International Standard 1839

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Tea — Sampling

Thé — Échantillonnage

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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 1839 was developed by Technical Committee ISO/TC 34, *Agricultural food products*. It is the result of the combination into one single document of the revision of International Standards ISO 1839/1-1975 and 1839/2-1976 and draft International Standard ISO/DIS 1839/3, which was submitted to member bodies in February 1977, and which was approved by the member bodies of the following countries :

Austria	India	Romania
Canada	Iran	South Africa, Rep. of
Chile	Israel	Thailand
Egypt, Arab Rep. of	Korea, Rep. of	Turkey
France	Mexico	United Kingdom
Ghana	New Zealand	USA
Hungary	Poland	Yugoslavia

The member bodies of the following countries expressed disapproval of the draft International Standard on technical grounds :

Australia
Ireland

International Standard ISO 1839/1-1975 had been approved by the member bodies of the following countries :

Australia	Hungary	Poland
Brazil	India	Portugal
Chile	Iran	Romania
Czechoslovakia	Israel	South Africa, Rep. of
Egypt, Arab Rep. of	Korea, Rep. of	Sri Lanka
France	Netherlands	Thailand
Germany, F. R.	New Zealand	Turkey
Greece	Peru	United Kingdom

International Standard ISO 1839/2-1976 had been approved by the member bodies of the following countries :

Austria	Germany, F. R.	Portugal
Belgium	Hungary	Romania
Brazil	India	South Africa, Rep. of
Bulgaria	Iran	Turkey
Canada	Israel	United Kingdom
Chile	Mexico	USA
Czechoslovakia	Netherlands	Yugoslavia
Egypt, Arab Rep. of	New Zealand	
France	Poland	

No member body had expressed disapproval of these International Standards.

This first edition cancels and replaces International Standards ISO 1839/1-1975 and ISO 1839/2-1976.

Tea — Sampling

1 Scope and field of application

This International Standard specifies methods for the sampling of tea.

It applies to sampling from containers of all sizes.

2 Definitions

For the purpose of this International Standard the following definitions apply.[1)]

2.1 consignment : The quantity of goods despatched or received at one time and covered by a particular contract or shipping document. The consignment may be made up of one or more lots or parts of lots.

2.2 lot; break : A defined quantity of tea, intended to be uniform.

2.3 primary sample[2)] : A small quantity of tea, taken at one time from one point in a single container, or, where appropriate, the whole contents of one container in the lot (in the case of containers containing less than 1 kg of tea) (see 5.3).

NOTE — A series of primary samples is taken from different positions in the lot.

2.4 bulk sample : The quantity of tea obtained by bringing together the primary samples taken from different positions in the lot and which is representative of the quality of the lot (see 5.4).

2.5 laboratory sample : A prescribed quantity of tea taken from the bulk sample, representative of the quality of the lot and intended for analysis or other examination (see 5.5).

3 Apparatus

3.1 Spoons, scoops, borers or **other instruments,** suitable for taking samples from the interior of containers.

3.2 Dividing apparatus, suitable for the purpose of reducing the bulk sample to obtain the laboratory samples.

4 General

4.1 Sampling shall be carried out by persons appointed by buyers and sellers and, if desired, in the presence of the buyer (or his representatives) and the seller (or his representatives).

4.2 Sampling shall be carried out in a covered place, in such a manner that the samples of tea, the sampling instruments and the sample containers are protected from adventitious contamination and other factors likely to affect the samples, for example moisture, dust, radiation, etc.

Special care is necessary to ensure that the sampling instruments are clean and dry, and do not impart any foreign odour to the sample.

4.3 Handling of the sample (for example combining of primary samples into the bulk sample, packaging of the sample) shall be carried out with care in order to avoid changing the original characteristics of the tea.

4.4 If examination of primary samples shows that the lot is not uniform within the definition of "lot" (2.2), the sampling shall be discontinued and reference made back to the person who ordered the sampling to be carried out.

1) The terms and definitions in this clause take cognizance of, but are not identical with, those in ISO 3534, *Statistics — Vocabulary and symbols.*

2) In ISO 3534 the term "increment" is used for this concept, but this term is not used in sampling in the tea trade.

5 Sampling from containers

5.1 Number of containers to be sampled

5.1.1 Containers containing more than 20 kg of loose tea[1] (for example, tea chests)

In the case of containers containing more than 20 kg of loose tea, the minimum number of containers to be sampled from a lot shall be as shown in table 1.

Table 1

Number of containers in lot	Number of containers to be sampled
2 to 10	2
11 to 25	3
26 to 100	5
101 and over	7

5.1.2 Containers containing not more than 1 kg of loose tea

In the case of containers containing not more than 1 kg of loose tea, the minimum number (see 5.3) of containers to be sampled from a lot shall be as shown in table 2, provided that the mass specified for each laboratory sample is obtained.

Table 2

Number of containers in lot	Number of containers to be sampled
up to 25	3
26 to 100	5
101 to 300	7
301 to 500	10
501 to 1 000	15
1 001 to 3 000	20
3 001 and over	25

5.1.3 Containers containing 1 to 20 kg of loose tea

The minimum number of containers to be sampled from a lot shall be that shown in table 1 or table 2 according to agreement between the interested parties.

