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Standard Specification for Topsoil Used for Landscaping Purposes¹

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1. Scope

1.1 This specification covers a physical evaluation of an inorganic soil containing a limited amount of organic material, relative to its use as a topsoil for horticultural purposes in construction. For classification, a full agricultural textural classification may be used.

1.2 The presence in the soil of the correct nutrients and pH status is necessary for healthy plant growth. This specification does not, however, cover a determination of the nutrients, nor their availability.²

NOTE 1—The nutrient content of topsoil is important and the nutrients usually evaluated are nitrogen, phosphate, and potassium. Nutrient deficiencies may be corrected using organic or inorganic fertilizers. Excess soluble salts should be examined as to their desirability. The acidity or alkalinity of the soil is also important. Excess acidity may be corrected by the application of lime. Excess alkalinity may be corrected by the application of sulfur or other suitable acidifying compounds. The latter item, in addition to lowering pH, also could be considered as an aggregate when considering the particle size distribution.

1.3 The values stated in SI units are to be regarded as the standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- D 653 Terminology Relating to Soil, Rock, and Contained Fluids³
- D 1140 Test Method for Amount of Material in Soils Finer than No. 200 (75 μ m) Sieve³
- D 2974 Test Methods for Moisture, Ash, and Organic Mat-

ter of Peat and Other Organic Materials³

- D 3740 Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction³
- D 4753 Specification for Evaluating, Selecting, and Specifying Balances and Scales for Use in Soil, Rock, and Construction Materials Testing³
- D 4972 Test Method for pH of Soils³
- D 6026 Practice for Using Significant Digits in Geotechnical Data⁴
- E 11 Specification for Wire-Cloth Sieves for Testing Purposes⁵

3. Terminology

3.1 Definitions:

3.2 Description of Term Specific to This Standard:

3.2.1 *topsoil*—usually the original surface layer of grassland or cultivated land. It does not generally include soil from peatlands or other special areas, such as land disturbed by industrial activity. Topsoil is usually a darker shade of brown, grey, or red than the subsoil that lies immediately beneath it, because it contains organic matter intimately mixed with the mineral matter. Topsoil tends to be more friable and pervious than inorganic soils.

4. Significance and Use

4.1 When physically evaluating a soil, relative to its suitability to support plant growth (primarily grasses), tests must be made to determine the presence and the amount of organic matter, inorganic matter (sand, silt and clay), and deleterious materials.

4.2 Typical general ranges of soil content are presented in Table 1. Soils falling within these ranges will generally form a suitable topsoil. It must, however, be recognized that in some geographic regions, concurrence with the values of Table 1 would be most difficult. In such cases, locally acceptable specifications would need to be developed.

4.3 The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the suitability of the equipment and facilities used. Agencies that meet the criteria of Practice D 3740 are generally

¹ This specification is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.22 on Soil as a Media for Plant Growth.

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² Nutrient testing procedures are found in: the state Agricultural Experiment Station recommendations from the state within which the landscape is located, "Methods of Soil Analysis" Editor-in-Chief: C. A. Black, *Agronomy No. 9*, Vol 2, American Society of Agronomy, Inc., Madison, WI, and Hesse, P. R., *A Textbook of Soil Chemical Analysis*, Chemical Publishing Co., New York, NY, 1972.

³ *Annual Book of ASTM Standards*, Vol 04.08.

⁴ *Annual Book of ASTM Standards*, Vol 14.02.

⁵ *Annual Book of ASTM Standards*, Vol 04.09.