Väetised. Ekstraheeritud kaltsiumi manganimeetriline määramine järgneva oksalaadina sadestamisega

Fertilizers - Manganimetric determination of extracted calcium following precipitation in the form of oxalate

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 16196:2012 sisaldab Euroopa standardi EN 16196:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 16196:2012 consists of the English text of the European standard EN 16196:2012.
Standard on kinnitatud Eesti Standardikeskuse 30.11.2012 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2012 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.11.2012.	Date of Availability of the European standard text 14.11.2012.
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English Version

Fertilizers - Manganimetric determination of extracted calcium following precipitation in the form of oxalate

Engrais - Dosage manganimétrique du calcium extrait après précipitation sous forme d'oxalate

Düngemittel - Manganometrische Bestimmung von Calcium nach Oxalatfällung

This European Standard was approved by CEN on 6 October 2012.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

Foreword

This document (EN 16196:2012) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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

This document supersedes CEN/TS 16196:2011.

The following changes have been made to the former edition:

a) the CEN Technical Specification has been adopted as a European Standard;

b) the document has been editorially revised.

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

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies a manganimetric method for the determination of the calcium content in fertilizer extracts.

This method is applicable to EC fertilizers for which a declaration of the total and/or water-soluble calcium content is provided for in Regulation (EC) No 2003/2003, Annex I [3].

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 1482-2, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

EN 12944-1:1999, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 1: General terms*

EN 12944-2:1999, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 2: Terms relating to fertilizers*

EN 15960, *Fertilizers — Extraction of total calcium, total magnesium, total sodium and total sulfur in the forms of sulfates*

EN 15961, *Fertilizers — Extraction of water soluble calcium, magnesium, sodium and sulfur in the form of sulfates*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1:1999 and EN 12944-2:1999 apply.

4 Sampling

Sampling is not part of the method specified in this document. A recommended sampling method is given in EN 1482-1.

Sample preparation shall be carried out in accordance with EN 1482-2. Grinding of the laboratory sample is recommended for homogeneity reasons.

5 Principle

Precipitation of the calcium contained in an aliquot of the extraction solution in the form of an oxalate, which is determined by titration using potassium permanganate.

6 Reagents

6.1 Diluted hydrochloric acid, one volume of hydrochloric acid, ρ = 1,18g/ml, and one volume of water.

6.2 Sulfuric acid, 1:10 diluted, one volume of sulfuric acid, ρ = 1,84 g/ml, in ten volumes of water.

6.3 Ammonia solution, 1:1 diluted, one volume of ammonia, ρ = 0,88 g/ml, and one volume of water.

6.4 Ammonia oxalate, [$(NH_4)_2\ C_2O_4\ H_2O$], saturated solution at ambient temperature, approximately ρ = 40 g/l.