

Cereals, cereals-based products and animal feeding stuffs - Determination of crude fat and total fat content by the Randall extraction method (ISO 11085:2015)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11085:2015 sisaldab Euroopa standardi EN ISO 11085:2015 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11085:2015 consists of the English text of the European standard EN ISO 11085:2015.
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English Version

Cereals, cereals-based products and animal feeding stuffs -
Determination of crude fat and total fat content by the
Randall extraction method (ISO 11085:2015)

Céréales, produits céréaliers et aliments des animaux -
Détermination de la teneur en matières grasses brutes
et en matières grasses totales par la méthode
d'extraction de Randall (ISO 11085:2015)

Getreide, Getreideerzeugnisse und Futtermittel -
Bestimmung des Rohfettgehalts und des
Gesamtfettgehalts mit dem Extraktionsverfahren nach
Randall (ISO 11085:2015)

This European Standard was approved by CEN on 13 June 2015.

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

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European foreword

This document (EN ISO 11085:2015) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 338 "Cereal and cereal products" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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 EN ISO 11085:2010.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

Endorsement notice

The text of ISO 11085:2015 has been approved by CEN as EN ISO 11085:2015 without any modification.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagents	2
6 Apparatus	2
7 Sampling	3
8 Procedure	3
8.1 Preparation of the test sample	3
8.2 Test portion	3
8.3 Preliminary extraction	3
8.4 Hydrolysis	4
8.4.1 General	4
8.4.2 Hydrolysis with apparatus I (6.2)	4
8.4.3 Hydrolysis with apparatus II (6.3)	4
8.5 Extraction	5
9 Calculation and expression of results	6
9.1 Determination with preliminary extraction	6
9.2 Determination without preliminary extraction	6
10 Precision	6
10.1 Interlaboratory test	6
10.2 Repeatability	6
10.3 Reproducibility	7
10.4 Critical difference	7
10.4.1 General	7
10.4.2 Comparison of two groups of measurements in one laboratory	7
10.4.3 Comparison of two groups of measurements in two laboratories	7
10.5 Measurement uncertainty	8
11 Test report	8
Annex A (informative) Results of an interlaboratory test	9
Annex B (informative) Comparison of fat contents for the samples used in the interlaboratory test	14
Bibliography	16

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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The committee responsible for this document is ISO/TC 34, *Food products*, Subcommittee SC 4, *Cereals and pulses*.

This second edition of ISO 11085 cancels and replaces the first edition (ISO 11085:2008), which has been technically revised.

Cereals, cereals-based products and animal feeding stuffs — Determination of crude fat and total fat content by the Randall extraction method

1 Scope

This International Standard specifies procedures for the determination of the fat content of cereals, cereal-based products, and animal feeding stuffs. These procedures are not applicable to oilseeds and oleaginous fruits.

The choice of procedure to be used depends on the nature and composition of the material analysed and the reason for carrying out the analysis.

Procedure A is a method for the determination of directly extractable crude fats, applicable to all materials, except those included within the scope of procedure B.

Procedure B is a method for the determination of total fats, applicable to all materials from which the oils and fats cannot be completely extracted without prior hydrolysis.

NOTE Most cereals, as well as feeds of animal origin, yeasts, potato protein, compound feeds with milk products, glutens, and products subjected to processes such as extrusion, flaking, and heating, yield significantly higher total fat contents when tested by procedure B than by procedure A. See [Annex B](#).

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.

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 6498, *Animal feeding stuffs — Guidelines for sample preparation*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

crude fat content

mass fraction of substances extracted from the sample by the specified procedure A

Note 1 to entry: The crude fat content is expressed as a percentage mass fraction.

3.2

total fat content

mass fraction of substances extracted from the sample by the specified procedure B

Note 1 to entry: The total fat content is expressed as a percentage mass fraction.

4 Principle

Fat is extracted using light petroleum as a solvent and the Randall modification of the Soxhlet method. The test portion is submerged in boiling solvent prior to rinsing in cold solvent, reducing the time needed for extraction. The solvent dissolves fats, oils, pigments, and other soluble substances. After