LOCATION JORY OREGON

Established Series
Rev. AON /DRJ/RWL
12/2006

JORY SERIES

The Jory series consists of very deep, well drained soils that formed in colluvium and residuum derived from sedimentary and basic igneous bedrock. They are on foothills and have slopes of 2 to 90 percent. The average annual precipitation is about 45 inches and the average annual temperature is about 53 degrees F.

TAXONOMIC CLASS: Fine, mixed, active, mesic Xeric Palehumults

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

Ap--0 to 6 inches; dark reddish brown (5YR 3/4) silty clay loam, reddish brown (5YR 4/4) dry; moderate fine and very fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many roots; many very fine and fine irregular pores; few medium red and black concretions; moderately acid (pH 5.6); abrupt smooth boundary. (5 to 8 inches thick)

A--6 to 16 inches; dark reddish brown (5YR 3/4) silty clay, reddish brown (5YR 4/4) dry; weak coarse subangular blocky structure that parts to moderate fine and very fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many roots; many very fine and fine irregular pores; few medium red and black concretions; moderately acid (pH 5.6); clear wavy boundary. (0 to 12 inches thick)

AB--16 to 19 inches; dark reddish brown (5YR 3/4) clay, yellowish red (5YR 4/6) dry; moderate coarse and medium granular structure; hard, firm, moderately sticky and moderately plastic; many very fine and fine roots; many very fine and fine irregular and tubular pores; few medium red and black concretions; strongly acid (pH 5.4); clear wavy boundary. (3 to 11 inches thick)

Bt1--19 to 29 inches; dark reddish brown (2.5YR 3/4) clay, reddish brown (2.5YR 4/4) dry; strong medium and fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; many very fine tubular pores; few faint clay films on faces of peds; many fine red and black concretions; strongly acid (pH 5.3); clear smooth boundary. (6 to 15 inches thick)

Bt2--29 to 48 inches; dark reddish brown (2.5YR 3/4) clay, reddish brown (2.5YR 4/4) dry; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; many very fine pores; many distinct and prominent clay films; many fine red and black concretions; strongly acid (pH 5.1); gradual smooth boundary. (10 to 20 inches thick)

Bt3--48 to 100 inches; dark red (2.5YR 3/6) clay, red (2.5YR 4/6) dry; moderate medium subangular blocky structure; very hard, firm, and very sticky and very plastic; many very fine tubular pores; many faint clay films; many medium prominent black coatings on peds (30 percent); strongly acid (pH 5.3).

TYPE LOCATION: Marion County, Oregon; about 2,200 feet west and 2,000 feet south of the NE corner of section 25, T. 8 S., R. 3 W. Willamette Meridian. Turner, Oregon USGS 7.5 minute topoqraphic quadrangle. Latitude 44 degrees 50 minutes 56 seconds N. Longitude 122 degrees 59 minutes 52 seconds W. NAD 27.

RANGE IN CHARACTERISTICS: The mean annual soil temperature is about 52 to 57 degrees F. The soils are usually moist but are dry for 45 to 75 consecutive days between depths of 4 and 12 inches following the summer solstice. Depth to basalt or sediments is over 60 inches. The particle-size control section has 0 to 15 percent rock fragments and 45 to 60 percent clay.

The Ap or A1 horizon has hue of 5YR or 7.5YR, value of 2 or 3 moist, 3 to 5 dry and chroma of 2 to 4 moist and 3 or 4 dry. Mollic colors moist and/or dry occur only in the upper part. Texture is silt loam or silty clay loam with 15 to 40 percent clay. It has 0 to 15 percent stones, 0 to 15 percent cobbles and 0 to 10 percent gravel. Reaction is strongly acid or moderately acid.

The A or A2 horizon has value of 5YR, value of 3 moist, 3 or 4 dry and chroma of 3 or 4 moist and dry. Texture is silty clay loam, silty clay or clay with 35 to 50 percent clay. It has 0 to 15 percent stones, 0 to 10 percent cobbles and 0 to 10 percent gravel. Reaction is strongly acid or moderately acid.

The AB or BA horizon has hue of 5YR or 2.5YR, value of 3 moist, 3 or 4 dry and chroma of 3 or 4 moist and 4 to 6 dry. Texture is silty clay loam, silty clay or clay with 35 to 60 percent clay. It has 0 to 10 percent cobbles and 0 to 10 percent gravel. Reaction is very strongly acid to moderately acid.

