

UNECE STANDARD DF-11
concerning the marketing and commercial
quality control of

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

I. DEFINITION OF PRODUCE

This standard applies to processed dried grapes from seedless, seed-bearing and currant type varieties grown from *Vitis vinifera* L.¹

II. PROVISIONS CONCERNING QUALITY

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

A. Minimum requirements

(i) In all classes dried grapes must be:

- whole;
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- free from living insects or mites whatever their stage of development;
- free from abnormal external moisture;
- free of foreign smell and taste (slight smell of SO₂ and slight smell and taste of oil are not considered abnormal);

and, subject to the tolerances:

- clean, practically free from any visible foreign matter;
- free from visible damage by insects, mites or other parasites;
- free from mould;
- free from immature and/or undeveloped berries;
- free from pieces of stem;
- free from capstems, except for Malaga Muscatel;
- free from damaged berries (in seeded forms, normal mechanical injury resulting from normal seeding operations is not considered "damage");
- free from evident sugar crystals;
- free from extraneous vegetable matter.

¹ *Definitions of the terms used in this standard are given in Annex I to this standard.*

The condition of the dried figs 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 dried grapes shall have a moisture content of not less than 13% and not more than: 31 % for Malaga Muscatel type, 23 % for seed-bearing varieties and 18 % for seedless varieties and currants.²

(iii) Permitted ingredients and food additives:

Permitted ingredients and food additives to be used in processing of dried grapes to permit free-flowing and to provide longer shelf life will be in accordance with the legislation of the importing country.

B. Classification

Dried grapes are classified in three classes defined below:

(i) *"Extra" Class*

Dried grapes in this class must :

- be of superior quality;
- possess similar varietal characteristics;
- have a good characteristic flavour, texture and typical colour;
- be prepared from well or reasonably well matured grapes;
- be screened or sized;
- 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.

(ii) *Class I*

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

The dried grapes in this class must:

- be of good quality;
- possess similar varietal characteristics;
- have reasonably good characteristic flavour, texture and typical colour;
- be prepared from well or sufficiently well matured grapes;
- be screened or sized.

² *Reservation of Greece in favour of a moisture content of 15 per cent for Sultanas or Raisins and 16 per cent for Currants.*

- not have defects other than slight defects within tolerance limits indicated under the provisions concerning tolerances provided that these do not affect the general appearance of the produce, the quality, the keeping quality or its presentation in the package.

(iii) ***Class II***

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

The dried grapes in this class must:

- possess similar varietal characteristics;
- have a fairly good flavour, texture and typical colour;
- are prepared from fairly well matured grapes;
- be screened or sized;
- may have defects within the tolerance limits indicated under provisions concerning tolerances provided that the dried grapes retain their essential characteristics as regards general appearance, quality, keeping quality and presentation.

III. PROVISIONS CONCERNING SIZING

In each quality class, sizing, where appropriate, is determined by the maximum number of berries in 100 g or by the minimum diameter of berries based on screening.

IV. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality shall be allowed in each package for produce not satisfying the requirements of the class indicated, are given in the following tables:

A. Quality tolerances**Seedless**

Tolerances for defective fruit						
Permitted defects ³	Percent by weight			by count		
	Extra Class	Class I	Class II	Extra Class	Class I	Class II
Pieces of stem (per kg)	-	-	-	1	2	2
Capstem (per cent)	-	-	-	4	5	5
Immature and/or undeveloped berries	2	3	4	-	-	-
Berries having seeds in seedless types (per cent)	-	-	-	0.1	0.5	1.0
Mouldy ⁴	2	3	4	-	-	-
Insect damaged ⁴	0.5	0.5	1	-	-	-
Damaged	3	4	5	-	-	-
Sugared	8	12	15	-	-	-
Extraneous vegetable material	0.01	0.02	0.03	-	-	-
Mineral impurities	0.01	0.01	0.01	-	-	-

Seedbearing

Tolerances for defective fruit						
Permitted defects ³	Percent by weight			by count		
	Extra Class	Class I	Class II	Extra Class	Class I	Class II
Pieces of stem (per kg)	-	-	-	1	2	2
Capstem (per cent)	-	-	-	4	5	5
Immature and/or undeveloped berries	1	2	2	-	-	-
Mouldy ^{4,5}	2	3	4	-	-	-
Insect damaged ⁴	0.5	0.5	1	-	-	-
Damaged	3	4	5	-	-	-
Sugared	5	10	15	-	-	-
Extraneous vegetable material	0.01	0.02	0.03	-	-	-
Mineral impurities	0.01	0.01	0.01	-	-	-

³ *Definitions of the terms used in this standard are given in Annex I to this standard.*

⁴ *The national legislations of Germany of Switzerland do not permit tolerances for produce affected by mould, or the presence of dead or living insects.*

⁵ *Poland considers that the tolerance for visible mould should be 0.5 per cent in all classes.*

Currants

Permitted defects ³	Tolerances for defective fruit					
	Percent by weight			by count		
	Extra Class	Class I	Class II	Extra Class	Class I	Class II
Pieces of stem (per kg)	-	-	-	1	1	1
Capstem (per cent)	-	-	-	2	3	3
Immature and/or undeveloped berries	0.1	0.7	1.5	-	-	-
Mouldy ⁴⁵	2	3	4	-	-	-
Insect damaged ⁴	0.5	0.5	1	-	-	-
Damaged	0.5	2	3	-	-	-
Sugared	5	10	15	-	-	-
Extraneous vegetable material	0.01	0.02	0.03	-	-	-
Mineral impurities	0.01	0.01	0.01	-	-	-

V. PROVISIONS CONCERNING PRESENTATION

A. Uniformity

The content of each package or lot for produce presented in bulk must be uniform and contain only dried grapes of the same origin, quality, size and year except mixed packages.

