International Standard 1572

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Tea — Preparation of ground sample of known dry matter content

Thé — Préparation d'un échantillon broyé de teneur en matière sèche connue

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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.

International Standard ISO 1572 was developed by Technical Committee ISO/TC 34, *Agricultural food products.*

This second edition 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 the first edition (i.e. ISO 1572-1975), which had been approved by the member bodies of the following countries :

Australia	Hungary	Romania
Brazil	India	South Africa, Rep. of
Canada	Iran	Spain
Chile	Israel	Sri Lanka
Colombia	Korea, Rep. of	Thailand
Czechoslovakia	Netherlands	Turkey
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France	Portugal	USSR

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

USA

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Tea — Preparation of ground sample of known dry matter content

1 Scope and field of application

This International Standard specifies a method of preparing a ground sample of tea and of determining its dry matter content, for use in analytical determinations which require the results to be expressed on the dry basis.

2 References

ISO 565, *Test sieves — Woven metal wire cloth and perforated plate — Nominal sizes of apertures.*

ISO 1839, *Tea — Sampling.*

3 Definition

For the purpose of this International Standard, the following definition applies :

dry matter : The matter remaining when a ground sample of the product is heated to constant mass under the conditions specified.

4 Principle

Grinding of the sample, and determination of the dry matter content of the ground sample by heating a test portion in an oven at 103 ± 2 °C to constant mass.

5 Apparatus

Usual laboratory apparatus not otherwise specified, and the following items :

5.1 Grinding mill, having the following characteristics :

— made of material which does not absorb moisture;

— easy to clean and having as little dead space as possible;

— adjusted so as to produce particles which will pass completely through a sieve of aperture size 500 µm (see ISO 565).

5.2 Sample container, clean, dry, airtight, made of glass or other suitable material which has no action on the sample and of such a size that it will be nearly completely filled by the ground sample.

5.3 Weighing bottle, squat form, with airtight lid.

5.4 Constant-temperature oven, capable of being controlled at 103 ± 2 °C.

5.5 Desiccator, containing an efficient desiccant.

5.6 Analytical balance.

6 Sampling

Sample the tea in accordance with ISO 1839.

7 Preparation of ground sample

Using the grinding mill (5.1), grind a small quantity of the sample and reject it, then quickly grind an amount slightly greater than that required for the specified tests and for the determination of dry matter content.

If the moisture content is too high for satisfactory grinding of the sample to the fineness specified in 5.1, it is necessary to pre-dry a portion of the sample to be ground, in an oven to a sufficient degree of dryness. Carry out the grinding after the pre-dried sample has been allowed to cool.

Transfer the grindings to the previously dried sample container (5.2) and immediately close the latter.

8 Determination of dry matter content of ground sample

8.1 Preparation of weighing bottle

Remove the lid from the weighing bottle (5.3) and heat both for 1 h in the oven (5.4) at 103 ± 2 °C. Cool in the desiccator (5.5). After cooling, fit the lid and weigh to the nearest 0,001 g.

8.2 Test portion

Weigh, to the nearest 0,001 g, about 5 g of the ground sample in the prepared weighing bottle (8.1).

8.3 Determination

Heat the weighing bottle and contents, with the lid removed but alongside the bottle, in the oven (5.4) at 103 ± 2 °C for 6 h. Cool in the desiccator (5.5), fit the lid and weigh. Return the bottle and its lid to the oven and heat again for 1 h, cool in the desiccator, fit the lid, and weigh, repeating these operations if necessary, until the difference between two successive weighings does not exceed 0,005 g.

8.4 Number of determinations

Carry out two separate determinations on the same ground sample (clause 7).

8.5 Note on drying procedure

In general, a single 16 h period in the oven at 103 ± 2 °C gives equivalent results, but it is the responsibility of the analyst to confirm this in each particular case.

8.6 Expression of results

8.6.1 Method of calculation and formula

The dry matter content of the ground sample, RS, expressed as a percentage by mass, is given by the formula

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

where

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

m_1 is the mass, in grams, of the dried test portion.

Take as the result the arithmetic mean of the two determinations, provided that the requirement for repeatability (see 8.6.2) is satisfied.

8.6.2 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 g of dry matter per 100 g of sample.