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**Krma - Določanje surovega pepela (prevzet standard ISO 5984:1978  
z metodo platnice)**

Animal feeding stuffs - Determination of crude ash

Aliments des animaux - Détermination des cendres brutes

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Deskriptorji: prehrana živali, krma, kemijska analiza, določanje vsebnosti, pepel

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ICS 71.040.40 \* 65.120

Referenčna številka  
SIST ISO 5984:1995 (en)

Nadaljevanje na straneh od II do III in 1 do 2

## UVOD

Standard SIST ISO 5984, Krma - Določanje surovega pepela, prva izdaja, 1995, ima status slovenskega standarda in je z metodo platnice prevzet mednarodni standard ISO 5984, Animal feeding stuffs - Determination of crude ash, first edition, 1978-09-15.

## PREDGOVOR

Mednarodni standard ISO 5984:1978 je pripravil tehnični odbor Mednarodne organizacije za standardizacijo ISO/TC 34 Kmetijski pridelki in živilski proizvodi.

Odločitev za prevzem tega standarda po metodi platnice je sprejela delovna skupina WG 10 Analitika krme v okviru tehničnega odbora USM/TC KŽP Kmetijski pridelki in živilski proizvodi.

Ta slovenski standard je dne 1995-05-08 odobril direktor USM.

## ZVEZA S STANDARDI

S prevzemom tega mednarodnega standarda veljajo naslednje zveze:

- SIST ISO 6651:1995 (en) Krma - Določanje vsebnosti aflatoksina B<sub>1</sub>
- SIST ISO 6654:1995 (en) Krma - Določanje vsebnosti sečnine
- SIST ISO 6866:1995 (en) Krma - Določanje vsebnosti prostega in skupnega gosipola
- SIST ISO 6870:1995 (en) Krma - Določanje vsebnosti zearalenona
- SIST ISO 5498:1995 (en) Kmetijski pridelki in živilski proizvodi - Določanje vsebnosti surove vlaknine - Splošna metoda
- SIST ISO 5983:1995 (en) Krma - Določanje vsebnosti dušika in izračun vsebnosti surovih beljakovin
- SIST ISO 5985:1995 (en) Krma - Določanje pepela, netopnega v klorovodikovi kislini
- SIST ISO 6490-1:1995 (en) Krma - Določanje vsebnosti kalcija - 1. del: Titrimetrična metoda
- SIST ISO 6490-2:1995 (en) Krma - Določanje vsebnosti kalcija - 2. del: Metoda atomske absorpcijske spektrometrije
- SIST ISO 6491:1995 (en) Krma - Določanje vsebnosti skupnega fosforja - Spektrofotometrična metoda
- SIST ISO 6495:1995 (en) Krma - Določanje vsebnosti v vodt topnih kloridov
- SIST ISO 6496:1995 (en) Krma - Določanje vsebnosti vlage
- SIST ISO 5506:1995 (en) Sojini proizvodi - Določanje ureazne aktivnosti
- SIST ISO 6541:1995 (en) Kmetijski pridelki in živilski proizvodi - Določanje vsebnosti surove vlaknine - Modificirana Scharrerjeva metoda

## OSNOVA ZA IZDAJO STANDARDA

- Prevzem standarda ISO 5984:1978

**OPOMBI**

- Povsod, kjer se v besedilu standarda uporablja izraz mednarodni standard , to pomeni v SIST ISO 5984:1995 slovenski standard .
- Uvod in predgovor nista sestavni del standarda.

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**INTERNATIONAL STANDARD**



**5984**

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## **Animal feeding stuffs – Determination of crude ash**

*Aliments des animaux – Détermination des cendres brutes*

First edition – 1978-09-15

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UDC 636.085/.087 : 543.822

Ref. No. ISO 5984-1978 (E)

**Descriptors** : animal nutrition, animal feeding stuffs, chemical analysis, determination of content, ashes.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5984 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in May 1977.

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It has been approved by the member body of the following countries:

Australia	Iran	Romania
Austria	Israel	South Africa, Rep. of
Canada	Kenya	Spain
Chile	Mexico	Thailand
Czechoslovakia	Netherlands	Turkey
Ethiopia	New Zealand	United Kingdom
France	Peru	U.S.S.R.
Hungary	Poland	Venezuela
India	Portugal	Yugoslavia

No member body expressed disapproval of the document.

