



United States
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Soil
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NATIONAL SOIL TAXONOMY HANDBOOK
430-VI
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Purpose. To distribute current amendments to Soil Taxonomy, Agriculture Handbook 436.

Effective Date. These amendments and revisions are effective when received.

Filing Instructions. File this copy of the changes in the 3-ring binder with Issues No. 1, 2, and 3. It is suggested that you keep this binder with the Soil Taxonomy volume for easy reference.

Replace 615 contents dated July 1983 with the enclosed contents. Replace pages 615-2a and 615-2b dated July 1983 with the enclosed pages 615-2a and 615-2b dated August 1984. Replace page 615.25 dated September 1982 with page 615.25 dated August 1984 and file pages 615.26-615.30 following.

Supplementation. State and NTC's may not supplement the handbook.


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DIST: NSTH



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615-2b

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Part 615 - Amendments to Soil Taxonomy

615.21(a)

(b) Page 360, key to great groups, FCC, line 1. After "Other Udults" insert "that do not have a lithic or paralithic contact within 1.5 m of the mineral soil surface and."

§615.19 Family and series definitions.

The following changes are approved for the chapter "Family and Series Differentia and Names."

(a) Page 383, Definitions of classes, Fragmental, line. Before "interstices" insert "some of the," to be consistent with the same definition on page 50.

(b) Page 384, first column, Sandy. Change to "The texture of the fine earth is sand or loamy sand that contains less than 50 percent very fine sand; rock fragments make up < 35 percent by volume."

(c) Page 385, Control section for particle-size classes or their substitutes, first column, item A, line 2. Change semicolon to comma. Intended meaning is from surface to 36 cm or to the items listed if above 36 cm.

(d) Page 388, Depth of soil, Shallow, item a, line 7. After "Note that lithic" insert "and paralithic." All paralithic subgroups are shallow by definition.

§615.20 Appendix IV.

The following changes are approved for Appendix IV, "Descriptions of P dons."

(a) Page 513, Pedon 14 should be classified as an "Ultic Hapludalf, fine-silty, mixed, mesic."

(b) Page 615, Pedon 66 is a Mollic (not Typic) Udifluent.

§615.21 Changes in definitions of family and series.

(a) Page 385, Control section for particle-size classes or their substitutes, first column, first paragraph. Change to "Names of particle-size classes or their substitutes as defined are applied to specific horizons or to the materials between given limits of depth that are defined in terms of either the distance below the surface of the mineral soil or the upper boundary of a specified horizon or root-limiting layer. The vertical section so defined is called the control section. Root-limiting layers include fragipans, duripans, continuous ortstein, petrocalcic and petrogypsic horizons, and lithic, paralithic, and petroferric contacts. Definitions of the control section for determination of the particle-size classes are arranged as a key."

615.21(b)

(b) Page 385, first column, item A. Replace "...lithic or paralithic contact; or to a fragipan, duripan, or petrocalcic horizon..." with "...root-limiting layer..."

(c) Page 385, first column, item B.1. Replace "...lithic or paralithic contact, fragipan, duripan, or petrocalcic horizon..." with "...root-limiting layer..."

(d) Page 385, first column, item C.1. Replace "...fragipan, duripan, or petrocalcic horizon..." with "...root-limiting layer..."

(e) Page 385, first column, item C.2. Replace "...lithic or paralithic contact, duripan, fragipan, or petrocalcic horizon..." with "...root-limiting layer..."

(f) Page 385, second column, item C.3, lines 1 and 5. Replace "...fragipan, duripan, or petrocalcic horizon..." with "...root-limiting layers..."

(g) Page 385, second column, item E. Replace "...lithic or paralithic contact, a petrocalcic or petrogypsic horizon, duripan,..." with "...root-limiting layer..."

§615.22 Torriorthents and Fluvaquents.

The following changes are approved in the definitions of Torriorthents and Fluvaquents.

(a) Page 183, first column. Aerobic Fluvaquents definition change to read "Aerobic Fluvaquents are like Typic Fluvaquents except for a or a and d."

