channels. Slope is 0 to 2 percent. The annual precipitation is 15 inches and the annual temperature is about 60 degrees F.

TAXONOMIC CLASS:

TYPICAL PEDON: - on an east facing slope of less than 1 percent in a cultivated asparagus field at 6 feet below sea level. (Colors are for moist soil unless otherwise stated. The pH for organic layers is in 0.01 Calcium chloride. (When described on September 28, 1972 the soil was moist throughout.)

_____--0 to 12 inches; black (10YR 2/1) muck, black (10YR 2/1) rubbed, dark gray (10YR 4/1) dry; less than 5 percent fibers, none observable rubbed; moderate very fine and fine granular structure; slightly hard, slightly sticky and slightly plastic; strongly acid (pH 5.1); abrupt smooth boundary. (7 to 12 inches thick)

_____--12 to 17 inches; black (10YR 2/1) variegated with yellowish brown (10YR 5/4) muck, black (10YR 2/1) rubbed, very dark brown (10YR 2/2) dry; 10 to 20 percent fibers, less than 5 percent rubbed; massive; soft, slightly sticky and slightly plastic; strongly acid (pH 5.1); clear smooth boundary. (5 to 24 inches thick)

_____--17 to 25 inches; very dark grayish brown (2.5Y 3/2) silty clay with bands of yellowish red (5YR 4/6); massive; hard, firm, sticky and plastic; moderately acid (pH 6.0); clear smooth boundary. (5 to 10 inches thick)

_____--25 to 36 inches; very dark grayish brown (2.5Y 3/2) silty clay loam, variegated yellowish brown (10YR 5/6), dark reddish brown (5YR 3/2) moist; massive; hard, firm, sticky and plastic; moderately acid (pH 6.0); abrupt smooth boundary. (6 to 11 inches thick)

_____--36 to 61 inches; dark gray (N 4/0) silty clay with bands of yellowish brown (10YR 5/6) and dark reddish brown (5YR 3/2); massive; hard, firm, sticky and plastic; mildly alkaline (pH 7.7)

TYPE LOCATION: San Joaquin County, California; on King Island, 200 feet N of Eight Mile Road and 3,400 feet E of the intersection of Atherton Road and Eight Mile Road intersection; 38 degrees 03 minutes 37 seconds N latitude and 121 degrees 26 minutes 44 seconds W longitude on unsectionized area. Terminous quad.

RANGE IN CHARACTERISTICS: Depth to mineral layer ranges from 16 to 36 inches. The mean annual soil temperature is 62 degrees F. The organic portion of the 0 to 36 inch sections has 30 to 65 percent organic matter by combustion method but usually is 35 to 45 percent. It has 2 to 40 percent fibers before rubbing and 0 to 10 percent after rubbing. The mineral portion of the control section has 20 to 50 percent clay.

The first horizon is 10YR 2/1, 3/1, 3/2, or 2/2. It has 35 to 45 percent organic matter and from a trace to 5 percent fibers before rubbing. The minimal fraction is clayey with more than 55 percent by weight. Reaction is very strongly acid to moderately acid (pH 4.6 to 5.6 in calcium chloride).

The second horizon is 10YR 2/1, 2/2; N 2/0 with 10YR 5/4 vegetative fibers. It has 40 to 65 percent organic matter. This layer has 5 to 20 percent fibers before rubbing and 0 to 10 percent fibers after rubbing. It is very strongly acid to slightly acid. The mineral fraction averages clayey and has 25 to 55 percent clay by weight.

The third, fourth and fifth layer is 2.5Y 3/2, 3/1; 10YR 3/1, 4/1; N 4/0. They are mottled, have variegated color patterns and may have a chroma of 1 or less. They are silty clay loam to clay. Lenses of highly organic mineral material less than 5 cm thick are present at depths of 16 to 36 inches in some pedons.

GEOGRAPHIC SETTING: The Pedon 20 soils formed from hydrophytic plant remains and mixed mineral alluvium in fresh water marshes, deltas, and old river channels. Slopes are 0 to 2 percent. Elevations are 5 feet above to 15 feet below sea level and are on islands protected by levees. The climate is subhumid with hot dry summers and cool moist winters. The mean annual precipitation is 12 to 16 inches. Mean January temperature is 45 degrees F.; mean July temperature is 75 degrees F.; mean annual temperature varies from 59 to 62 degrees F. Frost-free season ranges from 260 to 300 days.

DRAINAGE AND PERMEABILITY: Very poorly drained; very slow runoff; rapid permeability in organic layers and slow in the mineral substratums. The water table is usually at depths of 36 to 48 inches during the growing season and at or near the surface at some time during the winter.

USE AND VEGETATION: Used for irrigated cropland to grow such crops as corn, barley, wheat, potatoes and asparagus. Native vegetation in uncultivated areas is sedges and tules.