International Standard 929

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

Spices and condiments — Determination of water-insoluble ash

Épices — Détermination des cendres insolubles dans l'eau

First edition — 1980-02-15

UDC 633.82/.84 : 543.8 **Ref. No. ISO 929-1980 (E)**

Descriptors : agricultural products, spices, chemical analysis, determination of content, ashes, insoluble matter, water.

Price based on 2 pages

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 929 was developed by Technical Committee ISO/TC 34, *Agricultural food products*.

It was submitted directly to the ISO Council, in accordance with clause 5.10.1 of part 1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 929-1969, which had been approved by the member bodies of the following countries :

Australia	Germany, F. R.	Portugal
Brazil	Greece	Romania
Bulgaria	Hungary	South Africa, Rep.of
Canada	India	Thailand
Chile	Iran	Turkey
Colombia	Israel	USSR
Czechoslovakia	Korea, Rep. of	Yugoslavia
Egypt, Arab Rep. of	Netherlands	
France	Poland	

The member body of the following country had expressed disapproval of the document on technical grounds :

United Kingdom

Printed in Switzerland

Spices and condiments — Determination of water-insoluble ash

0 Introduction

This International Standard is applicable to most spices and condiments. In view of the number and variety of such products, however, it may be necessary in particular cases to modify the method or even to choose a more suitable method.

Such modifications and other methods will be indicated in the International Standards giving specifications for the spices and condiments in question.

1 Scope and field of application

This International Standard specifies a method for the determination of water-soluble ash from spices and condiments.

2 Reference

ISO 928, *Spices and condiments — Determination of total ash.*

3 Definition

water-insoluble ash : The part of the total ash remaining after treatment with hot water under the conditions specified in this International Standard.

4 Principle

Extraction of the total ash, obtained by the procedure specified in ISO 928, with hot water, filtration through ashless filter paper, ignition and weighing of the residue.

5 Apparatus

5.1 Muffle furnace, capable of being controlled at 550 ± 25 °C.

5.2 Steam bath.

5.3 Filter paper, ashless, medium-fine.

5.4 Desiccator, provided with an efficient desiccant.

5.5 Analytical balance.

6 Procedure

6.1 Test portion

6.1.1 If the ash retained from the determination of total ash (see ISO 928) is used for the determination of water-insoluble ash, the test portion is that used for the determination of total ash.

6.1.2 Alternatively, take a new test portion and prepare the total ash by the procedure specified in ISO 928. It is not necessary, in this case, to cool and weigh the total ash.

6.2 Determination

Add distilled water, or water of at least equivalent purity, to the total ash, in the same dish in which it was prepared, and heat until nearly boiling. Filter through the filter paper (5.3) and wash the filter paper with hot water until the combined filtrate and washings measure about 60 ml. Return the filter paper and the contents to the dish, evaporate the water carefully on the steam bath (5.2) and ignite in the muffle furnace (5.1) at 550 °C. Cool in the desiccator (5.4) and weigh. Ignite again for 1 h, cool and weigh to the nearest 0,001 g. Repeat the operations of igniting for 1 h, cooling and weighing until the difference in mass between two successive weighings is less than 0,001 g. Note the lowest mass. This residue may be used for the determination of acid-insoluble ash.

7 Expression of results

7.1 The water-insoluble ash, expressed as a percentage by mass, on the dry basis, is equal to :

$$(m_3 - m_0) \times \frac{100}{m_1 - m_0} \times \frac{100}{100 - H}$$

where

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

m_1 is the mass, in grams, of the dish and test portion (see 6.1);

m_3 is the mass, in grams, of the dish and water-insoluble ash;

H is the moisture content, expressed as a percentage by mass, of the sample of spice or condiment as received.

7.2 Calculate the mean of two determinations and express the result to one decimal place.

8 Test report

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

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