# Animal feeding stuffs – Determination of crude ash

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of crude ash of animal feeding stuffs.

## 2 DEFINITION

**crude ash**: The residue obtained after incineration at 550 °C under the conditions described below, expressed as a percentage by mass.

## 3 PRINCIPLE

Decomposition of organic matter from a test portion by incineration, and weighing of the ash obtained.

## 4 APPARATUS

Usual laboratory apparatus and in particular:

### 4.1 Analytical balance.

**4.2 Muffle furnace**, electrically heated, thermostatically controlled, and provided with a pyrometer. The furnace, when set at 550 °C, shall be capable of being controlled in such a way that the temperature in the places where the incineration dishes will be placed will not differ by more than 20 °C from this set temperature.

**4.3 Drying oven**, capable of being controlled at 103 ± 2 °C.

**4.4 Hot-plate or gas burner.**

**4.5 Incineration dish** of platinum or platinum-gold alloy (for example 10% Pt, 90% Au) or of other material unaffected by the conditions of the test, preferably rectangular with a surface area of about 20 cm<sup>2</sup> and a height of about 2,5 cm.

NOTE – For samples which are inclined to swell on carbonizing, use dishes with a surface area of about 30 cm<sup>2</sup> and a height of about 3 cm.

**4.6 Desiccator**, provided with an effective desiccant.

## 5 SAMPLING<sup>1)</sup>

Store the sample in such a way that deterioration and change in composition are prevented.

## 6 PROCEDURE

### 6.1 Test portion

Weigh, to the nearest 0,001 g, about 5 g of the test sample<sup>1)</sup> into the incineration dish (4.5), previously heated for at least 30 min in the muffle furnace (4.2) at 550 °C, cooled in the desiccator (4.6) and weighed to the nearest 0,001 g.

### 6.2 Determination

Place the incineration dish containing the test portion (6.1) on a hot-plate or over a gas burner (4.4) and heat progressively until the test portion has carbonized. Transfer the dish into the muffle furnace (4.2), previously set at 550 °C, and leave it for 3 h. Inspect visually whether the ash is free from carbonaceous particles. If it is not, replace the dish in the furnace and heat another 1 h. If carbonaceous particles are still visible, or if there is doubt as to whether they are present, allow the ash to cool, moisten with distilled water, evaporate carefully to dryness in the oven (4.3), controlled at 103 ± 2 °C, replace the dish in the furnace and heat for another 1 h. Allow the dish to cool in the desiccator (4.6) to room temperature and weigh rapidly to the nearest 0,001 g.

NOTE – The crude ash obtained by the above procedure may be used subsequently for the determination of ash insoluble in hydrochloric acid (ISO 5985 – Procedure A).

### 6.3 Duplicate determination

Carry out two determinations on test portions from the same test sample.

1) International Standards on sampling and on preparation of the test sample are in preparation.

## 7 EXPRESSION OF RESULTS

### 7.1 Method of calculation and formula

The crude ash, expressed as a percentage by mass of the test sample, is equal to

$$(m_2 - m_0) \times \frac{100}{m_1 - m_0}$$

where

$m_0$  is the mass, in grams, of the empty dish;

$m_1$  is the mass, in grams, of the dish containing the test portion;

$m_2$  is the mass, in grams, of the dish and the crude ash.

Take as the result the arithmetic mean of the two determinations, provided that the requirement for repeatability (see 7.2) is satisfied. Report the result to the nearest 0,1 % (m/m).

### 7.2 Repeatability

The difference between the results of two determinations carried out simultaneously or in rapid succession by the same analyst shall not exceed :

0,3 (absolute value) for crude ash yields lower than 3 % (m/m);

10 % of the mean value for crude ash yields from 3 to 5 % (m/m);

0,5 (absolute value) for crude ash yields from 5 to 20 % (m/m);

2,5 % of the mean value for crude ash yields from 20 to 40 % (m/m);

1 (absolute value) for crude ash yields of 40 % (m/m) or more.

## 8 TEST REPORT

The test report shall show the method used and the result obtained. It shall also mention any operating conditions not specified in this International Standard, or regarded as optional, as well as any circumstances that may have influenced the result.

The report shall include all details required for complete identification of the sample.

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