International Standard 6756

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

Decorticated stone pine nuts — Specification

Pignons décortiqués — Spécifications

First edition — 1984-06-01

UDC 664.854 : 634.2 **Ref. No. ISO 6756-1984 (E)**

Descriptors : agricultural products, nuts (food), pine nuts, specifications, tests, determination of content, water, spoilt products, packing, marking.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

International Standard ISO 6756 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in January 1983.

It has been approved by the member bodies of the following countries:

Austria	Italy	South Africa, Rep. of
Canada	Korea, Dem. P. Rep. of	Turkey
Czechoslovakia	Korea, Rep. of	USSR
Hungary	Poland	Yugoslavia
India	Portugal	
Iran	Romania	

No member body expressed disapproval of the document.

Printed in Switzerland

Decorticated stone pine nuts — Specification

1 Scope and field of application

This International Standard specifies requirements for decorticated stone pine nuts, obtained from the stone pine tree (*Pinus pinea* Linnaeus), for human consumption. It does not apply to roasted or processed decorticated stone pine nuts.

2 Definitions

For the purpose of this International Standard, the following definitions apply.

2.1 pest-infested decorticated stone pine nuts: Kernels damaged by insect infestation and/or infestation by other animal pests.

2.2 rodent-damaged decorticated stone pine nuts: Kernels damaged by rodents.

2.3 spoiled decorticated stone pine nuts: Rancid, fermented, mouldy, rotten, crushed, pest-infested and rodent-damaged kernels and kernels stained red or black.

2.4 broken decorticated stone pine nuts: Kernels which are not whole, but of which less than half of the kernel is missing.

2.5 pieces of kernels: Broken pieces smaller than half of a kernel.

2.6 shrivelled kernels: Undeveloped and misshapen kernels.

2.7 soft kernels: Kernels which, when pressed between thumb and forefinger, can be easily crushed.

2.8 brittle kernels: Kernels which, when pressed between thumb and forefinger, can be easily broken.

2.9 kernels of different type and origin: Kernels which are distinguishable by their shape, especially the shape of their tips, their size, colour and other properties (for example brittleness or softness).

2.10 moisture content (of decorticated stone pine nuts): The quantity of water distilled and collected by the method specified in annex B of this International Standard, and expressed as a percentage by mass.

3 Description and grading

Decorticated stone pine nuts are dry kernels of the seeds of *Pinus pinea* Linnaeus. The kernels should be sound, clean, well developed and dried. Their integuments should be stripped off. They should have characteristic shape and colour (from light to dark ivory or dirty yellow) according to type and origin. Kernels should not be soft and brittle.

They may be graded according to type and origin.

4 Requirements

4.1 Odour and taste

The odour and taste of the decorticated stone pine nuts shall be characteristic. The kernels shall be free from foreign odour and taste.

4.2 Freedom from moulds, insects, etc.

Decorticated stone pine nuts shall be free from living insects and/or other animal pests and shall be practically free from moulds, dead insects and insect fragments visible to the naked eye (corrected, if necessary, for abnormal vision) or with such magnification as may be necessary in any particular case. If the magnification exceeds X 10, this fact shall be stated in the test report.

4.3 Extraneous matter

The proportion of extraneous matter, such as dust, sand, stones, dirt, pieces of shell and integument or pieces of cortex (shell) or any other foreign matter among the decorticated stone pine nuts shall not exceed the value given in the table.

4.4 Spoiled (including pest-infested and rodent-damaged) decorticated stone pine nuts

The proportion of spoiled kernels shall not exceed the value given in the table.

4.5 Broken decorticated stone pine nuts and pieces of kernels

The proportion of broken decorticated stone pine nuts and pieces of kernels shall not exceed the value given in the table.

4.6 Shrivelled kernels

The proportion of shrivelled kernels shall not exceed the value given in the table.

4.7 Kernels of different type and origin

The proportion of kernels of different type and origin shall not exceed the value given in the table.

4.8 Moisture content

The moisture content of the decorticated stone pine nuts shall not exceed 8 % (m/m).

Table — Requirements for decorticated stone pine nuts

Characteristic	Requirement
Extraneous matter, % (m/m) max.	0,7
Spoiled decorticated stone pine nuts, % (m/m) max.	1,5
Broken decorticated stone pine nuts and pieces of kernels, % (m/m) max.	10,0
Shrivelled kernels, % (m/m) max.	1,0
Kernels of different type and origin, % (m/m) max.	15,0

5 Sampling

Methods of sampling dry and dried fruit and vegetable products will form the subject of a future International Standard.

6 Methods of test

Samples of decorticated stone pine nuts shall be tested for conformity of the product to the requirements of this International Standard by the methods of test specified in annexes A and B.

