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## Problems Of Quality Assurance And Export Potential Of Grapes

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### ABSTRACT

The article analyzes the state of development of the viticulture and wine industry in the Republic of Uzbekistan, analyzes the assortment and classification of products, highlights the requirement for the quality standard of table grapes (UNECE FFV-19), elaborates recommendations for ensuring the quality and safety of the wine industry and increasing their export potential.

### KEYWORDS

Grapes, winemaking, variety, yield, medicinal properties, chemical composition, product quality and safety, export, phytosanitary norms, the international standard, technical regulations.

### INTRODUCTION

The volumes of grapes produced in Uzbekistan make it possible not only to cover the needs of the population but also to carry out export deliveries in significant volumes. The export potential of grapes consists mainly of yield, quality of the grown crop, and the price of grapes in foreign markets. The current situation is characterized by several problems, the solution of which will increase the export potential of viticulture and winemaking.

Uzbekistan is among the producers of grapes in the world and occupies a good position in the CIS in terms of the volume of grapes grown. According to FAO, Uzbekistan ranks 18th in the world in terms of vineyard areas, and in terms of gross volumes of grapes harvested in 2017, it took 17th place in the world, and terms of dried grapes - 5th in the world.

In 2018, the total area of vineyards amounted to 150.7 thousand hectares, having increased by 17% over 5 years. The main regions of viticulture in Uzbekistan are Samarkand (40.4 thousand hectares), Tashkent (19.2 thousand hectares), Surkhandarya (16.2 thousand hectares), Kashkadarya (15.1 thousand hectares), Namangan and Bukhara (13, 9 and 13.3 thousand hectares) of the region [1-3].

In 2018, 1 564.5 thousand tons of grapes were harvested in Uzbekistan. Of these, 13.2% (206.8 thousand tons) were exported, 9.4% (146.5 thousand tons) were processed by the wine industry, the rest was domestic consumption and processing of the food industry. The grape yield in 2018 was 10.4 t / ha.

At present, the export of grapes in the physical volume of exports of fruit and vegetable products of Uzbekistan accounts for 16%.

The Strategy of Actions for the Development of the Republic of Uzbekistan for the period 2017-2021. Work is underway to expand the area for vineyards, increase yields and reduce resource costs through the introduction of modern agricultural technologies.

In addition, it is envisaged to bring the total area of vineyards of wine varieties suitable for industrial processing to 29 thousand hectares by creating new vineyards on an area of 23.4 thousand hectares, the harvest from this area will fully load the current production capacity of the wine industry. The country has accumulated sufficient experience in the production of high-quality wine products, which have been repeatedly noted at international exhibitions and fairs.

The production capacity of enterprises in 2017 allowed processing 200 thousand tons of grapes, per year and producing 3.7 million deciliters of grape wine, 19.9 million deciliters of alcoholic beverages, 118.5 thousand deciliters of cognac, 187, 5 thousand deciliters of champagne, 9.3 million deciliters of edible alcohol.

So, the processing of grapes in 2017 amounted to only 45% of the production capacity (or 90.4 thousand tons). In 2018, Processing increased to 146 thousand tons [5-8]. At the same time, the capacity for the production of grape wine was used by 66%, alcoholic beverages by 80.7%, edible alcohol by 76.7%, champagne by 20.4%.

There are 62 enterprises in the system of the wine-making industry, of which: 16 enterprises of primary winemaking, 42 for the production of alcoholic beverages, 4 for the production of ethyl alcohol.

These include 17 joint ventures with partners from Russia, the USA, Bulgaria, Israel, Latvia, Germany, Great Britain, and Kazakhstan. There are also 82 specialized wholesale bases, which include 507 brand stores.

The enterprises of the wine industry produce more than 160 types of grape wines, 781 types of vodkas and liqueurs, 25 types of brandy and 13 types of sparkling and carbonated wines.

Analysis of the wine industry indicates the following organizational and production problems.

Due to an unsatisfactory supply of raw materials, production capacities are currently loaded at a relatively low level. Because of this, the production of wine in comparison

with alcoholic beverages decreased by 2.5-3 times.

In this regard, the current workload of existing production facilities does not allow satisfying domestic demand and increasing the supply of products for export;

Over the past two decades, only 25% of enterprises that procure wine materials have been modernized, while the rest use obsolete equipment.

