
**Cereals, pulses and by-products —
Determination of ash yield by
incineration**

*Céréales, légumineuses et produits dérivés — Détermination du taux
de cendres par incinération*



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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.

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 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 4, *Cereals and pulses*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 338, *Cereal and cereal products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 2171:2007), which has been technically revised. The main changes are as follows:

- the Scope has been updated;
- silica gel has been added as a desiccant ([5.2](#));
- the use of platinum dishes and a temperature of incineration of 900 °C for the flour analysis has replaced a choice of a temperature between 900 °C and 550 °C (see [Table 1](#));
- the interlaboratory critical difference ($C_{D,R}$) has been updated in [11.4.2](#).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Cereals, pulses and by-products — Determination of ash yield by incineration

1 Scope

This document specifies a method for determining the ash yield by cereals, pulses and their milled products intended for human consumption. The source materials and products covered are:

- a) grains of cereals;
- b) flours and semolinas;
- c) other milling products (bran and high bran content products, shorts);
- d) mixed cereal flours (mixes);
- e) cereal by-products other than c) (such as wheat gluten, maize grits, broken rice kernels);
- f) pulses and their by-products (flour).

This document does not apply to starches and starch derivatives (see ISO 3593), to products intended for animal feeding stuffs (see ISO 5984) or to seeds.

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 712, *Cereals and cereal products — Determination of moisture content — Reference method*

ISO 6540, *Maize — Determination of moisture content (on milled grains and on whole grains)*

ISO 24557, *Pulses — Determination of moisture content — Air-oven method*

3 Terms and definitions

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

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 <https://www.electropedia.org/>

3.1

ash

incombustible residue obtained after incineration

Note 1 to entry: This is according to the method given in this document.

3.2

critical difference

difference between two averaged values obtained from two test results under repeatability conditions