



BSI Standards Publication

**Fertilizers and liming
materials — Sampling of
static heaps — Technical
report on experimental
sampling trials performed
under mandate M/454**

National foreword

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**Fertilizers and liming materials - Sampling of static heaps -
Technical report on experimental sampling trials
performed under mandate M/454**

Engrais et amendements minéraux basiques -
Échantillonnage des tas statiques - Compte-rendu
technique des essais d'échantillonnage réalisés sous le
mandat M/454

Düngemittel und Kalkdünger - Probenahme aus
statischen Haufwerken - Technischer Bericht über
Probenahmeversuche im Rahmen des Mandats M/454

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European foreword

This document (CEN/TR 17040:2017) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Introduction

With mandate M/454 of October 2009 the EC asked the European Committee for Standardization (CEN) for a second extension to the standardization mandate M/335 concerning the modernization of the methods of analysis of fertilizers.

This extension concerns the framework of Regulation (EC) No 2003/2003 relating to fertilizers and liming materials [1].

The establishment of European Standards for methods of sampling and analysis is of utmost importance to guarantee a uniform application and control of the European legislation in all member states. Standardized methods of sampling and analysis are an indispensable element in guaranteeing a high level of quality and safety of EC fertilizers for the benefit of purchasers.

In order to avoid any improper use of the term EC-fertilizer Member States are required to check the compliance of such fertilizers or liming materials with the Regulation. To do this effectively, representative sampling is a prerequisite for reliable analytical results.

Within the framework of mandate M/335, CEN/TC 260 developed EN 1482-1 which applies only to the sampling of bulk material while it is being moved i.e. when any part of the fertilizer has an equal chance of being part of the incremental sample, and EN 1482-2 which specifies the sample preparation. In March 2009, a meeting of the Fertilizers Working Group of the EC took place to better define the current sampling practices in the different Member States. Two Member States recommended further improvements of EN 1482-1 as regards the sampling of static heaps.

Further enforcement authorities have limited resources for conformity assessment, and these are most efficiently deployed at the downstream end of the supply chain, i.e. at retailer or farmers premises. Therefore, nutrient content compliance should be ideally controlled at the point of sale to the end user, i.e. at the end of the supply chain. The fertilizer or liming material may be delivered or stored at this point in a bulk heap. Therefore EN 1482-1 might not fully satisfy the needs of Member States and an evaluation should be carried out by CEN to see whether a representative sample can be obtained from bulk heaps and if so what size of fertilizer heaps could be sampled at affordable costs.

Therefore mandate M/454 from the EC asked the European Committee for Standardization (CEN) to provide standardized methods for sampling static heaps.

In resolution BT C093/2009, the CEN Technical Board (BT) accepted mandate M/454 and allocated the work to CEN/TC 260, more specifically to its working group WG 1 "Sampling".

1 Scope

This document covers reports on three experimental sampling studies which have been performed under mandate M/454 in order to check the accuracy of the developed sampling method for sampling of static heaps by comparing it to the sampling of the same fertilizer product in motion according to EN 1482-1 and to determine which sizes of static fertilizer heap, if any, can be sampled using existing sampling equipment.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1482-1:2007, *Fertilizers and liming materials — Sampling and sample preparation — Part 1: Sampling*

EN 1482-3, *Fertilizers and liming materials — Sampling and sample preparation — Part 3: Sampling of static heaps*

3 Background

3.1 General

Both producers and traders of fertilizers and liming materials have to guarantee a high level of quality in the nutrient amount and physical parameters of fertilizers they put on the market. EU Member State's official fertilizer controls are required to check the nutrient contents and the composition of fertilizers placed on the market. The purpose of Regulation (EC) No°2003/2003 [1] is to guarantee the farmer the quality of the fertilizer.

The first step of the fertilizer's control is the sampling in order to deliver a representative sample of a fertilizer placed on the market. Any bias during the sampling could lead to great economical and/or environmental consequences.

Sampling according to EN 1482-1 requires that a static heap has to be put in motion and this requires time and effort to be spent by the sampling officials. Official control authorities cannot always be present when static heaps are being formed or loaded for transport.

Consequently, the EC asked CEN/TC 260 "Fertilizers and liming materials" with Mandate M/454 for investigation of the possibility of the development of a European Standard and, if appropriate, to develop such a standard giving a sampling method of static fertilizer heaps for official controls that guarantees reliable analytical results.

3.2 Requested tasks

The following main tasks were requested:

- a) Monitoring the literature as well as International and European Standards in similar fields and an evaluation of their relevance to this project (see Annex B);
- b) elaboration and technical description of a method protocol to sample static heaps;
- c) organization, performance and evaluation of experimental sampling studies in order to check the accuracy of the elaborated sampling method as compared with the sampling in motion of the same fertilizer according to EN 1482-1;