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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Replacing GB 19585-2004

Product of geographical indication - Turpan grape

地理标志产品 吐鲁番葡萄

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Table of Contents

1	Scope
2	Normative references
3	Protection area of the geographical indication product
4	Terms and definitions
5	Requirements
6	Test methods
7	Inspection rules
8	Marking, labelling, packaging, transport and storage
Annex A	(normative) Map of the protection area of the Turpan grape geographical indication product
Annex B	(normative) Determination of soluble solids-Refractometer method
Annex C	(normative) Determination of total acid

1 Scope

The document covers the protection area of the Turpan grape geographical indication product, the terms and definitions, the requirements, the test methods, the inspection rules and the marking, labelling, packaging, transport and storage.

It applies to Turpan grapes protected by approval of the national quality supervision, inspection and quarantine authority under the Provisions on the Protection of Geographical Indication Products.

3 Protection area of the geographical indication product

The production protection area of Turpan grapes is the area approved for protection by the national quality supervision, inspection and quarantine authority under the Provisions on the Protection of Geographical Indication Products. It is shown in Annex A.

Annex A is normative and consists of a map, Figure A.1. The map itself carries no readable place names in the extracted text, so the boundary is not described further here.

4 Terms and definitions

4.1 Turpan grape: grapes planted inside the area of Clause 3, managed by the cultivation practice of the document, and of a fruit quality that meets its requirements.

4.2 Uniformity degree: the degree to which clusters and berries agree in shape and size, in

three steps. Uniform means the weight of a single cluster or berry departs from the mean by less than 10 percent and the shapes agree or are close. Fairly uniform means the departure is less than 20 percent and the shapes are similar. Not uniform means the departure is more than 20 percent and the shapes agree poorly or not at all.

4.3 Tightness degree: how tightly the cluster is packed, in five steps. Very tight means the berries crowd one another and are deformed. Tight means they crowd but keep their shape. Moderate means the cluster changes shape slightly when laid flat. Loose means it deforms markedly when laid flat. Very loose means most of the branches lie in one plane when it is laid flat.

4.4 Fresh and clean: skin and stalk not shrivelled, and free of dirt.

4.5 Mildewed and rotten berry: a berry that has decayed and spoiled and cannot be eaten.

4.6 Abnormal fruit: fruit with a marked abnormality of appearance, flesh or flavour caused by natural factors or by human or mechanical action. It covers damaged fruit, sunburnt fruit, soft disease fruit, scarred fruit and other kinds.

4.6.1 Damaged fruit: fruit mechanically injured, or whose skin or flesh has split.

4.6.2 Sunburnt fruit: fruit on whose surface strong sunlight has formed discoloured patches.

4.6.3 Soft disease fruit: fruit whose flesh has gone soft and watery through poor nutrition and which cannot ripen normally.

4.6.4 Scarred fruit: fruit whose surface bears a scar of mechanical origin.

4.6.5 Maldeveloped fruit: fruit that, for natural or human reasons, still fails the requirements of the document at ripening time.

4.7 Colour: the colour proper to the variety.

5 Requirements

5.1 Growing environment. Sunshine: annual sunshine hours 2 912.3 h to 3 062.5 h, annual percentage of possible sunshine 65 percent to 69 percent. Air temperature: annual mean 11.7 °C to 14.4 °C, accumulated temperature at or above 10 °C from 4 598.8 °C to 5 480.0 °C, frost-free period 205 d to 236 d. Rainfall: annual precipitation 8.8 mm to 27.6 mm.

Water: surface water and groundwater formed by the melting snow and ice of the Tianshan. Relative humidity of the air: 42 percent to 44 percent. Soil: irrigated cultivated soil, irrigation-silted soil, aeolian sandy soil, fluvo-aquic soil and improved brown desert soil, of good permeability, with a salt content below 0.15 percent, neutral to slightly alkaline.

5.2.1 Characteristics of the vine. Vigour is fairly strong. One-year shoots are fairly stout and turn earthy yellow when mature. Leaves are nearly round, five-lobed, with medium-deep or shallow sinuses, smooth and hairless on both faces. Flowers are hermaphrodite, the

stamens longer than or equal to the pistil, and self-pollination sets fruit well. As to phenology, budburst falls in the first and middle ten days of April, flowering in the first and middle ten days of May, the fruit begins to ripen in the first ten days of July and is fully ripe in the last ten days of August, the growing period is 140 d, and leaf fall begins in November.