(b) Page 194, second column. Key to great groups, Torriorthents, delete reference to conductivity - all after "other Orthents that have a torric moisture regime."

§615.23 Haploborolls and Hapludolls.

The following changes are approved in the definitions of Haploborolls and Hapludolls.

(a) Page 289, first column. Aridic Haploborolls definition, delete "all or part of" it should read "Aridic Haploborolls are like Typic Haploborolls except for c(1)."

(b) Page 289, first column. Torriorthentic Haploborolls definition, delete "all or part of" it should read "Torriorthentic Haploborolls are like Typic Haploborolls except for c(1) and d."

(c) Page 297, first column, Aquic Hapludolls definition add "or a and c." Should read "Aquic Hapludolls are like Typic Hapludolls except for a or for and c."

§615.24 Ochraquults.

Soil Taxonomy currently provides descriptions of Typic and Aeric Ochraquults but definitions for clearly distinguishing between the two subgroups are lacking. To correct this, the section "Distinctions between Typic Ochraquults and other subgroups" is added.

The subgroup Arenic Ochraquults is added to include the Mulat and Scoggin series which have type location in Florida. The definition for this subgroup parallels those given for other arenic subgroups.

The following changes are required in Soil Taxonomy to accommodate this amendment:

1. Page 353. After the section "Description of a Typic Ochraquult" add the following.

"Distinctions between Typic Ochraquults and Other Subgroups"

Typic Ochraquults are the Ochraquults that:

- a. Have dominant chroma of 2 or less in all subhorizons between the Al or Ap horizon and a depth of 75 cm.
- b. Have texture finer than loamy fine sand in some subhorizon within 50 cm of the surface.

Aeric Ochraquults are like Typic Ochraquults except for a.

Arenic Ochraquults are like Typic Ochraquults except for b, with or without a, and they have a sandy particle-size class to a depth between 50 cm and 1m."

2. Page 353, second column. Change the section "Description of Subgroups" as follows:

"Description of Subgroups"

Typic Ochraquults - These are the Ochraquults that have dominant chroma of 2 or less in all subhorizons between the Al or Ap horizon and a depth of 75 cm. Chroma in some subhorizon too high for Typic Ochraquults is a characteristic used to define the aeric subgroup. A thick sandy epipedon defines the arenic subgroup. Typic Ochraquults in the United States are mainly on the Atlantic Coastal Plain. Most of them have a mesic or thermic soil temperature regime.

Aeric Ochraquults - These soils have at least one subhorizon between the Al or Ap horizon and a depth of 75 cm that has chroma of 3' or more. The ground water in them normally is deeper than in Typic Ochraquults or has more oxygen. They are mainly in the central and southern part of Eastern United States, but they are not extensive. Many have been cleared and drained and are being cultivated or used for pasture.

615.24(2)

Arenic Ochraquults - These soils have a sandy epipedon that is between 50 cm and 1 m thick. In wetness characteristics, they are like Typic or Aeric Ochraquults, but most of them have developed in somewhat sandier materials and have less clay in the argillic horizon. These soils in the United States are mostly in Florida. They are not extensive and most of them are in forests."

§615.25 Lithic Vertic and Paralithic Vertic Subgroups.

The following item distinctions are deleted as criteria between the Typic subgroup and other subgroups.

(a) Page 251, second column Eutrochrepts distinctions between Typic Eutrochrepts and other subgroups, delete item i(2).

(b) Page 254, second column, Ustochrepts, distinctions between Typic Ust chrepts and other subgroups, delete item c(2).

(c) Page 256, first column, Xerochrepts, distinctions between Typic Xerochrepts and other subgroups, delete item e(2).

(d) Page 260, second column, Eutropepts, distinctions between Typic Eutropepts and other subgroups, delete item e(2).

(e) Page 263, first and second column, Ustropepts, distinctions between Typic Ustropepts and other subgroups, delete item f(2).

(f) Page 300, first column, Argiustolls, distinctions between Typic Argiustolls and other subgroups, delete item g(2).

