THE POSSIBILITY OF CO-CULTURE OF WINE YEAST SACCHAROMYCES CEREVISIAE AND LACTIC ACID BACTERIA LACTOBACILLUS PLANTARUM

Atanova A.O., Gladkov O.K., Ivakhnenko O.L., Strilets O.P., Strelnikov L.S.
National University of Pharmacy, Kharkiv, Ukraine
atanova.a@list.ru

Wine contains a rich set of useful nutrients, minerals and other biologically active substances and has curative properties, which are the results of complex biochemical changes that occur with various microorganisms. Grape wine is called the product obtained by alcoholic fermentation of the juice or pulp of fresh or dried grapes. It is believed that the main role in the formation of flavor and aroma of wine play wine yeast, responsible, primarily, for the intensity of the flow of alcoholic fermentation, during which two main products are produced from glucose - ethyl alcohol and carbon dioxide, as well as intermediate by-products: glycerol, acetic acid, acetaldehyde, acetone, citric acid, pyruvic acid, malic acid, fusel alcohols, etc. The result is a so-called "green wine" with a distinctive spicy flavor, astringency and bitter aftertaste, which is caused by the large amount of malic acid. To date, the domestic wine require additional time to "maturation." At the same time, it is not typical for young wines of France and Spain due to the fact that, along with activation of wine yeast a range of lactic acid bacteria contained initially on the surface of grapes is involved in the formation of the bouquet. Lactic acid bacteria involved in the malolactic fermentation, providing soft flavor and a decrease in pH due to the formation of lactic acid. Malolactic fermentation in wine starts when the alcohol fermentation has not been finished yet and there is a sugar. The temperature of the alcoholic fermentation of 15 - 25 ° C is favorable for the malolactic fermentation. If the destruction of malic acid occurs at low temperature - the process is slow and can take several months, and at high temperature - foaming of young wine, it is important to keep the temperature conditions. Spontaneity microflora and variability of its composition may lead to unauthorized fermentation products that can change the organoleptic characteristics of the final product. On the one hand, there is evidence of the existence of races dairy cultures, capable of simultaneous development with alcohol yeast, on the other - some sources said that they have antagonism under anaerobic culture conditions. Therefore, the study of possibility of co-culture Saccharomyces cerevisiae W748 (Saccharomyces cerevisiae WET 136) and Lactobacillus plantarum is interested for the intensification of biotechnological processes for production of wine is interested and we can use the results in the development of wine production technology, eliminating the stage of "maturing".