

UNECE STANDARD DF-15
concerning the marketing and commercial
quality control of

DRIED APRICOTS
moving in international trade between and to
UNECE member countries

I. DEFINITION OF PRODUCE

This standard applies to dried apricots obtained with fruit from varieties (cultivars) grown from *Armeniaca vulgaris* Lam (*Prunus armeniaca* L.), that are intended for direct consumption. It does not apply to dried apricots intended for processing or for use in the food industry, except when mixed with other products for direct consumption without further preparation.

Dried apricots may be presented:

- (a) Whole, unpitted;
- (b) Whole, pitted;
- (c) In halves (cut longitudinally into two parts before drying);
- (d) In slabs, made up in pieces of sound apricots of a colour appropriate to their variety, but of irregular shape, size and thickness.

II. PROVISIONS CONCERNING QUALITY

The purpose of the standard is to define the quality requirements of dried apricots at the export control stage after preparation and packaging.

A. Minimum requirements

- (i) In all classes subject to the special provisions for each class, the dried apricots must be:
 - free of living insects or mites whatever their stage of development;
 - free of abnormal external humidity;
 - free of foreign smell and/or taste.¹

and, subject to the tolerances indicated, they must be :

- Whole; the fruit may be pitted or cut (halves or slabs) according to marketing requirements;
- Sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- Preparation from fruit that is sufficiently ripe;
- Clean; practically free from any visible foreign matter;

¹ *A slight smell of sulphur dioxide (SO₂) is not considered "abnormal".*

- Fleshy, with elastic or flexible flesh and very little moist flesh in the pit cavity;
- Free of visible traces of damage by insects, mites or other pests;
- Free of fermentation;
- Free of mould.

The condition of the dried apricots must be such as to enable them

- to withstand transport and handling
- to arrive in satisfactory condition at the place of destination.

(ii) Moisture content

The moisture content² of dried apricots, except for rehydrated dried apricots,³ shall not exceed 22 per cent as a general rule, or 25 per cent when preservatives are used.⁴

(iii) Preservatives may be used, in accordance with the legislation of the importing country. Rehydrated apricots normally contain preservatives.

B. Classification

Dried apricots are classified in three classes defined below:

(i) *"Extra" Class*

Dried apricots in this class must be of superior quality. They must have the characteristics of the variety and/or commercial type, and reasonably uniform colour.^{5 6}

They must be practically free from defects with the exception of very slight superficial defects provided that these do not affect the general appearance of the produce, the quality, the keeping quality or its presentation in the package.

² *The moisture content shall be determined by one of the two methods indicated in Annex I to this document. In case of disagreement, the laboratory reference method shall be used.*

³ *Rehydrated dried apricots may have a moisture content not exceeding 37 per cent, provided that rehydration is indicated on the marking.*

⁴ *Sulphur dioxide (SO₂) is considered a preservative.*

⁵ *This range of colours are considered normal: light yellow; yellow, yellow orange; orange; and dark orange. For extra class a maximum range of three consecutive colours is allowed.*

⁶ *For dried apricots not treated with SO₂ or with a residual content below 500 ppm, darker shades amounting to even a dark brown colour will not be considered as a defect.*

(ii) **Class I**

Dried apricots in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

The following slight defects may be allowed provided that these do not affect the general appearance of the produce, the quality, the keeping quality or its presentation in the package.

- slight defects in colour; ^{5 6}
- slight skin damages.

(iii) **Class II**

This class includes dried apricots which do not qualify for inclusion in the higher classes but which satisfy the minimum quality requirements specified above.

The following defects may be allowed provided that the dried apricots retain their essential characteristic as regards general appearance, quality, keeping quality and presentation:

- defects in colour;
- slight skin injuries (cracks and rubbing).

Slabs may be classified only in Class II.

III. PROVISIONS CONCERNING SIZING

Sizing is determined by the number of fruit per kilogramme (1,000g) according to the following scales:

| Group | Number of whole, unpitted fruit | Number of whole, pitted fruit | Number of fruit halves |
|-------|---------------------------------|-------------------------------|------------------------|
| 1 | Less than 80 | Less than 100 | Less than 200 |
| 2 | 81 – 100 | 101 – 120 | 201 – 240 |
| 3 | 101 – 120 | 121 – 140 | 241 – 280 |
| 4 | 121 – 140 | 141 – 160 | 281 – 320 |
| 5 | 141 – 160 | 161 – 180 | 321 – 360 |
| 6 | 161 – 180 | 181 – 200 | 361 – 400 |
| 7 | 181 – 200 | 201 – 220 | 401 – 440 |
| 8 | 201 and over | 221 and over | 441 and over |

Sizing is compulsory only for dried apricots in the “Extra” class and in class 1.

