

**Väetised. Kaltsiumi ja formiaadi määramine lehtedele  
pritsitavates kaltsiumväetistes**

**Fertilizers - Determination of calcium and formate in  
calcium foliar fertilizers**

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

## Fertilizers - Determination of calcium and formate in calcium foliar fertilizers

Engrais - Dosage du calcium et du formiate dans les engrais calcium pour pulvérisation foliaire

Düngemittel - Bestimmung von Calcium und Formiat in Calcium-Blattdüngemitteln

This European Standard was approved by CEN on 29 April 2010.

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## Foreword

This document (EN 15909:2010) 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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## 1 Scope

This European Standard specifies a method for the determination of the content of calcium and formate in calcium foliar fertilizers in the presence of calcium chloride. This is determined and calculated by individual analytical determination of the following components:

- Calcium ( $\text{Ca}^{2+}$ ),
- Chloride ( $\text{Cl}^-$ ),
- Formate ( $\text{HCOO}^-$ ).

The method is applicable to calcium foliar fertilizers with a calcium content of approximately 30 %.

## 2 Normative references

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

EN 480-10, *Admixtures for concrete, mortar and grout — Test methods — Part 10: Determination of water soluble chloride content*

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 ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

## 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 Principle

### 4.1 General

Three different analytical procedures are used for the determination of the components to be determined, calcium, formate and chloride, in calcium foliar fertilizers. The substances calcium formate and calcium chloride are calculated stoichiometrically from the analytical results determined in each case (4.2, 4.3 and 4.4) (see Clause 9).

### 4.2 Calcium

The calcium content is determined complexometrically with the diluted sample in strongly alkaline solution by means of adjusted 0,1 mol/l EDTA solution (5.1) and the calcium-specific indicator, calconcarboxylic acid (8.2).