International Standard 1577

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

Tea — Determination of acid-insoluble ash

Thé — Détermination des cendres insolubles dans l'acide

First edition — 1980-08-15

UDC 663.95 : 543.8

Ref. No. ISO 1577-1980 (E)

Descriptors : agricultural products, tea, tests, determination of content, ashes.

Price based on 2 pages

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 1577 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 1577-1970, which had been approved by the member bodies of the following countries :

Australia
Brazil
Canada
Chile
Colombia
Czechoslovakia
Egypt, Arab Rep. of
France
Hungary
India
Iran
Israel
Korea, Rep. of
Poland
Portugal
Romania
South Africa, Rep. of
Spain
Thailand
Turkey
United Kingdom
USSR

The member bodies of the following countries had expressed disapproval of the document on technical grounds :

Netherlands
Sri Lanka
USA

Printed in Switzerland

Tea — Determination of acid-insoluble ash

1 Scope and field of application

This International Standard specifies a method for the determination of the acid-insoluble ash from tea.

2 References

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

ISO 1575, *Tea — Determination of total ash.*

3 Definition

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

acid-insoluble ash : The part of the total ash, obtained in accordance with ISO 1575, remaining after treatment with hydrochloric acid solution under the conditions specified.

4 Principle

Treatment of the total ash with hydrochloric acid solution, filtration, ignition and weighing of the residue.

5 Reagents

All reagents shall be recognized analytical grade. The water used shall be distilled water or water of equivalent purity.

5.1 Hydrochloric acid solution.

Dilute 1 volume of concentrated hydrochloric acid (ϱ_{20} 1,16 to 1,18 g/ml) with 2,5 volumes of water.

WARNING — Concentrated hydrochloric acid is corrosive, has an irritant vapour and causes burns.

5.2 Silver nitrate, approximately 17 g/l solution.

6 Apparatus

Usual laboratory apparatus, and the following items :

6.1 Dish, of capacity 50 to 100 ml, used for the determination of total ash.

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

6.3 Boiling water bath.

6.4 Filter paper, ashless.

6.5 Desiccator, containing an efficient desiccant.

6.6 Analytical balance.

7 Procedure

7.1 Test portion

See ISO 1575.

7.2 Determination

To the total ash obtained as described in ISO 1575, contained in the dish (6.1), add 25 ml of the hydrochloric acid solution (5.1). Cover the dish with a watch glass to prevent spattering, and boil gently the solution for 10 min. Allow to cool and filter the contents of the dish through the filter paper (6.4). Wash the dish and the filter paper with hot water until the washings are free from the acid, as confirmed by the silver nitrate solution (5.2). Return the filter paper and contents to the dish, evaporate the water carefully on the boiling water bath (6.3) and heat in the furnace (6.2) controlled at 525 ± 25 °C, until the residue is free from visible carbon particles. Cool the dish in the desiccator (6.5) and weigh. Heat again in the furnace for 30 min, allow to cool and weigh; repeat these operations, if necessary, until the difference between two successive weighings does not exceed 0,001 g. Note the lowest mass.