

## **TERAVILI JA JAHVATATUD TERAVILJASAADUSED** **Üldtuha määramine**

Cereals, pulses and derived products  
Determination of total ash

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

Käesolev Eesti standard EVS-ISO 2171:2004 "Teravili ja jahvatatud teraviljasaadused. Üldtuha määramine" sisaldab rahvusvahelise standardi ISO 2171:1993 "Cereals, pulses and derived products - Determination of total ash" identset ingliskeelset teksti.	This Estonian Standard EVS-ISO 2171:2004 consists of the identical English text of the International Standard ISO 2171:1993 "Cereals, pulses and derived products - Determination of total ash".
Standardi avaldamise korraldas Eesti Standardikeskus.	Estonian standard is published by the Estonian Centre for Standardisation.
Standard EVS-ISO 2171:2004 on kinnitatud Eesti Standardikeskuse 19.02.2004 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teataja 2004. aasta märtsikuu numbris.	This standard is ratified with the order of Estonian Centre for Standardisation dated 19.02.2004 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from Estonian Centre for Standardisation.

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Standard käsitleb inimtoiduks ettenähtud teraviljas ja jahvatatud teraviljasaadustes tuha määramise meetodit.

Standard ei ole rakendatav tärglisele ja tärglise derivaatidele või loomasöödale ettenähtud teraviljale või teraviljast pärinevatele toodetele (milleks on meetodid vastavalt ISO 3593 ja ISO 5984), samuti ei rakendu see külviks mõeldud teravilja ja kaunvilja seemnetele.

**ICS 67.060** Teravili, kaunvili ja nendest valmistatud tooted

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## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 2171 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Sub-Committee SC 4, *Cereals and pulses*.

This third edition cancels and replaces the second edition (ISO 2171:1980), which has been technically revised in that method B has been deleted and annexes A and B have been added.

This International Standard is based on Standard ICC 104/1 of the International Association for Cereal Science and Technology.

Annexes A and B of this International Standard are for information only.

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# Cereals and milled cereal products — Determination of total ash

## 1 Scope

This International Standard specifies a method for the determination of ash yielded by cereals and milled cereal products intended for human consumption.

It is not applicable to starch and starch derivatives, or to cereals and derived cereal products intended for animal feeding stuffs (for which methods are described in ISO 3593 and ISO 5984 respectively), nor is it applicable to seeds of cereals and pulses for sowing.

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 712:1985, *Cereals and cereal products — Determination of moisture content (Routine reference method)*.

## 3 Definition

For the purposes of this International Standard, the following definition applies.

**3.1 ash:** Incombustible residue obtained after incineration according to the method given in this International Standard.

## 4 Principle

Incineration of a test portion in an oxidizing atmosphere at a temperature of  $900\text{ }^{\circ}\text{C} \pm 10\text{ }^{\circ}\text{C}$  until com-

bustion of organic matter is complete, then weighing the residue obtained.

## 5 Reagent

**5.1 Ethanol**, 95 % (V/V) min.

## 6 Apparatus

**6.1 Grinding mill**, having the following characteristics:

- a) easy to clean and having as little dead space as possible;
- b) allowing grinding to be carried out rapidly and uniformly without appreciable development of heat and as far as possible, restricting contact with the outside air;
- c) capable of providing ground material which meets the following particle size requirements:

> 1,7 mm	0 %
> 1,0 mm	< 10 %
> 0,5 mm	50 %

**6.2 Ashing dish**, preferably of platinum or any other material which is unaffected under the experimental conditions; of at least 20 ml capacity, flat-bottomed, and with at least 15 cm<sup>2</sup> of surface area (for instance, diameter 40 mm to 60 mm and maximum height 30 mm).

**6.3 Electrically heated muffle furnace**, with adequate ventilation, provided with temperature control and a refractory coating which is not liable to lose particles at the ashing temperature, and capable of being maintained at a temperature of  $900\text{ }^{\circ}\text{C} \pm 10\text{ }^{\circ}\text{C}$ .