

LOCATION MCBEE

OR+WA

Established Series
Rev. EWR/DRJ/RWL
08/2006

MCBEE SERIES

The McBee series consists of very deep, moderately well drained soils that formed in alluvium weathered mostly from sedimentary and basic igneous bedrock. They are on flood plains and low terraces. Slopes are 0 to 3 percent. The mean annual precipitation is about 50 inches and the mean annual temperature is about 52 degrees F.

TAXONOMIC CLASS: Fine-silty, mixed, superactive, mesic Aquic Cumulic Haploxerolls

TYPICAL PEDON: McBee silty clay loam - cultivated. (Colors are for moist soil unless otherwise noted.)

Ap--0 to 7 inches; very dark brown (10YR 2/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate coarse medium and fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many fine and very fine irregular pores; common very fine roots; moderately acid (pH 6.0); abrupt smooth boundary. (5 to 12 inches thick)

A--7 to 10 inches; very dark brown (10YR 2/2) silty clay loam, dark grayish brown (10YR 4/2) dry; weak coarse and medium prismatic and moderate medium and fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine roots; many very fine tubular pores; few fine faint dark brown (10YR 3/3) masses of iron accumulation; slightly acid (pH 6.2); clear smooth boundary. (0 to 9 inches thick)

BA--10 to 22 inches; very dark brown (10YR 2/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate medium prismatic and strong fine and very fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few roots; many very fine tubular pores; many worm cases; common fine faint dark brown (10YR 3/3) masses of iron accumulation; slightly acid (pH 6.2); gradual smooth boundary. (0 to 17 inches thick)

Bw--22 to 35 inches; dark brown and very dark grayish brown (10YR 3/3, and 3/2) silty clay loam, dark grayish brown (10YR 4/2) and brown (10YR 4/3) dry; weak medium prismatic and moderate coarse and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; common fine and medium distinct grayish brown (10YR 5/2) iron depletions; slightly acid (pH 6.4); gradual smooth boundary. (8 to 22 inches thick)

BCg--35 to 42 inches; dark grayish brown (10YR 4/2) clay loam, grayish brown (10YR 5/2) dry; weak medium and fine subangular blocky structure; slightly hard, friable, moderately sticky and

moderately plastic; few roots; many very fine and few fine tubular pores; many fine and medium distinct grayish brown (10YR 5/2) iron depletions and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; slightly acid (pH 6.4); gradual smooth boundary. (0 to 22 inches thick)

Cg--42 to 65 inches; dark gray (10YR 4/1) clay loam, gray (10YR 5/1) dry; massive; many very fine and few fine pores; many medium and fine distinct dark brown (10YR 3/3) masses of iron accumulation; slightly acid (pH 6.4).

TYPE LOCATION: Marion County, Oregon; about 3/16 mile east of farmstead, north edge of walnut orchard; about 1,100 feet north and 200 feet west of the SW corner of section 6, T. 6 S., R. 1 E. Willamette Meridian. Scotts Mills, Oregon USGS 7.5 minute quad. Latitude 45 degrees, 04 minutes, 28 seconds N.; Longitude 122 degrees, 43 minutes, 24 seconds W. NAD 27.

RANGE IN CHARACTERISTICS: The mean annual soil temperature ranges from 52 to 55 degrees F. The solum is 30 to 48 inches thick. The soil is dry throughout the 4 to 12 inch control section for 45 to 60 consecutive days during the summer within MLRA 2 but ranges to 90 days in MLRA 5. The 10 to 40 inch pscs has 25 to 35 percent clay. Rock fragments are commonly absent in the texture control section but the content ranges from 0 to 35 percent in the BC and C horizons. The solum has hue of 10YR or 7.5YR. The mollic epipedon is 20 to 40 inches thick. Depth to aquic conditions with chroma of 2 or less, with or without redox concentrations is 20 to 30 inches.

