



John Innes Manufacturers Association

Technical Data Sheet No. 13

DETERMINATION OF QUANTITY FOR LOAM-BASED GROWING MEDIA

1 General Principle and Aim

This Technical Data Sheet describes a procedure for quantity measurement of loam-based products used by members of John Innes Manufacturers' Association (JIMA).

Members of JIMA have a duty to operate fairly and properly and in a manner which ensures protection for the proper interest of consumers. Members also have a duty to avoid any deceptive or manipulative act.

2 Introduction

There is no current British Standard method for determining the bulk density of loam-based composts. The nearest suitable method is contained in BS4156:1990 "Recommendations for Peat for Horticulture and Landscape Use". Although this method is widely used throughout the peat and compost industry, others are also employed and container shapes and sizes vary considerably. Furthermore, individual producers use different sampling regimes in attempting to comply with consignment declarations. This Technical Data Sheet is based on the Peat Producers Association's Code of Practice for Quantity Measurement which aims to achieve uniformity in the way in which the industry meets a requirement to determine and declare the volume contained within packs (and bulk consignments) of growing media, soil improvers and mulches.

3 Definitions

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| 3.1 'JI' | John Innes loam-based composts. |
| 3.2 'Selling Unit' | Any bag, pack, bale, bulk bag, bulk lorry or other container containing JI. |
| 3.3 'Material' | The net contents of any selling unit, ie the actual JI. |
| 3.4 'Batch' | Selling units produced between successive sampling times, constituting a definite quantity of JI produced under conditions which are presumed uniform. |
| 3.5 'Non- Conforming Batch' | A batch where the measured pack fill is less than stated on the Selling Unit. This does not apply to selling units which are not sold by volume. |
| 3.6 'Sample Point' | The point at which samples are taken for the determination of bulk density. |
| 3.7 'Loam-based' | Product which is a mixture of bulky components, having a loam content of over 50% by volume. |
| 3.8 'When Packed' | At the time of filling or packing, this phrase is used in conjunction with a volume declaration. |

4 Method

4.1 A volume of material measured in a specified manner is weighed and its bulk density determined. The selling unit is weighed and its volume calculated on the basis of its contents weight and the bulk density.

4.2 The method for the measurement of bulk density to be used in implementation of this procedure shall be that employed in the current British Standard for peat-based growing media.

NOTE: The BS in use at 01/01/96 is BS4156:1990 (one litre method). When a new standard produced by CEN/TC 223 takes the place of the present BS, then JIMA will consider implementation of that new standard.

4.3 Other methods of bulk density determination are sometimes used for QC purposes. Another method may only be used if the method is calibrated against the definitive method, an appropriate correction factor applied to the results and adequate calibration records kept for inspection, so that it is clear the consumer is not exposed to risk. Any method shall be registered with the appropriate official body. No method shall be used if it is disapproved by the official body.

4.4 All weighing equipment used should be properly calibrated and traceable back to national standards. All records of calibrations should be kept.

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5 Sampling Place, Frequency and Calculation of Volumes

Producers who fill big/tonne/bulk bags, etc, should follow the procedure described in 5.1 or 5.2 that equates to their particular method of sale. Producers should document which procedure they use for these bags.

5.1 Bulk Containers

5.1.1 Bulk material should be sampled at intervals throughout the loading, preferably from a moving stream. The average bulk density of the samples is used to determine the quantity. The minimum number of samples acceptable is determined by the size of the consignment. Consignments not greater than 40 cubic metres shall be sampled at least 3 times. Consignments greater than 40 cubic metres shall be sampled at least 4 times. The number of bulk density determinations should equal the number of samples taken.

5.1.2 The weight of the material should then be determined using a weighbridge that is legal for trade use as close as possible to the point of manufacture.

5.1.3 The volume of the material is determined by dividing the weight of the material by the average bulk density as measured by the stated method (4.2) or by an alternative method suitably corrected (4.3).

5.2 Packed Materials

5.2.1 It is the responsibility of the producer to ensure that the contents of packs is equal to or greater than the declared pack volume at the time of production, ie when packed, ready for palletising. The producer should be able to provide evidence which demonstrates that pack fills are correct.

5.2.2 Packing runs shall be tested by weighing at least 4 filled units and measuring the bulk density of the material being dispensed into these units. The pack fill is determined by dividing the average weight of the 4 (or more) units taken by the bulk density as measured by the stated method (4.2) or by an alternative method suitably corrected (4.3).

5.2.3 It is the responsibility of the producer to determine appropriate intervals for sampling, to document the reason for this determination and to conduct proper reviews of that determination from time to time.

5.2.4 The production process should be organised such that batches produced since the last sampling are either kept separate from, or are traceable and separable from, batches which have been approved.

5.2.5 If, after taking a sample, the average pack fill is found to be less than the stated fill quantity then all units produced since taking the preceding sample shall be deemed to be potentially non-conforming products.

5.2.6 No potentially non-conforming products shall be released for sale unless subsequently shown to conform. A producer who wishes to sell products from a non-conforming batch should have a clearly documented procedure for sorting through such batches and confirming that the units to be sold were properly filled.

NOTE: The sampling frequency determined in 5.2.3 for each packing line is critical and it should be noted that 5.2.4, 5.2.5 and 5.2.6 are all dependent upon this - the longer the interval between sampling, the greater the number of potentially non-conforming packs.

6 Records Keeping

6.1 JIMA members should make and keep records of quantity measurements during all production runs of JI, and keep these records a minimum of 2 years.

6.2 In particular, records should be made available for inspection by Trading Standards Officers or other inspectors to confirm that:

6.2.1 any material from an identifiable batch was subject to the minimum requirement of the procedure.

6.2.2 during all production periods, sampling was carried out at the intervals determined in 5.2.3.

6.2.3 when sampling has shown an underfill to have occurred, that proper procedures have been employed to identify and quarantine non-conforming goods prior to re-testing for approval, re-packing or re-labelling.

6.2.4 if bulk bags are filled, which procedure is followed. and

6.2.5 where other methods are used to measure bulk densities (4.3, accurate correction factors are applied.

7 Pack Labelling

The following statement should appear on finished packs: '**x litres when packed**'

NOTE: The words 'when packed' should be given equal prominence to the statement of volume.