To bring domestic winemaking to a qualitatively new level, it is not enough to increase the area for technical grape varieties and the volume of wine production [9-11]. Winemaking is an industry where the quality of products for the consumer is of paramount importance. In this connection, it is necessary to ensure effective control over product quality.

Along with the above, for the accelerated development of winemaking in Uzbekistan, it is also advisable to implement the following measures.

In the countries - leading wine producers, there are systems of classification and labelling of wines approved at the legislative level. Their essence is reduced in general to the classification of the quality of wine products, where the main indicators are a certain area of cultivation of grapes from which the wine is made, with its unique natural and climatic characteristics, grape variety, and cultivation technology.

Therefore, to start production of original, elite and branded Uzbek wines to identify high-quality varieties, to determine the specialization of regions for the production of types of wines. (It is known that in the

Bukhara region they produce high-quality dessert wines, in the Tashkent and Samarkand regions - dry and strong, etc.).

One of the conditions for the development of winemaking is the access of winegrowers and winemakers to the necessary production equipment.

Analysis of the current situation in the viticulture and winemaking of Uzbekistan in comparison with the leading countries-producers of grapes and grape products shows that Uzbekistan uses the export potential of the industry at an insufficiently high level.

The export potential of table grapes in Uzbekistan is objectively constrained by domestic demand, limited by the number of large grape producers, as well as underdeveloped infrastructure and logistics. To simultaneously meet domestic demand and increase export volumes, it is necessary to increase the acreage for vineyards, increase yields and qualitatively intensify the cultivation of grapes.

The main external markets for Uzbek grapes and products of its processing are neighbouring countries. This fact makes it possible for importing countries to insist on their terms and prices. The main reasons for this situation are:

- High requirements for the quality of agricultural products in foreign markets;
- Tariff and non-tariff barriers applied in importing countries;
- High level of competition in foreign markets;
- High transport costs.

According to the interstate standard, grapes must meet the requirements of **GOST 32786-2014 "Fresh table grapes"**.

In addition, there is a requirement for a quality standard for table grapes (**UNECE FFV-19**).

#### **Requirement of the quality standard for table grapes (UNECE FFV-19)**

**I. Product definition:** The provisions of this standard apply to table grapes of varieties (cultivars) obtained from *Vitis vinifera* L., supplied to consumers fresh and not intended for industrial processing.

**II. Provisions concerning quality:** The purpose of the standard is to define the quality requirements for table grapes at the export control stage, after preparation and packaging.

**A. Minimum requirements:** Bunches and berries in all classes, subject to the special provisions for each class and the tolerances allowed, must be:

- Sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- Clean and practically free of any visible foreign matter
- Practically free of pests
- Practically free from damage caused by pests
- With normal surface moisture
- Free of any foreign smell and/or taste.

In addition, berries must be:

- Intact
- Well-formed
- Normally developed.

Pigmentation caused by sun exposure is not a defect.

The bunches must be carefully picked.

The bunches must be sufficiently developed and mature.

The ripeness and condition of the table grapes must be as follows so that it can:

- Withstand transportation, loading and unloading, and
- Delivered to its destination in satisfactory condition.

**B. Maturity:** Grape juice must have a refractometric index of at least:

- 12 ° Brix for Alphonse Lavallee, Cardinal and Victoria,
- 13 ° Brix for other varieties with seeds,
- 14 ° Brix for all seedless varieties.

In addition, all varieties must have a satisfactory sugar-to-acid ratio. [1]

**C. Classification:** Table grapes are classified into three classes, as defined below:

(I) "Extra" Class: Table grapes in this class must be of superior quality and have the shape, development and colour characteristic

of the variety to which it belongs, taking into account characteristics of the area in which it is grown and free from defects.

Berries must be firm, well adherent, evenly spread on the stem and almost entirely bloom.

(II) Class I: Table grapes in this class must be of good quality and must have the shape, development and colour characteristic of the variety, to which it belongs, taking into account the characteristics of the area in which it is grown.

Berries must be firm, well-grown and, if possible, covered with bloom (ruin) on most of their surface. However, they may be less evenly spaced on the ridge than Extra Berries.

However, the following slight defects may be allowed, provided these do not affect the general appearance, quality, keeping quality and presentation of the product in the package:

- Slight defects in shape
- Slight defects in colouring
- Very slight sunburn affecting only the skin.