IV. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the requirements of the class indicated. The tolerances by weight in a minimum sample unit of 1,000g are the following:

A. Quality tolerances

| Permitted defect ⁷ | Tolerances allowed (percentage of defective fruit, by weight) | | |
|--|--|---------|----------|
| | Extra | Class I | Class II |
| Total tolerance | 9 | 15 | 20 |
| (a) Individual defects (within the limits of total tolerances) | | | |
| Substantial defects in colour or texture and heat injury | 5 | 8 | 10 |
| Spotted fruit | 3 | 5 | 10 |
| Lesion and Calluses | 3 | 6 | 8 |
| Rotting | 1 | 1 | 2 |
| Damage or contamination caused by insects and other dead parasites | 1 | 2 | 4 |
| Mouldy fruits | 1 | 1 | 1 |
| Fermentation | 2 | 4 | 5 |
| Dirty fruit | 2 | 5 | 8 |
| Foreign matter and extraneous vegetable material (except pits in pitted fruit) | 0.5 | 0.5 | 0.5 |
| (b) Maximum limits not included in total tolerances: | | | |
| Presence of pits in pitted fruit | 1 | 1 | 2 |
| Presence of slabs among whole fruit and halves | 2 | 4 | 6 |

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Defects are defined in Annex II to this standard.

B. Mineral impurities

Not greater than 1g/kg acid insoluble ash.

C. Size tolerances

In all classes, 25 per cent of the apricots may be of the next larger or next smaller size and 20 per cent of the apricots above this difference.

V. PROVISIONS CONCERNING PRESENTATION

A. Uniformity

The contents of each package must be uniform in colour and contain only dried apricots of the same origin, quality and size (if the produce is sized).

The visible part of the contents of the package must be representative of the entire contents. For "Extra " Class and Class I the fruit must be of the same variety and/or commercial type.

B. Packaging

Dried apricots must be packed in such a way so as to protect the produce properly.

The materials used inside the package must be new, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper and stamps bearing trade specifications is allowed provided the printing or labelling has been done with non-toxic ink or glue.

Packages must be free of all foreign matter.

C. Presentation

Dried apricots must be presented in rigid packaging. The net weight of each package may not exceed 25 kg. The pre-packages within each package must all be of the same weight.

VI. PROVISIONS CONCERNING MARKING

Each package or compartmented package must bear the following particulars in letters grouped on the same side, legibly and indelibly marked and visible from the outside:

A. Identification

Packer) Name and address or officially issued or
and/or) accepted code mark ⁸
Dispatcher)

B. Nature of the produce

- "Dried Apricots", together with the particulars "whole unpitted", "whole pitted", "halves" or "oreillons", or "slabs", if the contents are not visible from the outside.
- "Rehydrated" (when appropriate).

C. Origin of the produce

- Country of origin and, optionally, the district where grown or the national, regional or local place name.

D. Commercial specifications

- class;
- size (if produce is sized);
- crop year(optional);
- net weight, or the number of pre-packages, followed by the unit weight in the case of packages containing pre-packages;
- preservative (if used);
- "Naturally" dried (optional when appropriate);
- "Best by end date" (optional).

E. Official control mark (optional)

Adopted 1996

⁸ *The national legislation of a number of European countries requires the explicit declaration of the name and address.*

ANNEX I**DETERMINATION OF THE MOISTURE CONTENT FOR DRIED FRUIT****METHOD I - LABORATORY REFERENCE METHOD⁹****1. Definition**

The moisture content of dried fruit is defined as being the loss of mass determined under the experimental conditions described in this annex.

2. Principle

The principle of the method is the heating and drying of a sample of dried fruit at a temperature of $70^{\circ}\text{C} \pm 1^{\circ}\text{C}$ at a pressure not exceeding 100 mm Hg.

3. Apparatus

Usual laboratory apparatus is used together with the following items:

- 3.1 Electrically heated constant-temperature oven, capable of being controlled at $70^{\circ}\text{C} \pm 1^{\circ}\text{C}$ at a pressure of 100 mm Hg.
- 3.2 Dishes with lids, of corrosion-resistant metal of about 8.5 cm in diameter.
- 3.3 Mincer, either hand or mechanically operated.
- 3.4 Desiccator, containing an effective desiccant.
- 3.5 Precision balance.