5.2.2 Characteristics of the fruit. The cluster is a bifurcate-shouldered long cone or long cylinder of medium size, with a mean cluster weight of 300 g to 500 g. The berry is elliptical and seedless, weighing 1.5 g to 3.0 g, yellow-green, with little bloom, thin-skinned and crisp-fleshed, the skin not easily parted from the flesh, sweet and tart on the palate, with a soluble solids content of 18 percent to 23 percent and an acid content of 0.4 percent to 0.8 percent.

5.3 Nursery stock. Cuttings are taken from superior mother vines as mature one-year shoots of at least three nodes, that is at least 20 cm long, and are set in ridges. Plants leave the nursery between the last ten days of October and the beginning of November; the ground is watered through 4 d to 7 d before lifting and the roots are protected during lifting. Table 1 sets the specification of the lifted plants in two grades, first and second, against four measurements: stem diameter in centimetres, number of mature nodes, number of roots of at least 2 mm diameter and root length in centimetres. First grade requires at least 0.8 cm, at least 8 nodes, at least 5 roots and at least 20 cm; second grade requires at least 0.6 cm, at least 5 nodes, at least 4 roots and at least 15 cm. Graded plants are tied in bundles of 20 or 30 and tagged with variety, grade and count.

5.4 Cultivation. Vineyards are established on loose soil with good drainage and irrigation, on a small trellis, at 5 m between rows and 1 m to 1.5 m between vines, giving 89 to 134 vines per 667 square metres, planted in spring. Training is generally by the multi-arm fan or the single-arm system; autumn pruning of the fan form uses a mixed method built on medium and long canes, with long, medium and short fruiting canes in the ratio 2 to 2 to 1, while the single-arm form is pruned mainly to medium and short canes. Summer pruning aims at a leaf area index of 4 to 5. To raise the quality of the seedless white grape, flowers are thinned so that yield stays at or below 37 500 kg per hectare and preferably between 30 000 kg and 37 500 kg, that is not above 2 500 kg per mu and preferably 2 000 kg to 2 500 kg. As to growth regulators, the gibberellin concentration is at most 0.15 mg/kg, and ethephon and naphthaleneacetic acid may not be used. Base fertilizer is applied in autumn and is mainly organic; nitrogen, phosphorus and potassium are applied during growth; irrigation follows the rule of pushing early, holding back late and keeping enough in between, with a full winter watering to conserve moisture and guard against cold.

5.4.2 Pest and disease control rests on prevention first and integrated control, is applied in good time on the basis of forecasting, and should prefer physical and biological means. Pesticide use follows GB/T 8321, all parts, strictly.

5.5 Harvest. Picking runs from the middle ten days of July to the last ten days of September. At picking the soluble solids content must have reached 16 percent or more,

and irrigation is stopped 7 d to 20 d before picking.

5.6 Sensory requirements. Table 2 grades the fruit as superior, first and second against seven items: cluster and berry shape, fruit surface, colour, mouthfeel, uniformity degree, tightness degree, abnormal fruit and mildewed and rotten berries. Shape must show the characters proper to the variety, the surface must be fresh and clean, mouthfeel must be thin-skinned and crisp-fleshed, sweet and tart, with the flavour proper to the variety and no off-flavour, and no mildewed or rotten berries may be found in any grade. For colour, uniformity, tightness and share of abnormal fruit the extraction gives fewer cells than there are grade columns, so the values cannot be assigned to grades with certainty and are not reproduced here.

5.7 Physical and chemical requirements. Table 3 grades the fruit as superior, first and second against four items. Berry weight is at least 2.5 g, 2.0 g and 1.5 g. Cluster weight is 500 g to 800 g for superior, at least 300 g for first grade and at least 250 g for second. Soluble solids are at least 20 percent, 18 percent and 16 percent. Total acid content is at most 0.6 percent, 0.7 percent and 0.8 percent.

5.8 Hygiene requirements follow GB 18406.2.

6 Test methods

6.1.1 For the sensory items the sample is placed in a clean white porcelain tray and the shape and colour of the clusters and the evenness and tightness of the berries are observed with the unaided eye in natural light, and the fruit is tasted.

6.1.2 For abnormal fruit the abnormal berries are picked out of the test portion and weighed, and their percentage is worked out by formula (1) from the total mass of abnormal fruit and the mass of the test portion, both in grams.

6.2.1 Berry weight is measured on a balance reading to 0.1 g and cluster weight on a balance reading to 1 g.

6.2.2 Soluble solids follow Annex B.

6.2.3 Total acid follows Annex C.

6.3 Hygiene items follow GB 18406.2.

7 Inspection rules

7.1 Grapes of the same grade, in the same packaging and held under the same storage conditions form one lot.

7.2 A test sample of not less than 3 kg is drawn at random from each lot, the sampling following GB/T 8855.