Õliseemned. Samaaegne õli- ja veesisalduse määramine. Impulsstuumamagnetresonantsspektro meetriat kasutav meetod

Oilseeds - Simultaneous determination of oil and water contents - Method using pulsed nuclear magnetic resonance spectrometry

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 10565:2000 sisaldab Euroopa standardi EN ISO 10565:1998 ingliskeelset teksti. Käesolev dokument on jõustatud 20.03.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 10565:2000 consists of the English text of the European standard EN ISO 10565:1998. This document is endorsed on 20.03.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See rahvusvaheline standard esitab kiirmeetodi õli- ja veesisalduse määramiseks kaubanduslikes õliseemnetes, kasutades impulsstuumamagnetresonantsi.	**Scope:**

ICS 67.200.20

Võtmesõnad: katsed, põllumajandussaadused, sisalduse määramine, taimsed tooted, tuumamagnetresonantsmeetod, vesi, õlid, õliseemned

EUROPEAN STANDARD
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EN ISO 10565

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Descriptors: Oilseeds, oil content, water content, testing.

English version

Oilseeds

Simultaneous determination of oil and water contents – Method using pulsed nuclear magnetic resonance spectrometry
(ISO 10565 : 1998)

Graines oléagineuses – Détermination simultanée de la teneur en huile et en eau – Méthode par spectrométrie par résonance magnétique nucléaire pulsée (ISO 10565 : 1998)

Ölsamen – Gleichzeitige Bestimmung des Öl- und Wassergehaltes – Verfahren mit gepulster Kernresonanzspektroskopie (ISO 10565 : 1998)

This European Standard was approved by CEN on 1998-08-15.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 10565 : 1998 Oilseeds – Simultaneous determination of oil and water contents – Method using pulsed nuclear magnetic resonance spectrometry,

which was prepared by ISO/TC 34 'Agricultural food products' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 307 'Oilseeds, vegetable and animal fats and oils and their by-products – Methods of sampling and analysis', the Secretariat of which is held by AFNOR, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by February 1999 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10565 : 1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

1 Scope

This International Standard specifies a rapid method for the determination of the oil and water contents of commercial oilseeds using pulsed nuclear magnetic resonance (NMR).

It is applicable to rapeseeds, soya beans, linseeds and sunflower seeds with a water content less than 10 %. For seeds with higher water contents, drying is necessary before the oil content can be determined by pulsed NMR.

NOTE 1 This method has been tested with rapeseeds, soya beans, linseeds and sunflower seeds. This does not, however, preclude its applicability to other commercial seeds whose oil is liquid at the temperature of measurement.

NOTE 2 The reproducibility values are generally higher than those obtained by the drying method (ISO 665).

2 Normative references

The following standards contain provisions which through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 659:1988, *Oilseeds — Determination of hexane extract (or light petroleum extract), called "oil content".*

ISO 664:1990, *Oilseeds — Reduction of laboratory sample to test sample.*

ISO 665:1977, *Oilseeds — Determination of moisture and volatile matter content.*

3 Principle

Insertion of the test sample into the magnetic field of a pulsed NMR spectrometer.

Application of an alternating electromagnetic field in the form of an intense 90° radiofrequency (RF) pulse which excites all the hydrogen nuclei. Recording of the free induction decay (FID) following the 90° pulse. The maximum amplitude of this signal is proportional to the total number of protons from the water and oil phases of the sample.