The Bt horizon has hue of 2.5YR or 5YR, value of 3 or 4 moist, 4 or 5 dry and chroma of 4 to 6 moist and dry. Texture is silty clay or clay with 40 to 60 percent clay in the upper part and 45 to 65 percent clay in the lower part. The apparent field texture does not feel this fine textured. The upper part has 0 to 10 percent cobbles and 0 to 10 percent gravel. It has 0 to 15 percent paragravel. The lower part has 0 to 10 percent stones, 0 to 25 percent cobbles and 0 to 15 percent gravel. It has 0 to 60 percent parafragments. Reaction is very strongly acid to moderately acid.

COMPETING SERIES: These are the Hazeldell, Olympic, and Seaquest series. Hazeldell soils have 15 to 35 percent rock fragments in the particle-size control section and have hue of 10YR to 5YR throughout the solum. Olympic soils have an umbric epipedon. Seaquest soils have a calcium to magnesium ratio of 0.3 to 1.0 in the particle-size control section.

GEOGRAPHIC SETTING: The Jory soils are on foothills adjacent to the Willamette and Umpqua Valleys. Slopes are 2 to 90 percent but are typically less than 60 percent. The soils occur at elevations of 250 to 2,500 feet. The soils formed in clayey colluvium and residuum derived mainly from basic igneous materials and secondarily from tuffaceous and sedimentary materials. The climate is characterized by warm, wet winters and hot, dry summers. The average annual precipitation is 30 to 60 inches. The average annual temperature is 50 to 55 degrees F. The average January temperature is 39 degrees F.,and the average July temperature is 67 degrees F. The frost-free season is 160 to 235 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Bellpine, Cottrell, Dupee, Gelderman, MacDunn, Nekia, Price, Ritner, and Saum soils. Bellpine soils are 20 to 40 inches to weathered sediments and occur on the convex parts of hillslopes. Cottrell soils have redox depletions in the upper part of the argillic horizon and occur on concave positions. Dupee soils have redox depletions within 30 inches of the soil surface and occur on concave positions. Gelderman soils are 20 to 40 inches to weathered basalt and occur on convex parts of the hillslope. MacDunn soils are clayey-skeletal and occur on the more steeply sloping parts of hillslopes. Nekia soils are 20 to 40 inches to hard basalt and are on convex parts of hillslopes. Price soils lack argillic horizons and occur on the more steeply sloping parts of hillslopes. Ritner soils are clayey-skeletal, 20 to 40 inches deep to bedrock and occur on convex parts of hillslopes. Saum soils lack argillic horizons and are on steeply sloping parts of hillslopes.

DRAINAGE AND PERMEABILITY: Well drained; moderately slow permeability.

USE AND VEGETATION: These soils are used mainly for orchards, Christmas trees, vineyards, cane berries, grass seed, timber production, wildlife habitat, and watersheds. Vegetation is dominated by Douglas fir with scattered Oregon white oak and understory of poison-oak and rosebush.

DISTRIBUTION AND EXTENT: Low foothills of Willamette and Umpqua Valleys, Oregon; MLRA 2. The series is extensive.

MLRA OFFICE RESPONSIBLE: Portland, Oregon

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

REMARKS: Diagnostic horizons and features in this pedon include:
Ochric epipedon - moist chroma of 4
Argillic horizon - 19 to 100 inches (Bt1, Bt2, Bt3 horizons)
Field textures in the Bt horizons are silty clay loam. Particle-size analysis is clay or silty clay. The clay minerals are strong in kaolinite but are not dominant.
Pale feature - clay content does not decrease with depth.
Base saturation is less than 35 percent throughout the lower part of the argillic horizon.
Xeric soil moisture regime.

This soil was previously classified as a Xeric Haplohumults. The bedrock substratum phase of this series when associated with sediments is correlated to the Windygap series. Some pedons have boulders as much as 5 feet in diameter.

ADDITIONAL DATA: Characterization data for profile S55Oreg-24-6(1-8). Published in Soil Survey of Marion County Area, Oregon, 1972. Other data includes National Soil Survey Lab soil survey sample numbers S60OR-047-007, S55OR-047-005, S55OR-047-006, S55OR-003-002, S83OR-019-001, S83OR-019-002, S55OR-019-002, 01OR-053-001, 01OR-071-009, 01OR-071-010, 01OR-071-011, 01OR-047-001, 01OR-047-002, 02OR-067-001, 02OR-047-001, 03OR-005-001, 03OR-005-002, and 03OR-071-003 .

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