The A horizon has value of 2 or 3 moist, and 4 or 5 dry and chroma of 2 or 3 moist or dry. Texture is silt loam or silty clay loam. Reaction is slightly acid or moderately acid.

The AB or BA horizons, when present, have value of 2 or 3 moist, 4 or 5 dry and chroma of 2 or 3 moist and dry. Texture is silt loam or silty clay loam. Reaction is slightly acid or moderately acid.

The Bw horizon has value of 2 to 4 moist, and 4 to 6 dry and chroma of 2 to 4 moist and dry. Texture is silty clay loam, silt loam or clay loam. It has 25 to 35 percent clay and less than 15 percent coarser than very fine sand. Reaction is moderately acid to neutral.

The BC horizon, when present, has hue of 10YR or 2.5Y, value of 4 or 5 moist, 5 or 6 dry and chroma of 2 to 4 moist and dry. Texture is silty clay loam, silt loam or clay loam. It has 25 to 35 percent clay and 0 to 15 percent gravel. Reaction is slightly acid or neutral.

The C horizon has hue of 10YR or 2.5Y, value of 4 to 6 moist, 5 to 7 dry and chroma of 1 to 3 moist and dry. Texture is clay loam, loam, silt loam, silty clay loam, clay or silty clay. It has 25 to 45 percent clay and 0 to 50 percent gravel. Reaction is moderately acid to neutral.

COMPETING SERIES: This is the [Cald](#) series. Cald soils are silt loam throughout the texture particle-size control section, formed in alluvium from loess, and have a mean annual soil temperature of 47 to 51 degrees F.

GEOGRAPHIC SETTING: The McBee soils are at elevations of 25 to 1,000 feet in flat depressed terraces often some distance from large streams, and in flat flood plain areas adjacent to small streams. The soils formed in silty and loamy alluvium from mixed sedimentary and igneous sources. The climate is characterized by warm, wet winters and hot, dry summers. The mean annual precipitation is 40 to 60 inches. The mean annual temperature is 50 to 54 degrees F. The mean January temperature is 39 to 40 degrees F. and the mean July temperature is 65 to 67 degrees F. The frost-free period is 160 to 210 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are [Camas](#), [Chehalis](#), [Cloquato](#), [Newberg](#), and [Wapato](#) soils. Camas soils are sandy-skeletal and occur on bar positions on flood plains. Chehalis soils are well drained. Wapato soils are poorly drained and occur in depressions on flood plains. Cloquato soils are well drained and coarse-silty. Newberg soils are somewhat excessively drained. Cloquato, Newberg, and Chehalis soils are on higher flood plains.

DRAINAGE AND PERMEABILITY: Moderately well drained; slow runoff; moderate permeability. McBee soils on flood plains are subject to occasional to frequent flooding for brief periods from December to April. An apparent high water table is at its uppermost limit from December to March.

USE AND VEGETATION: These soils are used for production of small grain, truck crops, hay and pasture. Native vegetation is Douglas-fir, Oregon ash, wild rose, snowberry, blackberry and grass.

DISTRIBUTION AND EXTENT: Northern Willamette Valley in Oregon and western Washington; MLRA 2, 5. The series is moderately extensive.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Portland, Oregon

SERIES ESTABLISHED: Benton County (Benton Area), Oregon, 1970.

REMARKS: Diagnostic horizons and features include:

Mollic epipedon - the zone from 0 to 35 inches (Ap, A, BA, and Bw horizons)

Cumulic feature - an assumed irregular decrease in organic carbon from 10 to 50 inches

Particle-size control section - from 10 to 40 inches

Ultic feature - base saturation (sum) of 75 percent or less in at least one horizon between 10 and 30 inches

This series reclassified 02/2000 from Cumulic Ultic Haploxerolls to Aquic Cumulic Haploxerolls based on changes to Soil Taxonomy.

ADDITIONAL DATA: National Soil Survey Lab soil survey sample number S00OR-067-002.

National Cooperative Soil Survey
U.S.A.