



Designation: D2944 – 22

Standard Practice of Sampling Processed Peat Materials for Horticultural Purposes¹

This standard is issued under the fixed designation D2944; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This practice covers the procedure for obtaining a representative sample of processed peat material from compressed bales or bulk loose material sources. This procedure is applicable for sampling peat materials for horticultural purposes and produces a sample that is representative of peat materials that may be heterogeneous in nature. Producing a representative sample of a material is central to the validity of the results for any testing or analytical procedure which can be used to verify the grade of peat.

1.2 *Units*—The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for information only and are not considered standard.

1.3 All observed and calculated values shall confirm to the guidelines for significant digits and rounding established in Practice [D6026](#).

1.3.1 The procedures used to specify how data are collected/recorded or calculated in this standard are regarded as the industry standard. In addition, they are representative of the significant digits that generally should be retained. The procedures used do not consider material variation, purpose for obtaining the data, special purpose studies, or any considerations for the user's objectives; and it is common practice to increase or reduce significant digits of reported data to be commensurate with these considerations. It is beyond the scope of this standard to consider significant digits used in analysis methods for engineering design.

1.4 *This practice offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this practice may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of*

¹ This practice is under the jurisdiction of ASTM Committee [D18](#) on Soil and Rock and is the direct responsibility of Subcommittee [D18.22](#) on Media for Plant Growth.

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a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[D653](#) Terminology Relating to Soil, Rock, and Contained Fluids

[D3740](#) Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

[D4753](#) Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing

[D6026](#) Practice for Using Significant Digits and Data Records in Geotechnical Data

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of common technical terms used in this standard, refer to Terminology [D653](#).

4. Summary of Practice

4.1 For compressed peat bales, a slotted tube corer is used at multiple locations to obtain subsamples of material. For bulk stockpiles, a shovel is used at multiple locations to obtain

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard

subsamples of material. The subsamples are then thoroughly mixed to create the representative sample. The representative sample is put into a labeled, airtight sealable container.

5. Significance and Use

5.1 This practice is primarily used in the horticulture industry to collect a representative sample of processed peat materials. The representative sample can then be used for further testing including, but not limited to, the determination of moisture, ash, and organic matter; volume; pH; moisture-holding capacity, and air capacity of water-saturated peat materials; total nitrogen; particle size distribution; and sand content of processed peat materials.

NOTE 1—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 D3740 are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with Practice D3740 does not in itself assure reliable results. Reliable results depend on many factors; Practice D3740 provides a means of evaluating some of those factors.

6. Apparatus

6.1 *Slotted Tube Corer*—A single or double tube, with holes (slots) along the length, pointed end, and a minimum 25-mm (1-in.) inside diameter.

6.2 *Balance or Scale*—Balances/Scales shall conform to the requirements of Guide D4753. The balance/scale shall have a readability without estimation of 0.1 g. The capacity of this balance will need to exceed the mass of the sample container plus 1000 g.

6.3 *Sample Containers*—A glass or equivalent inert container with airtight, sealable lid and enough capacity to hold 1000 g of sample.

6.4 *Miscellaneous Items*—Items such as, stainless steel shovel, labels, indelible markers, and gloves.

7. Procedure

7.1 Determine and record the mass of the container and lid to the nearest 0.1 g.

7.2 Take a representative sample from the lot as follows:

7.2.1 *Compressed Peat Bales*—Determine the number of bales to be sampled from the lot, the minimum subsample mass required, and the representative sample mass required by referring to Table 1.

7.2.2 Determine the number of cores to be taken per bale using a slotted tube corer. Bales less than or equal to 1.6 m³ (55 ft³) shall have at least one core taken from each bale and

bales greater than 1.6 m³ (55 ft³) shall have at least two cores collected from each bale.

7.2.3 Collect the core subsamples from each bale. Lay the bale horizontally and insert the corer at the end of the bale, away from the edge. The maximum number of samples collected from each bale will be dependent on the number of bales within the lot to be sampled, the mass of each subsample collected and the minimum representative sample mass. For bales sizes requiring at least two samples, insert the corer at each end of the bale. For lot sizes that require three or more samples are collected from each bale, insert the corer at random throughout the bale, never sampling in the exact spot twice. The corer shall be inserted at a 90° angle, 300 to 450 mm (11.8 to 17.7 in) deep. Remove the corer and extract the subsample. Measure and record the subsample mass to the nearest 0.1 g. Each subsample mass shall meet the minimum required mass listed in Table 1. If the particle size distribution of a sample is to be determined, or if a representative sample cannot be taken within a core sampler due to the presence of particle sizes larger than 0.25 mm (1 in.), it is necessary to expand the lot of compressed bales and sample according to the bulk stockpile procedure listed in 7.3.

7.2.4 Thoroughly combine all the subsamples in the airtight sample container. Measure and record the final representative sample mass to the nearest 0.1 g. The final representative samples mass shall meet the minimum required mass as listed in Table 1.

7.3 *Bulk Stockpile*—Determine the number of samples to be collected from the bulk stockpile using Table 2.

7.3.1 The sampling of stockpiles should consider that segregation of materials by grain size may occur during materials handling and stockpiling. Materials at or near the surface of the stockpile may be influenced by the climate, or may be otherwise segregated, and therefore should be avoided during sampling. At different locations around the stockpile, remove the upper 0.25 m to 0.50 m of material and then collect a subsample with the use of a shovel. Determine and record the mass to the nearest 0.1 g. Each subsample mass shall meet the minimum mass listed in Table 2.

7.3.2 Thoroughly combine all the subsamples in the airtight sample container. Measure and record the final representative sample mass to the nearest 0.1 g. The final representative samples mass shall meet the minimum required mass as listed in Table 2.

7.4 Using an indelible marker, label each sample with identifying information, such as, site identification, analyses requested, representative sample mass, sampling personnel, time, and date.

TABLE 1 Number of Bales to be Sampled and the Minimum Subsample and Representative Sample Mass Required Based on Lot Size

Lot Size	Number of Bales Sampled	Minimum Subsample Mass	Minimum Representative Sample Mass
1 – 10 bales	All bales	50 g	1000 g
11 – 25 bales	At least 5 bales, selected at random	50 g	1000 g
> 25 bales	At least 10 bales, selected at random	50 g	1000 g