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Research Article

THE GRAPE PROCESSING TECHNOLOGY FOR WINE PRODUCTION

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ABSTRACT

This article discusses the production of wine grapes under the climatic conditions of Uzbekistan, the processing of wine grapes, and the technology for the production of high-quality wines.

KEYWORDS

Climatic conditions, grape varieties, quality wine, processing, technology, products, humidity, amount of sugar, chemical composition.

INTRODUCTION

The climatic conditions of Uzbekistan with a longer summer period and lower relative humidity are suitable for the production of grape wine varieties, products of higher quality.

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In the Decree of the President of the Republic of Uzbekistan dated March 29, 2018 "On additional measures to accelerate the development of the production of vegetables and fruits in the Republic of Uzbekistan", much attention is paid to the development of horticulture and viticulture [1-3].

At the same time, the demand for processed fruits, i.e. grapes, is growing. That is why our hardworking gardeners face several challenges. Particular attention is paid to the processing of wine grapes and the production of high-quality wines. The main raw material in winemaking is a technical and raw grape variety. Riesling and Bayan grape varieties have been repeatedly noted at international tasting competitions under the brand of white wine Aslot, made from blends of semi-finished wine products [4-7].

The clusters of grapes of wine grapes are small and have many colours and shades. Grapes have less sweetness than sugar raisin varieties. These varieties are prepared, including wines, champagne and strong dessert wines. Uzbekistan cultivates many wine grape varieties. Aleitino is adapted for cultivation in the southern regions of Uzbekistan, imported from Italy. This is a medium-ripening grape variety, the brush of which is a cone-shaped cylindrical horn, of medium size. The fruits are round, the kernel smells of nutmeg, and the taste is sweet. From 1000 kg of grapes of this variety, up to 750 litres of juice and quality dessert wines are produced. Bayan wider is a variety of Azerbaijani grapes, adapted to grow in Uzbekistan, a late-ripening variety. Grape heads are cylindrical, with medium grains [8-12].

Table 1. Chemical composition of grape seeds.

Substance	**Juice with pulp, %**	**Peel, %**	**Seeds, %**	**Brush branches, %**
Water	**60-90**	**60-80**	**50-75**	**55-80**
Sugar	**10-30**	**60-80**	**50-70**	**55-80**
Cellulose	**10-30**	**60-80**	**50-70**	**55-80**
Wine acid	**0,4-1,0**	**4**	**5**	**30**
Apple acid	**0,1-1,5**	**4**	**5**	**30**
substances	**-**	**0,5-4**	**2-8**	**1-5**
Nitrogen substances	**0,2-0,5**	**2**	**6**	**2**

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Minerals	0,1-0,6	2,5	1-5	1-8
Fat-oil	0,1-0,6	0,1	8-15	1-8

Grapes contain vitamins C1, B1, B2 and provitamin A. Each chemical component in grapes has a special technological or nutritional value. The sugar substance is mainly used for the production of alcohol and carbon dioxide when the contents of the juice and kernel are completely absorbed. In addition, sugar can be used to create different flavours in wine.

Sugar-containing wines are not fully fermented. In grapes, the fibre consists mainly of small seed pods that form their structure. Organic acids are very important for wine. Unripe grapes contain large amounts of malic acid and give the wine a sour taste. As the grapes ripen, the acidity of the wine increases, and the wine acquires a milder taste. Tartaric acid and its salts are deposited at the bottom of the container during storage and cooling. Tartaric acid and its salts are widely used in confectionery, textiles, radio electronics and medicine.

Chemicals are mainly concentrated in the skin and seeds, which should be taken into account when processing grapes. These ingredients should not be used in the production of Champagne type wines. Therefore, in order to avoid such substances in the manufacture of such wines, it is necessary to quickly separate the juice in the manufacture of wines and not leave them together with the skins and seeds.

In the production of strong wines, the juice is stored together with the skins and seeds, and in some cases heated or fermented as such. Wine material is obtained using a special technological process. After a special technological process, the mixture turns into a certain type of wine. From the sources we have received, we know that oriental wine was used in ancient times and was called “sharob”, “may”, “musallas”.

Wines are categorized as food, but not as food. During fermentation, the colouring and extracting substances of the skins in wines are transferred to the juice, so the colour of these wines is red. Ordinary wines are consumed only three months after production. Wine "Musallas" is obtained by fermentation of grape juice without the addition of alcohol. Champagne wines are highly valued for their unique properties. She has been involved in indigestion. Based on the results of the experiments, the physicochemical parameters of grape juice were studied.

The amount of sugar is 22.2%. Juice constantly circulates on special equipment. Under the influence of heat, the grape skin dissolves and ethereal and colouring substances are transferred from the intercellular cavity into the juice. Heat up to 90 °C. In this case, pectolytic enzymes work well.

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In this state, the juice is stored for 2 hours. Experiments have shown that in order for champagne to meet the requirements, it is necessary to add sugar, and citric acid to raw wine and increase the sugar content by 70%.

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