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Wheat and wheat flour — Gluten content —

Part 2: Determination of wet gluten and gluten index by mechanical means

Blé et farines de blé — Teneur en gluten —

Partie 2: Détermination du gluten humide et du gluten index par des moyens mécaniques

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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.

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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 of ISO 21415-2 cancels and replaces the first edition (ISO 21415-2-2006) which has been technically revised.

ISO 21415 consists of the following parts, under the general title *Wheat and wheat flour — Gluten content*:

— *Part 1: Determination of wet gluten by a manual method*

— *Part 2: Determination of wet gluten and gluten index by mechanical means*

— *Part 3: Determination of dry gluten from wet gluten by using an oven-drying method*

— *Part 4: Determination of dry gluten from wet gluten by a rapid drying method*

Introduction

The alternative techniques specified in this part of ISO 21415 and in ISO 21415-1 for isolation of wet gluten (i.e. manual extraction and mechanical extraction) do not generally yield equivalent results. The reason for this is that for full development of the gluten structure the dough needs to be allowed to rest. Hence, the result obtained by manual extraction is usually greater than that obtained by mechanical extraction, especially in the case of wheat with high gluten content. Therefore, the test report should always state the technique used.

Wheat and wheat flour — Gluten content —

Part 2: Determination of wet gluten and gluten index by mechanical means

1 Scope

This part of ISO 21415 specifies a method for determining the content of wet gluten and the gluten index for wheat flours (*Triticum aestivum* L. and *Triticum durum* Desf.) by mechanical means. This method is directly applicable to flours. It also applies to common and durum wheat after grinding, if their particular size distribution meets the specification given in Table B.1.

2 Terms and definitions

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

2.1
wet gluten
viscoelastic substance consisting mainly of two protein fractions (gliadin and glutenin) in hydrated form, obtained in the way indicated in this part of ISO 21415 or in ISO 21415-1

2.2
gluten index
proportion of wet gluten remaining on the sieve after centrifugation

Note 1 to entry: The higher the index, the stronger the gluten is.

2.3
ground wheat
result of experimental grinding of whole wheat with the granulometry cited in Table B.1

2.4
flour
finely ground wheat endosperm with a granulometry of less than 250 µm

3 Principle

Preparation of a paste from a sample of flour or of ground wheat and a sodium chloride solution in the equipment's chamber; separation of the wet gluten by washing this paste with a sodium chloride solution, followed by removal of excess washing solution by centrifugation and weighing the residue. The gluten index is obtained after centrifuging to force the wet gluten through a special sieve. The percentage of wet gluten remaining on the sieve after centrifuging is defined as the gluten index.

4 Reagents

Use only reagents of recognized analytical grade, unless otherwise specified and distilled or demineralized water, or water of equivalent purity.