

International Standard



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Fruits, vegetables and derived products — Determination of alcohol-insoluble solids content — Part 1: Method for fresh or quick-frozen maize

Fruits, légumes et produits dérivés — Détermination de la teneur en résidu insoluble dans l'alcool — Partie 1: Méthode pour les maïs frais ou congelés

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

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Fruits, vegetables and derived products — Determination of alcohol-insoluble solids content — Part 1: Method for fresh or quick-frozen maize

1 Scope and field of application

This part of ISO 8129 specifies a method for the determination of the alcohol-insoluble solids content of fresh or quick-frozen maize, and whole kernel maize.

2 Definition

alcohol-insoluble solids content: The whole of the substances determined by the method specified in this International Standard and expressed as a percentage by mass.

NOTE — The alcohol-insoluble solids content is used as a guide to maturity.

3 Principle

Boiling a test portion with ethanol, followed by filtration and washing the solids with ethanol until the filtrate is clear. Drying the alcohol-insoluble solids and weighing.

4 Reagents

All reagents shall be of recognized analytical grade and the water used shall be distilled water or water of at least equivalent purity.

4.1 Ethanol, 95 % (V/V), denatured with 5 % (V/V) methanol.

4.2 Ethanol, 80 % (V/V).

Dilute 8 volumes of the ethanol (4.1) with 1,5 volumes of water.

5 Apparatus

Usual laboratory equipment, and in particular:

5.1 Analytical balance.

5.2 Flask, of capacity 500 ml, with a standard taper ground-glass joint, fitted with a **reflux condenser.**

5.3 Buchner funnel.

5.4 Drying dish, flat bottomed, with a close fitting lid.

5.5 Boiling water-bath.

5.6 Desiccator, containing freshly activated dry silica gel, or an equivalent desiccant, with a water content indicator.

5.7 Oven, well ventilated, thermostatically controlled at 100 ± 2 °C.

5.8 Filter paper.¹⁾

5.9 Macerator or blender.

5.10 Water-bath, with continuous flow at room temperature, or maintained at room temperature.

5.11 Vacuum pump or water aspirator.

6 Procedure

6.1 Preparation of the test sample

6.1.1 Allow frozen or deep-frozen products to thaw in the water-bath (5.10) in a closed vessel, and add the liquid formed during this process to the product before homogenization.

Remove whole grains from the cob using a suitable instrument, taking care not to damage individual grains. Spread the grains on a white background and remove silk, husk cob and other extraneous vegetable material. By successive coning and quartering operations, reduce the sample to a representative sub-sample of mass approximately 100 g.

For whole kernel maize, take a representative test sample of mass 100 g.

1) Suitable filter paper, available commercially, is Whatman No. 1. This information is given for the convenience of the user of this International Standard and does not constitute an endorsement of this product by ISO.