4. Procedure

- 4.1 Preparation of the sample

Take approximately 50 g of dried fruit from the laboratory sample, and mince these twice with the mincer.

⁹ This method is the same as that prescribed by the AOAC: *Official Methods of Analysis, XIIIth edition, 1980, 22.013 - Moisture in Dried Fruits, Official Final Action.*

4.2 Test portion

Place 2 g of finely divided asbestos¹⁰ into the dish, tare the dish with its lid and the asbestos, dried beforehand. Weigh, to the nearest 0.01 g about 5 g of prepared sample.

4.3 Determination

Moisten the sample and the asbestos thoroughly with a few ml of hot water. Mix the sample and the asbestos together with a spatula. Wash the spatula with hot water to remove the sample residues from it, letting the residues and the water fall into the dish.

Heat the open dish on a boiling-water bath (bain-marie) to evaporate the water to dryness. Then place the dish, with the lid alongside it, in the oven and continue drying for six hours at 70° C under a pressure not exceeding 100 mm Hg, during which time the oven should not be opened. During drying admit a slow current of air (about two bubbles per second) to the oven, the air having been dried by passing through H₂SO₄. The metal dish must be placed in direct contact with the metal shelf of the oven. After drying, remove the dish, cover it immediately with its lid and place it in the desiccator. After cooling to ambient temperature, weigh the covered dish to the nearest 0.01 g.

5. Calculation and expression of results

The moisture content of the sample, as percentage by mass is calculated as follows :

$$\text{Moisture content} = \frac{(M_1 - M_2)}{(M_1 - M_0)} \times 100$$

Where:

M₀: is the mass of the empty dish with its lid and containing the asbestos, g.

M₁: is the mass of the dish with its lid, asbestos and test portion before drying, g.

M₂: is the mass of the dish with its lid after drying, g.

The results are expressed to one decimal place.

Duplicate determinations should agree to 0.2% moisture.

¹⁰ *Dried sand which has previously been washed in hydrochloric acid and then rinsed thoroughly with water may be used in the place of the asbestos. Analysts using this technique should note that it is a deviation from the AOAC procedure, and should mention this in their report.*

METHOD II - RAPID OR ORDINARY METHOD

1. Principle

A rapid method based on the principle of electrical conductivity.

2. Procedure

Follow the method described in Official Methods of the Association of Official Analytical Chemists (AOAC), 13th ed. (1980), 22.014 – Dried Fruit Moisture Tester (AOAC, Washington, D.C.)

ANNEX II

DEFINITIONS OF DEFECTS

Major colour defects : Blackening of the fruit affecting more than one third of its surface and abnormal in colour or marked discolouring affecting more than half of its surface; the considerably browner colour of dried apricots, which have not been treated with sulphur dioxide is not considered a defect. The colours gray; yellowish gray; rust-red or brownish red are considered abnormal. (The abnormal colour or lack of colouration can be the consequence of various factors, such as over-ripeness, fermentation, low level of SO₂, rotting, low humidity, age and insect infestation).

Major defects of texture : Fruit of which parts (amounting to more than one quarter of the whole fruit) lack flesh (hardened, over-dried or hollowed).

Heat injury : Damage caused by sunburn or excessive heat during dehydration which substantially affects the appearance, flavour or edibility of the fruit.

Spotting : Reddish or black spots due to cryptogamic diseases (Clasterosporium or Coryneum, Oidium, etc.) affecting more than 15 mm² of the skin of the fruit. The spots of a small diameter (under 1 mm) do not enter into the calculation of the total area affected except if the general appearance of the fruit is damaged.

Calluses : Lesion scars (from hail, bruising, etc.) and malformation due to virus disease.

Lesions : Cracks, splits or breaks affecting a substantial part of the flesh.

Rotting : Decomposition caused by the action of micro-organisms.

Dirt : Dirt adhering to or encrusted on the fruit.

Damage or contamination by insects : Visible damage caused by insects or animal parasites or presence of dead insects or insect residue or excrement.

Mould : Mould filaments visible to the naked eye.

Fermentation : Damage by fermentation to the extent that the characteristic appearance, smell and/or flavour is substantially affected.

Foreign matter : Any matter or material not usually associated with the product.

Extraneous vegetable material : Harmless vegetable matter associated with the product.

Unripe fruit : Fruit having part of their surface of a greenish or greyish tint and a hardened texture, and possibly having a less sweet or a tart taste.