The visible part of the content of the package with the exception of top-layered muscatels, must be representative of the entire content. For all of the classes the fruit must be of the same variety, commercial type and crop year.

B. Packaging

Packages must be free of all foreign matter.

Dried grapes must be packed in such a way 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 or stamps bearing trade specifications is allowed provided the printing or labelling has been done with non-toxic ink or glue.

C. Presentation

Dried grapes may be presented in large or small packages in accordance with the requirements of the importing countries, provided that produce presented in bulk must not exceed 15 kgs net each.

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 (consumer packages may only have net weight with paragraph A, B and C below=:

A. Identification

Packer) Name and address or officially issued or
and/or) accepted code mark ⁶
Dispatcher)

B. Nature of the produce

The name of the dried grapes shall be:

1. Seedless (the word "Raisin" or "Sultana" may be used whichever is appropriate in the country exporting or importing the produce).
 2. Seed bearing
 - Seeded.....(X).....
 - Unseeded.....(X).....
 -(X).....clusters
 3. Currants
- X The name of the variety or cultivar may be written.

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

- quality class;
- size (optional);
- crop year;
- net weight and/or the number of packages, followed by the unit weight in the case of packages containing such units;
- preservatives and/or additives (if any) (Optional) (Declaration of vegetable oils is not compulsory);
- "Naturally" dried (optional);

⁶ *The national legislation of a number of European countries requires the explicit declaration of the name and address.*

E. Official control mark (optional)

Adopted 1992

ANNEX I

DETERMINATION OF THE MOISTURE CONTENT FOR DRIED FRUIT

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. Preparation of the Sample

Take approximately 100`g of raisin from the laboratory sample, and mince these twice with the mincer.

3. Methods of Analysis

3.1 Rapid or routine method

3.1.1 Principle

A rapid method based on the principle of electrical conductivity.

3.1.2 Apparatus

Dried fruit moisture tester meter-Type A series (DFA of California).

3.1.3 Determination

Pack ground sample into Bakelite cylinder of the moisture tester with fingers, making certain that it is tightly around bottom electrode. Fill cylinder completely with tightly packed sample and level.

Lower top electrode and press it into sample until top electrode lever is against stop. Insert thermometer bulb is ca halfway between electrodes.

Read the dial and then read the thermometer. Select the correct conductance-temperature correlation table for type and condition of fruit being tested and on the table find the moisture percentage of the sample by using the temperature and dial readings.

3.2 Laboratory Reference Method

3.2.1.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 100mm Hg.

3.2.2 Apparatus

- 3.2.2.1 Electrically heated constant temperature oven, capable of being controlled at 70°C at a pressure of 100mm Hg
- 3.2.2.2 Dishes with lids, of corrosion resistant metal of about 8,5 cm in diameter;
- 3.2.2.3 Dessicator, containing an effective dessicant;
- 3.2.2.4 Analytical balance

3.2.3 Determination

Place 2 g of finely divided asbestos ⁷ 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.

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 into the oven and continue drying for six hours at 70°C under a pressure not exceeding 100mm Hg., during which time the oven should not be opened.

During drying admit a slow current of air (about 2 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 0,01g.

The moisture content of the sample, as percentage by mass is given by the expression:

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

⁷ 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.

where:

M_0 is the mass of the empty dish with its lid and containing the asbestos, g.

M_1 is the mass of the dish with its lid, asbestos and test portion before drying, g.

M_2 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 per cent moisture.

ANNEX II

DEFINITIONS OF DEFECTS

Piece of Stem

Any portion of branch or main stem of the vine which that is not a capstem.

Capstem

Small woody stem exceeding 3 mm in length which attached the grape to the branch of the bunch and whether or not attached to a dried grape.

Immature or Undeveloped Berries

Berries that are extremely light-weight, lacking in sugary tissue indicating incomplete development, that are completely shrivelled with practically no flesh and that may be hard.

Mouldy

Mould filaments visible to the naked eye.

Insect damage

Visible damage caused by insects and animal parasites, or the presence of dead insects or insect debris.

Damaged

Berries affected by sunburn, scars, mechanical injury or other similar means which seriously affect the appearance, edibility, keeping quality or shipping quality.

In "Seeded" type, normal mechanical injury resulting from normal seeding operations is not considered "damage".

In "Seedless" type, normal mechanical injury resulting from removal of cap-stems is not considered "damaged".

Sugared

Berries with evident external or internal sugar crystals which are readily apparent and seriously affect the appearance of the dried grape. Berries that are sugar-coated or to which sugar is added intentionally are not considered "sugared".

Extraneous Vegetable material

Any article of earthy material and/or any matter other than dried grapes.

Bleached

Dried grapes which are bleached during or after drying with sulphur dioxide.

Mineral impurities

Acid-insoluble ash.

Unprocessed

Prepared from grapes that possess seeds, which may or may not be removed in processing.

Currant

Prepared from the small-berried grape, the Black Corinth or Zante Currant, mainly seedless and blue-black in colour.