7 Packing and marking

7.1 Packing

Decorticated stone pine nuts shall be packed in clean, dry and new cases made of wood, cardboard or other suitable material which does not affect the product. The insides of the cases shall be covered with a suitable paper. Sacks made of jute or any other kind of canvas or woven material shall not be used.

If packed for direct consumption, small consumer packages may be used. The quantities packed in such packages may be 10 — 20 — 50 or 100 g net mass and, if required, more or less. A suitable number of such packages shall be placed in cases made of wood, cardboard or other suitable material. The size of the cases and the number of packages packed in each case shall be agreed between the purchaser and the supplier, but the mass of the cases shall not exceed 15 kg.

7.2 Marking

The following particulars shall be marked or labelled on each container and case:

a) name of the material, and the trademark or brand name, if any;

b) name and address of the manufacturer or packer;

c) batch or code number;

d) net mass (or gross mass, at the request of the importing country);

e) producing country;

f) any other marking required by the purchaser.

Annex A

Determination of contents of spoiled, shrivelled, broken kernels, pieces of kernels and kernels of different type or origin, and extraneous matter content

A.1 Procedure

Weigh, to the nearest 0,01 g, a test portion of about 100 g. Examine the test portion visually and carefully separate the spoiled, shrivelled, broken kernels and the kernels of different type and origin, and extraneous matter, by hand or using tweezers. Weigh each of the categories separately, to the nearest 0,01 g.

A.2 Expression of results

The respective content of each category, expressed as a percentage by mass, is equal to

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the category concerned.

Annex B
Determination of moisture content (Entrainment method)

B.1 Principle

Entrainment of the water present in a test portion, by azeotropic distillation with the aid of an organic liquid not miscible with water, and measurement of the volume of water collected.

B.2 Reagents

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

B.2.1 Toluene or **xylene,** saturated by shaking with a small quantity of water, and distilled.

Use the distillate for the determination.

B.2.2 Cleaning solution: potassium dichromate-sulfuric acid solution.

Dissolve 50 g of potassium dichromate in 50 ml of water and add, slowly and while stirring, 400 ml of sulfuric acid, ϱ_{20} = 1,84 g/ml.

B.3 Apparatus

Usual laboratory equipment, and in particular

B.3.1 Distillation apparatus, comprising the following components fitted together by means of ground glass joints.

B.3.1.1 Flask, short-necked, of capacity at least 300 ml.

B.3.1.2 Reflux condenser, at least 50 cm long.

B.3.1.3 Receiver, with a tube of capacity 4 to 5 ml, graduated in 0,1 ml divisions, interposed between the flask and the condenser.

B.3.2 Mortar and pestle, permitting the kernels to be crushed without generating heat.

B.3.3 Analytical balance.

B.4 Procedure

B.4.1 Preparation of apparatus

Clean the entire apparatus with the cleaning solution (B.2.2) to minimize the adherence of water droplets to the sides of the condenser and receiver. Rinse thoroughly with water and dry completely before use.

B.4.2 Preparation of the test sample

Weigh approximately 60 to 70 g from the laboratory sample, and crush the kernels in the mortar (B.3.2) within 1 min, so that the greatest dimension of the particles does not exceed 3 mm, avoiding the formation of a paste.

B.4.3 Test portion

Weigh, to the nearest 0,01 g, about 50 g of the test sample (B.4.2), such that the quantity of water collected will not exceed 4,5 ml.

B.4.4 Determination

Transfer the test portion quantitatively to the distillation flask (B.3.1.1), add sufficient toluene or xylene (B.2.1) (about 75 ml) to cover the test portion completely and swirl to mix. Assemble the apparatus and fill the receiver (B.3.1.3) with the solvent (B.2.1), pouring it through the condenser (B.3.1.2) until it begins to overflow into the distillation flask. Start the flow of cold water.

Heat the flask so that the distillation rate is about 4 drops per second. Continue heating until all the water has collected in the graduated part of the receiver. Purge the reflux condenser occasionally during the distillation, using 5 ml of the solvent to wash down any moisture adhering to the walls of the condenser or receiver. The water in the receiver may be made to separate from the solvent by occasionally moving a spiral copper wire up and down in the condenser and receiver.

Continue the distillation until the water level in the receiver remains unchanged for 15 min and then stop heating. Immerse the receiver in water at room temperature for at least 15 min or until the solvent layer becomes clear, and then read the volume of water to the nearest 0,1 ml.

B.5 Expression of results

The moisture content, expressed as a percentage by mass, is equal to

$$\frac{100\ V}{m}$$

where

m is the mass, in grams, of the test portion;

V is the volume, in millilitres, of water collected.

NOTE — It is assumed that the density of water is exactly 1 g/ml.

B.6 Test report

The test report shall show the method used and the result obtained. It shall also mention any operating conditions not specified in this International Standard, or regarded as optional, as well as any incidents that may have influenced the result.

The test report shall include all the information necessary for the complete identification of the sample.

This page intentionally left blank