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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Tea — Determination of total ash

Thé — Détermination des cendres totales

Reference number
ISO 1575 : 1987 (E)

Foreword

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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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1575 was prepared by Technical Committee ISO/TC 34, *Agricultural food products.*

This third edition cancels and replaces the second edition (ISO 1575 : 1980), of which it constitutes a minor revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Tea — Determination of total ash

1 Scope and field of application

This International Standard specifies a method for the determination of the total ash from tea.

2 References

ISO 1572, *Tea — Preparation of ground sample of known dry matter content.*

ISO 1576, *Tea — Determination of water-soluble ash and water-insoluble ash.*

ISO 1577, *Tea — Determination of acid-insoluble ash.*

3 Definition

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

total ash : The residue obtained after incineration at 525 ± 25 °C under the conditions specified in this International Standard.

4 Principle

Destruction of organic matter by heating at 525 ± 25 °C to constant mass.

5 Apparatus

Usual laboratory apparatus, and the following items :

5.1 Dish, of capacity 50 to 100 ml, made of platinum, porcelain or other material unaffected by the conditions of the test.

NOTE — It is considered that silica dishes are unsuitable for use with this test.

5.2 Furnace, capable of being controlled at 525 ± 25 °C.

5.3 Steam bath.

5.4 Hot-plate.

5.5 Desiccator, containing an efficient desiccant.

5.6 Analytical balance.

6 Sample

Use a ground sample of known dry matter content, prepared as specified in ISO 1572.

7 Procedure

7.1 Preparation of the dish

Heat the dish (5.1) for 1 h in the furnace (5.2) at 525 ± 25 °C. Cool in the desiccator (5.5). After cooling, weigh to the nearest 0,001 g.

7.2 Test portion

Weigh, to the nearest 0,001 g, about 5 g of the ground sample into the prepared dish (7.1). (See ISO 1572.)

7.3 Determination

7.3.1 Heat the test portion in the dish, at a temperature near 100 °C until the moisture is expelled. Transfer the dish to the furnace (5.2) and heat at 525 ± 25 °C until the ash is visibly free from carbon particles (at least 2 h is usually required). Allow to cool, then moisten the ash with distilled water, dry it on the steam bath (5.3) and then on the hot-plate (5.4). Return the dish to the furnace for 60 min, cool in the desiccator and weigh. Heat again in the furnace for 30 min, cool and weigh. Repeat these operations, if necessary, until the difference between two successive weighings does not exceed 0,001 g.

7.3.2 Reserve the total ash for determination of water-soluble ash and water-insoluble ash (see ISO 1576), or of acid-insoluble ash (see ISO 1577), if required.

7.4 Number of determinations

Carry out two separate determinations on the same ground sample (clause 6).

8 Expression of results

8.1 Method of calculation and formula

The total ash yielded by the ground sample, expressed as a percentage by mass on the dry basis, is given by the formula

$$m_1 \times \frac{100}{m_0} \times \frac{100}{RS}$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the total ash;

RS is the dry matter content, as a percentage by mass, of the ground sample, determined in accordance with ISO 1572.

Take as the result the arithmetic mean of the two determinations, provided that the requirement for repeatability (see 8.2) is satisfied.

8.2 Repeatability

The difference between the results of two determinations, carried out simultaneously or in rapid succession by the same analyst, shall not exceed 0,2 g of total ash per 100 g of ground sample.

9 Test report

The test report shall show the method used and the result obtained. It shall also mention any operating details 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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