International Standard **ISO** 7304

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

Durum wheat semolinas and alimentary pasta — Estimation of cooking quality of spaghetti by sensory analysis

Semoules de blé dur et pâtes alimentaires — Appréciation de la qualité culinaire des spaghetti par analyse sensorielle

First edition — 1985-04-15

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.

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.

International Standard ISO 7304 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*.

Durum wheat semolinas and alimentary pasta — Estimation of cooking quality of spaghetti by sensory analysis

1 Scope and field of application

This International Standard specifies a method for the estimation, by sensory analysis, of the cooking quality of alimentary pasta in the form of spaghetti, expressed by the surface condition and firmness characteristics.

The method applies only to the estimation of the cooking quality of spaghetti. This type of product is specified, because its geometrical shape is that which best illustrates the qualities obtained from a specific industrial or experimental durum wheat semolina.

NOTE — This method may also be applied to spaghetti made of common wheat or a mixture of common wheat and durum wheat as long as the appropriate national regulations allow these products to be used in alimentary pasta.

In particular, this method has been elaborated to establish a reference against which the results obtained by instrumental or practical methods of sensory analysis can be compared, with a view to perfecting, accepting or checking such methods.

2 References

ISO 4120, *Sensory analysis — Methodology — Triangular test.*

ISO 5492, *Sensory analysis — Vocabulary.*

3 Definitions

For the purpose of this International Standard, the definitions of the various parts of ISO 5492, and the following, apply.

3.1 surface condition : Condition of superficial disintegration of cooked pasta. It can be assessed visually using reference photographs.

3.2 firmness : Resistance to cutting between the teeth and to crushing between the tongue and the palate.

4 Principle

Determination of a minimum cooking time and calculation of two experimental cooking times for each sample.

Sensory analysis of at most six samples presented in pairs to a panel of at least six qualified assessors.

Classification and scoring of the samples according to their surface condition and firmness.

5 Reagents

Use only reagents of recognized analytical grade.

5.1 Artificially hardened water, prepared as follows.

Weigh 1,465 6 g of anhydrous calcium oxide and 0,297 4 g of magnesium oxide, then put them in suspension in 10 l of distilled or deionized water.

Bubble through carbon dioxide, previously washed by passing through distilled water, from a Kipp's apparatus or a cylinder under pressure, until complete dissolution of the calcium and magnesium oxides (see figure 1). The dissolution of the oxides is very slow and requires 10 days of bubbling. If the solution is not clear after 10 days, filter it.

Then check that the pH is about 6 and that the calcium and magnesium content (hardness of the water) is equal to 3,2 mmol/l of calcium carbonate.

NOTE — During cooking, excess carbon dioxide (unreacted) is eliminated and the pH stabilizes at about 8.

5.2 Sodium chloride.

6 Apparatus

6.1 Pans, thick bottomed, of diameter about 17 cm, and of capacity 2,5 l.

6.2 Two electric heating devices, equipped with a plate of diameter about 19 cm and output about 1 500 W. This output should, on the one hand, allow 2 l of water in a pan (6.1) to be brought from 20 to 100 °C in 10 to 14 min and, on the other hand, allow the water to be maintained at boiling point without further adjustment of the output.

6.3 Crushing plate, of transparent plastic, of thickness 3 mm, in conformity with figure 2.

6.4 Sieve, of aperture size 2 mm and approximately 20 cm in diameter.

6.5 White plates, identical, a sufficient number for the tests.

1