

LOCATION SALKUM

WA+OR

Established Series  
Rev. WRF-RJE-KWH  
5/98

# SALKUM SERIES

The Salkum series consists of very deep, well drained soils formed in very strongly weathered ancient glacial drift. Salkum soils are on hills, terraces, and terrace escarpments and have slopes of 0 to 65 percent. The average annual precipitation is about 55 inches and the average annual temperature is about 50 degrees F.

**TAXONOMIC CLASS:** Fine, kaolinitic, mesic Xeric Palehumults

**TYPICAL PEDON:** Salkum silty clay loam, forest. (Colors are for moist soil unless otherwise stated. Entire profile was moist when described.)

**Ac**--0 to 6 inches; dark brown (7.5YR 3/2) silty clay loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; hard, friable, slightly sticky and plastic; many roots; common very fine tubular and irregular pores; 10 percent shot-like aggregates; moderately acid (pH 6.0); clear smooth boundary. (4 to 6 inches thick)

**ABc**--6 to 14 inches; dark brown (7.5YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; moderate medium, fine and very fine subangular blocky structure; hard, friable, slightly sticky and plastic; many roots; common very fine tubular pores; 5 percent shot-like aggregates; few faint clay films on faces of peds and in pores; moderately acid (pH 5.8); clear smooth boundary. (3 to 15 inches thick)

**Bt1**--14 to 22 inches; dark brown (7.5YR 4/4) silty clay, strong brown (7.5YR 5/6) dry; moderate medium and fine subangular blocky structure; hard, friable, sticky and plastic; common roots; many very fine tubular and irregular pores; many faint clay films on faces of peds and in pores; moderately acid (pH 5.6); gradual smooth boundary.

**Bt2**--22 to 34 inches; dark brown (7.5YR 4/4) silty clay, strong brown (7.5YR 5/6) dry; moderate medium and fine subangular blocky structure; hard, friable, slightly sticky and plastic; few roots; many very fine tubular and irregular pores; many faint clay films on faces of peds and in pores; strongly acid (pH 5.4); gradual smooth boundary.

**Bt3**--34 to 43 inches; yellowish red (5YR 4/6) clay, moist and dry; moderate medium fine and very fine subangular blocky structure; hard, firm, slightly sticky and plastic; few roots; common very fine tubular pores; continuous faint and distinct clay films on faces of peds and in pores; very strongly acid (pH 4.8); gradual smooth boundary. (Combined thickness of the Bt horizon is 14 to 59 inches.)

**B<sub>Ct</sub>**--43 to 52 inches; yellowish red (5YR 4/8) (90 percent), dark red (2.5YR 3/6) (5 percent), and olive yellow (2.5Y 6/6) (5 percent) clay, strong brown (7.5YR 5/6) (90 percent), red (2.5YR 4/8) (5 percent), olive yellow (2.5Y 6/8) (5 percent) dry; moderate medium and fine subangular blocky structure; hard, friable, slightly sticky and plastic; common very fine tubular pores; common faint clay films on faces of peds and in pores; very strongly acid (pH 5.0); clear wavy boundary. (6 to 30 inches thick)

**C**--52 to 76 inches; red (2.5YR 4/8) rubbed, red (2.5YR 4/8) (70 percent), gray (10YR 5/1) (25 percent), and yellowish brown (10YR 5/6) (5 percent) silty clay, reddish yellow (7.5YR 6/8) rubbed, red (2.5YR 4/6) (70 percent), yellow (2.5Y 7/6) (25 percent), and white (5Y 8/1) (5 percent) dry; massive; hard, friable, slightly sticky and plastic; many very fine tubular pores; 1/16 to 1/8 inch prominent clay films in cracks; very strongly acid (pH 5.0).

**TYPE LOCATION:** Lewis County, Washington; 3 miles southeast of Chehalis; 1,325 feet east of the center of sec. 11, T. 13 N., R. 2 W.