(III) Class II: This class includes table grapes that do not qualify for inclusion in the higher classes but satisfy the minimum requirements listed above.

Bunches of grapes may show slight defects in shape, development and colour, provided that this does not affect the basic characteristics and properties of the variety to which they

belong, taking into account the characteristics of the area in which they are grown.

The berries must be sufficiently firm and sufficiently adherent, their surface must be covered with bloom, if possible. They may be less evenly spaced on the stem than in Class I.

The following defects may be allowed, provided the grapes retain their essential characteristics in terms of quality, keeping quality and presentation:

- Defects in shape
- Defects in colouring
- Minor sunburn affecting only the skin
- Slight bruising
- Minor skin defects.

#### **A. Quality tolerances**

(I) "Extra" Class: 5% (by weight) of bunches not satisfying the requirements of this class, but meeting the requirements of Class I or, in exceptional cases, meeting the tolerances of this class, are allowed.

(II) Class I: Allowed 10% (by weight) of bunches not satisfying the requirements of this class but meeting the requirements of Class II or, in exceptional cases, meeting the tolerances for this class.

(III) Class II: 10% (by weight) of bunches not satisfying either the requirements of this class or the minimum requirements is allowed, and produce that is damaged by decay or any other defect rendering it unfit for consumption is not allowed.



## B. Size Tolerances

### I) "Extra" Class and Class I

Allow 10% (by weight) of bunches not in conformity with that specified for this class but corresponding to the size of the subsequent Class.

### (II) Class II

Allowed to contain 10% (by weight) of bunches not conforming to the size specified for this class, but weighing at least 75 grams.

**III) For all classes:** in each package which is directly marketed by consumers and whose net weight does not exceed 1 kg, one bunch weighing less than 75 g is allowed to equalize the weight, provided that this bunch meets all the other requirements for the class concerned.V. Provisions concerning the presentation of products:

**A. Uniformity:** The contents of each package must be uniform; each package must contain only bunches of grapes of the same origin, variety, quality and degree of maturity.

Bunches of the Extra Class must, as far as possible, be the same size and colour.

The bunches were of the same variety and origin, does not apply to grapes in small packages with a net weight of not more than one kilogram,

The presence of different coloured bunches in each package for decorative purposes is allowed for the Chasselas variety. The visible part of the product in the package must match the contents of the entire package.

**B. Packaging.** Table grapes must be packed in such a way as to protect the produce properly.

"Extra" Class must be packed in a single layer.

The materials used inside the package must be new, clean and of a quality such that do not cause external or internal damage to the product. The use of materials, particularly paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Labels that are individually affixed to products must be such that, if removed no visible traces of glue or damage to the skin remained.

The packages must not contain any foreign matter, although it is allowed to leave a part of the vine in the form of a special decoration on a bunch branch, no more than 5 cm in length.

**VI. Labeling provisions** Each package must bear the data grouped on the same side and visible from the outside in legible and indelible characters.

## C. Origin of produce

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

The fruit must be packed in accordance with all applicable regulations and must there must be a manufacturer's labelling, the packaging must protect the berry from the effects of the external environment;

Labelling of grapes

Each package with a berry must have a label that helps to identify the cargo, information about the sender, the recipient.

Grapes are labelled in accordance with the requirements of TR CU 022/2011 Technical Regulations of the Customs Union "Food products in terms of their labelling".

### CONCLUSIONS AND RECOMMENDATIONS

The analysis of the study shows that, at the same time, there are certain problems that hinder the more efficient development of the industry, insufficient development of the raw material base of wine products, primarily the variability and small scale of production of technical varieties of grapes.

The problem of non-compliance with harvesting and delivery technologies is also relevant, which leads to a significant decrease in the quality of the wine.

The absence of a specialized service for the chemical protection of vineyards contributes to the spread of diseases and pests.

A more correct professional selection of grape varieties can contribute to the solution of existing problems in the industry, which will create the best preconditions for obtaining high-quality wine products. In this regard, it is necessary to make wider use of foreign experience.

It also seems expedient to develop organic, environmentally sensitive and sustainable vineyards in the hot arid climatic conditions of the republic.

Compliance with mandatory requirements of standards is the basis for ensuring the quality and safety of grapes, one of the valuable agricultural raw materials for industrial processing, as well as a useful and medicinal product for the human body.

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