5.2 Procedure for random sampling

The containers to be sampled shall be taken at random, and, for this purpose, use should be made of random number tables. If such tables are not available, the following procedure may be used :

Let N be the number of containers in the lot and n the number of containers to be taken. Starting from any container, count the containers in order as 1, 2, ..., etc. up to r, where $r = N/n$. (If N/n is not a whole number, take r as the integral part of it). Select the r^{th} container as a sample. Continue counting and selecting every r^{th} container, until the required number of containers has been taken.

In the case of containers containing less than 1 kg of loose tea, if the containers are packed in outer cases, cartons or crates containing a convenient number of units, approximately 20 % (but, not fewer than two) of the outer packages shall be taken at random. From these, small containers shall be taken in equal numbers, at random, so as to make up the required number of containers to be sampled, as specified in 5.1.2.

5.3 Primary samples

5.3.1 Containers containing more than 20 kg of loose tea

In the case of containers containing more than 20 kg of loose tea, take, by means of the apparatus mentioned in 3.1, a primary sample of 50 g, representative of the contents, from each container taken from the lot as described in 5.2.

NOTE — In most cases it would be impracticable and purposeless to re-blend the contents of a large container of tea with a view to obtaining a fully representative sample, and a sample taken in the ordinary way, by boring or after opening the container, is sufficiently representative. In special cases, however, for example if tea dust or other adventitious powder is present as an impurity, exceptional measures may be required, especially when the tea is sampled for chemical analysis.

5.3.2 Containers containing not more than 1 kg of loose tea

5.3.2.1 If the amount of tea in each container taken from the lot as described in 5.2 does not exceed 50 g, each of the containers shall constitute a primary sample.

5.3.2.2 If the amount of tea in each container exceeds 50 g, it shall be carefully mixed and a primary sample of 50 g shall then be taken by means of the apparatus mentioned in 3.1.

5.3.2.3 If the amount of tea in each container is less than 100 g, select a sufficient number of containers to obtain the minimum mass for each laboratory sample as specified in 5.5.

5.3.3 Containers containing 1 to 20 kg of loose tea

If appropriate, i.e. particularly in the case of smaller containers within the range 1 to 20 kg, the contents of the container shall be well mixed. Then, by means of the apparatus mentioned in 3.1, a primary sample of 50 g, representative of the contents, shall be taken from each container selected, as described in 5.3.2.2. Otherwise proceed as described in 5.3.1.

1) "Loose tea" means tea in containers not otherwise packeted.

5.4 Bulk sample

5.4.1 Form the bulk sample by bringing together the primary samples.

5.4.2 If the primary samples consist of loose material, combine them to constitute the bulk sample (see 5.5.1).

5.4.3 If the primary samples consist of intact pre-packed units, the whole shall form the bulk sample and shall be forwarded for examination unless a different procedure is agreed.

5.5 Laboratory samples

5.5.1 If the bulk sample is formed by combining primary samples of loose material, it shall be well mixed and then divided down to the required number of laboratory samples.

NOTE — Replicate samples will be often required, for example as duplicate or reference samples, and in general the number and size of the laboratory samples to be taken for examination and arbitration shall conform to the recognized trade practices, unless otherwise agreed.

5.5.2 If the bulk sample consists of unopened single containers, the latter shall be used as laboratory samples unless the contracting parties agree on an alternative procedure.

5.5.3 The size of each laboratory sample shall be not less than 100 g for the purposes of chemical analysis and not less than 50 g for sensory tests, unless otherwise agreed.

6 Packaging and labelling of samples

6.1 Packaging of samples

Samples shall be packed in clean, dry, odour-free aluminium or tin-plate containers with close-fitting lids, of such a size that they are almost completely filled by the sample. It is imperative that containers for samples for sensory tests are seasoned[1] to avoid taint. The samples shall be protected from light during storage.

Samples for the determination of moisture content shall be packed in air-tight and moisture-tight containers, fitted with air-tight and moisture-tight closures. The containers shall be completely filled and the closures shall be sealed to prevent loosening or tampering.

NOTE — Owing to the hygroscopic character of tea, it is essential to transfer the samples to their containers as promptly as possible.

6.2 Labelling of samples

Each sample container shall carry a label marked with full details of the place and date of sampling, the name of the estate or of the blend, the invoice and lot number, the name of the sampler and any other important particulars relating to the consignment, for example the specie (grade).

7 Despatch of samples

Samples shall be despatched as soon as possible and only in exceptional circumstances more than 48 h after sampling has been completed, non-business days excluded.

8 Sampling report

If a sampling report is prepared, it is recommended that reference should be made to any unusual appearance of the container, and all the circumstances that may have influenced the sampling. It shall include the following details :

a) place of sampling;

b) date of sampling;

c) time of sampling, and time of subsequent sealing of sample containers;

d) names and descriptions of sampling personnel and witnesses;

e) identification of the method used, and any modifications to the technique described;

f) nature and number of units constituting the lot, and reference to relevant documents and details of marking;

g) number of samples and their identification (markings, batch number, etc.);

h) destination of samples;

j) condition of packages and surroundings;

k) if required, atmospheric conditions during sampling, including relative humidity.

1) Seasoning of sample containers involves exposure of the inside to the atmosphere ("airing off") or storage with tea of the same type as the sample before use to eliminate taint whether from the container itself or from tea previously contained in it.

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