**RANGE IN CHARACTERISTICS:** Salkum soils are usually moist but are dry in all parts between depths of 4 and 12 inches for 45 to 60 consecutive days within the 3 months following the summer solstice. The mean annual soil temperature at depths of 20 inches ranges from 47 to 52 degrees F. Solum thickness ranges from 48 to 70 inches. The particle-size control section averages 40 to 55 percent clay by weight, 0 to 10 percent hard, pebble-size rock fragments by volume.

The A<sub>c</sub> horizon has hue of 5YR, 7.5YR or 10YR, value of 2 or 3 moist, 4 or 5 dry, and chroma of 2 through 4 moist or dry. It is silt loam or silty clay loam. These horizons have strong or moderate medium to fine granular or subangular blocky structure. It is moderately acid or strongly acid.

The A<sub>Bc</sub> horizon has hue of 5YR, 7.5YR, or 10YR, value of 3 or 4 moist, 5 or 6 dry, and chroma of 3 or 4 moist and dry. It is silt loam or silty clay loam. It is moderately acid or strongly acid.

The B<sub>t</sub> horizon has hue of 5YR through 10YR, value of 3 through 5 moist, 3 through 6 dry, and chroma of 4 through 6 moist or dry. Depth to mottles with chroma of 2 or less exceeds 36 inches. The B<sub>t</sub> horizon is silty clay loam, silty clay, or clay and ranges from 35 to 60 percent clay. It has moderate or strong subangular and angular blocky structure. This horizon is moderately acid to very strongly acid.

The C horizon, where present, is mottled and has hue of 2.5YR through 10YR, value of 3 through 7 moist or dry, and chroma of 1 through 8 moist or dry. This horizon ranges from silty clay loam to clay and contains strongly weathered soft pebbles.

**COMPETING SERIES:** This is the [Hesson](#) series. Hesson soils have an umbric epipedon and lack concretions.

**GEOGRAPHIC SETTING:** The Salkum soils formed in very strongly weathered ancient glacial drift on glacial hills, terraces, and terrace escarpments at elevations of 200 to 1,000 feet.

Slopes are 0 to 65 percent. Salkum soils are in a marine climate with 40 to 70 inches average annual precipitation occurring mostly as rain during the winter. Mean January temperature is 37 degrees F, mean July temperature is 65 degrees F, and average annual temperature is 50 degrees F. Frost-free season (32 degrees F) is 150 to 200 days. Growing season (28 degrees F) is 175 to 240 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Klaber](#), [Lacamas](#), [Melbourne](#), [Olympic](#), and [Scamman](#) soils and the competing [Prather](#) soils. Klaber and Lacamas soils are poorly drained. Melbourne and Scamman soils have a base saturation of more than 35 percent at a depth of 1.25 meters below the upper boundary of the argillic horizon. Olympic soils are mixed mineralogy. Scamman soils also have colors with chroma of 2 or less in the B horizon.

**DRAINAGE AND PERMEABILITY:** Well drained; slow to medium runoff; moderate permeability in the A and B horizons, and moderately slow in the C horizons.

**USE AND VEGETATION:** Where Salkum soils have been cleared of forest vegetation, they are used for seeded grass pasture, small grains, and strawberries. Native vegetation is Douglas-fir, western hemlock, grand fir, western redcedar, bigleaf maple, and red alder with an understory of salal, Oregon grape, western swordfern, western brackenfern, vine maple, red huckleberry, Pacific trillium, violet, bedstraw, insideout flower, and tree seedlings.

**DISTRIBUTION AND EXTENT:** Southwestern Washington and northwestern Oregon. The series is of moderate extent.

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

**SERIES ESTABLISHED:** Reconnaissance Survey of Southwestern Washington, 1911.

**REMARKS:** Characterization soil sample number S72WA-21-6. Diagnostic horizons and features recognized in this pedon are an ochric epipedon from the mineral surface to 14 inches and an argillic horizon from 14 to 43 inches. This soil was previously classified as clayey, kaolinitic, mesic Xeric Haplohumults. Classification change based on National Soil Taxonomy Handbook, Issue No. 12, re-establishing Palehumults.

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National Cooperative Soil Survey  
U.S.A.