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Fertilizers and soil conditioners — Determination of total nitrogen by combustion

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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This document was prepared by Technical Committee ISO/TC 134, *Fertilizers, soil conditioners and beneficial substances*.

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Fertilizers and soil conditioners — Determination of total nitrogen by combustion

1 Scope

This document specifies a method for the determination of total nitrogen content in all nitrogen containing fertilizers by combustion method.

NOTE 1 The presence of non-nutritive sources of nitrogen (e.g. chelating agents) causes positive bias to samples being analysed for nutritive nitrogen content. The non-nutritive nitrogen content is subtracted from the total nitrogen value to determine the nutritive nitrogen content.

NOTE 2 Common internationally traded fertilizers were evaluated for total nitrogen by combustion analysis in the ring-study in this document. While the fertilizers analysed in this international ring study were mineral fertilizers, previous studies have shown that total nitrogen by combustion is suitable for use with many non-mineral, nitrogen-containing fertilizers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 14820-2:2016, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

The sample is combusted at a high temperature of 900 °C or above in the presence of oxygen. Following the reduction of formed nitrogen oxides to elemental nitrogen and the removal of any interfering products of combustion, nitrogen is measured with a thermal-conductivity detector.

5 Apparatus

5.1 Automatic nitrogen analyser, based on combustion methods.

5.2 Analytical balance.

The accuracy of the balance is a function of the analyser used and the required weighed portions. The resolution should be 0,1 % or better of the weighed portion.

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