

WINEMAKING AS A POPULAR BRANCH OF FOOD INDUSTRY IN UKRAINE

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Ukraine has a well-established wine industry with long traditions. Many varieties of grapes can be grown throughout Ukraine. Wine products obtained by fermentation on the importance and scale of the use of grapes in industrial processing are traditionally in the first place. However, the most favorable conditions for its growth are observed in those regions where mild winters and long hot summers (the largest number of vineyards in the country is in the Odessa region, in particular, in the south - in Ukrainian Bessarabia, in the second place was (until 2014) – in Crimean Autonomous Republic, the remaining approximately 17% of plantations - in Mykolaiv, Kherson, Zakarpattia and Zaporizhzhia regions). Technical grape varieties (using to the production of alcoholic beverages) account for 95% of the harvest.

The capacity of the wineries under construction should be based on the location of the vineyards and their distance from the winery, the condition of the roads in this area, the climatic conditions of the neighborhood, the varietal composition and direction of winemaking [2]. Due to its structure, chemical composition and physical and mechanical properties, grapes are among the most valuable types of vegetable raw materials. It has a high content of carbohydrates, which makes it quite nutritious. Grapes contain from 2,5 to 6% of free and bound in the form of salts of organic acids: 60% of malic acid, 40% - tartaric, citric, amber, oxalic. Free acids give the berries a sour taste, and bound ones do not affect it. Grapes contain essential mineral salts and trace elements. More than 60% of all ash elements are potassium, which improves heart and kidney function. In the manufacture of wine, it is prohibited to add foreign substances, except those that are introduced during its processing and the list of which is provided by the current standard. Much attention is also paid to improving the methods of techno-chemical and microbiological control. The agro-technical and ecological-geographical factors are equally important for the quality of the harvest and future wine material. The wine contains more than 20 macro-and micronutrients. Their total content is 2-3 g / dm. Potassium predominates from cations, and phosphates from ions, mainly in the form of organic compounds. Their composition and quantity may vary depending on the grape variety, soil chemical composition, technology and equipment [2].

One of the technological requirements for raw materials is the presence of basic sugar content and a certain chemical composition. The lowest sugar content and high acidity are allowed in the raw materials directed to production of juice materials and cognac wine materials; the highest sugar content and low acidity - for dessert wines [1]. Depending on the duration of contact of the wort with the solid parts of the bunch in winemaking, there are two ways of processing grapes - white (duration of contact is not more than 6 hours) and red (duration of contact from 6-10 hours to 5-7 days or more). White method is characterized by processing of grapes as white and colored varieties in whole bunch or with pre-grinding.

The resulting wine materials are white or pink. During the processing of grapes of any red color, wine materials are mostly red or pink. Grapes are processed in the white way in the preparation of champagne and cognac wine materials, as well as wine materials for white natural wines, which involves a relatively rapid extraction of wort. According to the red method, grapes are processed in the preparation of wine materials for almost all types of special wines, as well as red natural wines. A distinctive feature of this method is that the liquid and solid phases of the pulp are in a fairly long contact, compared with processing by the white method [3].

In the production of red natural wines use the following three main techniques:

- fermentation of the pulp until complete fermentation of sugars and separation of the fermented wort (wine material) from the pulp;
- heat treatment of fresh pulp at 60-65 ° C to remove phenolic and other substances from it and separation of the wort from the cooled but unfermented pulp;
- extraction of phenolic and other substances from fresh pulp by extraction of pre-fermented dry wine material.

In the production of white and red strong wines use the following techniques:

- infusion of wort on fresh muscle, usually with partial fermentation and separation of fresh wort or partially fermented wort;
- heat treatment of fresh pulp at 60-70 ° C (red grapes) or up to 40-50 ° C (white grapes) and separation of the wort from the chilled pulp [3].

To summarize the above studied material, we should note that the production of wine and wine materials is an almost waste-free production. Secondary products (pomace, sulphited and yeast precipitation, tartar, etc.), used in the processing of grapes into wine, are a valuable raw material for a number of products that are important for the national economy. Grape pomace, yeast and thick sediments are processed into alcohol and tartaric acid. When used in combination, they receive additional grape seeds, cognac oil, feed products for livestock and fertilizers. Grape pomace in complex use is processed immediately in fresh form directly in the winemaking season by extracting sugar (alcohol) and tartaric compounds with water. The fermented extract is processed by extracting alcohol and tartaric compounds immediately after pressing the muscle or distilled, not allowing it to be stored.

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