
**Rice — Determination of amylose
content —**

**Part 1:
Reference method**

*Riz — Détermination de la teneur en amylose —
Partie 1: Méthode de référence*



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 34, *Food products*, Subcommittee SC 4, *Cereals and pulses*.

This second edition cancels and replaces the first edition (ISO 6647-1:2007), of which it constitutes a minor revision.

ISO 6647 consists of the following parts, under the general title *Rice — Determination of amylose content*:

- *Part 1: Reference method*
- *Part 2: Routine methods*

Rice — Determination of amylose content —

Part 1: Reference method

1 Scope

This part of ISO 6647 specifies a reference method for determining calibration values for standards that will be used to make a standard curve for the quantification of amylose content in milled, non-parboiled rice in the range of amylose content from 0 % to 30 %.

2 Normative references

No normative references cited in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

amylose

molecules consisting of linear chains containing more than 200 linked glucose units

3.2

amylopectin

molecules consisting of branched chains ranging from 6 to 100 linked glucose units

3.3

waxy rice

waxy rice contains no chains of length consistent with being amylose

4 Principle

The linear chains of starch are separated on the basis of hydrodynamic volume and molecular weight by size exclusion chromatograph.^[2] Flour is gelatinised in a solution of sodium hydroxide and the molecules of starch in the solution are debranched with isoamylase,^{[1][2]} The linear chains are separated by size exclusion chromatography (SEC), and the proportion of amylose chains is calculated by the area under the amylose peak relative to the full detector response.

5 Reagents

All the reagents used shall be of recognized analytical quality and the water used shall be distilled, or demineralised water, or water of equivalent purity.

5.1 Ethanol, 95 % (v/v).

5.2 Sodium hydroxide, 0,25 mol/l solution.

5.3 Glacial acetic acid.