(g) Page 303, second column, Haplustolls, distinctions between Typic Haplustolls and other subgroups, delete item h(2).

(h) Page 316, first and second column, Haploxerolls, distinctions between Typic Haploxerolls and other subgroups, delete item j(2).

§615.26 Durustolls.

When Soil Taxonomy was developed, Durustolls were not known to occur in the United States and were considered rare in the world. Because of a lack of information, subgroups of Durustolls were not developed.

Durustolls are, however, moderately extensive in Arizona with subgroups of Aridic and Orthidic being recognized. Typic Durustolls have been recognized in the West Indies. The following changes are required in Soil Taxonomy to accommodate these soils.

Page 298, second column, Ustolls, second paragraph, third sentence, change to read:

"If there is a Natric horizon, there may be an albic horizon overlying it or if there is a cambic or argillic horizon, there may be a duripan below them."

Page 303, first column, Durustolls. Delete paragraph and substitute the following descriptions and definitions:

Durustolls

These are Ustolls that have a duripan with its upper boundary within 1 meter of the soil surface. Durustolls formed in the vicinity of cinders and ash falls in areas of volcanic disturbance. Their parent materials are mainly siliceous tuffs, volcanic ash, cinders, and basic volcanic rocks. In the United States the natural vegetation ranges from grama grasses and shrubs in warm climates to scattered conifers in cool climates. These soils are moderately extensive in late Pleistocene deposits. They are on alluvial fans and terraces, nearly level to rolling cinder fans and plains and on hilly to very steep cinder cones. They may be common on the leeward sides of volcanic islands in the Lesser Antilles. They had no clear equivalent in the 1938 classification.

Definition

Durustolls are the Ustolls that have a duripan whose upper boundary is within 1 meter of the soil surface.

Distinctions between Typic Durustolls and other subgroups.

Typic Durustolls are the Durustolls that:

- (a) Have an argillic horizon above the duripan.
- (b) Have a duripan that is massive or platy and that has half or more of its upper boundary coated or indurated with opal and silica with or without sesquioxides or that is indurated in some subhorizon below its upper boundary.
- (c) Do not have a natric horizon above the duripan.
- (d) When neither irrigated nor fallowed to store moisture.
 - (1) If the soil temperature regime is mesic or thermic, are dry less than six-tenths of the time in half or more years in some part of the moisture control section (not necessarily the same part) during a period when the soil temperature at a depth of 50 cm exceeds 5°C, or
 - (2) If the soil temperature regime is hyperthermic or isomesic, or warmer, are moist in some or all parts of the Moisture Control section for 90 consecutive days or more during a period when the soil temperature at a depth of 50 cm exceeds 8°C.

Aridic Durustolls are like Typic Durustolls except for d and have an aridic moisture regime that border on ustic.

Orthidic Durustolls are like Typic Durustolls except for a and d and have an aridic moisture regime that borders on ustic.

615.26

Descriptions of Subgroups

Typic Durustolls - The central concept or Typic subgroup of Durustolls is fixed on freely drained soils that have an argillic horizon above a strongly developed duripan, and that have an ustic moisture regime.

An aridic moisture regime is drier than that of the typic soils and if the soils also have an argillic horizon, the aridic subgroup defines intergrades to the Argids. Soils that do not have an argillic horizon and that have a moisture regime drier than that of the typic soils define the orthidic subgroups.

The typic subgroup is not the most extensive subgroup, but they furnish the best basis for definition of subgroups.

Aridic Durustolls - These soils have an aridic moisture regime that borders on ustic, but are otherwise like Typic Durustolls in their defined properties. In the United States they are mainly nearly level to strongly sloping. The soils are used for grazing, wildlife habitat, and recreation. These soils are not extensive in the United States, but they are moderately extensive locally in Arizona.

Orthidic Durustolls - These soils have an aridic moisture regime, and they have a strongly developed duripan but do not have an argillic horizon above the duripan. In the United States they are nearly level to moderately sloping. The soils are used for grazing, wildlife habitat, and recreation. These soils are not extensive in the United States, but they are moderately extensive locally in Arizona.

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