

**Soil improvers and growing media -  
Determination of nitrogen - Part 2:  
Dumas method**

Soil improvers and growing media - Determination of  
nitrogen - Part 2: Dumas method

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13654-2:2002 sisaldab Euroopa standardi EN 13654-2:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.01.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13654-2:2002 consists of the English text of the European standard EN 13654-2:2001.</p> <p>This document is endorsed on 16.01.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This European Standard specifies a method for the determination of nitrogen in soil improvers and growing media. The dry combustion method was developed originally as a manual method by Dumas. Its application is improved greatly due to the use of modern automated equipment and is applicable to all forms of nitrogen.</p>	<p><b>Scope:</b> This European Standard specifies a method for the determination of nitrogen in soil improvers and growing media. The dry combustion method was developed originally as a manual method by Dumas. Its application is improved greatly due to the use of modern automated equipment and is applicable to all forms of nitrogen.</p>
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ICS 65.080

**Võtmesõnad:** ext, extraction agents, extraction methods of an, extraction methods of analysis, growing media, methods of analysis, nitrogen, nitrogen content, nitrogenous fertilizers, soil improvement, soil improving materials, soils, soluble, solvents, substrates (insulating)

ICS 65.080

English version

## Soil improvers and growing media - Determination of nitrogen - Part 2: Dumas method

Amendements du sol et supports de culture -  
Détermination de l'azote - Partie 2: Méthode de Dumas

Bodenverbesserungsmittel und Kultursubstrate -  
Bestimmung von Stickstoff - Teil 2: Verfahren nach Dumas

This European Standard was approved by CEN on 11 August 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 223 "Soil improvers and growing media", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2002, and conflicting national standards shall be withdrawn at the latest by March 2002.

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

**SAFETY PRECAUTIONS** — Care should be taken when handling samples that may contain sharps or is of a dusty nature.

## 1 Scope

This European Standard specifies a method for the determination of nitrogen in soil improvers and growing media. The dry combustion method was developed originally as a manual method by Dumas [5]. Its application is improved greatly due to the use of modern automated equipment and is applicable to all forms of nitrogen.

The method is not applicable to liming materials and preformed materials such as mineral wool slabs and foam slabs.

NOTE The requirements of the standard may differ from the national legal requirements for the declaration of the products concerned.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 13040:1999, *Soil improvers and growing media - Sample preparation for chemical and physical test, determination of dry matter content, moisture content and laboratory compacted bulk density.*

EN 13654-1, *Soil improvers and growing media - Determination of nitrogen – Part 1: Modified Kjeldahl method.*

## 3 Terms and definitions

For the purposes of this standard the terms and definitions given in EN 13040 apply.

## 4 Principle

The nitrogen content of the sample, pre-treated according to EN 13040, is determined by heating to a temperature of at least 900 °C in the presence of oxygen gas. Mineral and organic nitrogen compounds are oxidized and/or volatilized and determined as described by the manufacturer.

## 5 Reagents

### 5.1 General

Use only reagents of recognized analytical grade.

**5.2 For reduction, oxidation, removal and/or fixing of combustion gases** that interfere with the analysis, refer to the manufacturer's instructions.

**5.3 Calibration substances**, pure substances of known nitrogen content, for example acetanilide ( $C_8H_9NO$ ), L-aspartic acid ( $C_4H_7NO_4$ ), or amino acids of known composition.

NOTE The total content of nitrogen of the calibration substance should be as similar to the sample nitrogen content as possible.