

TECHNOLOGY OF OBTAINING WINE VINEGAR FROM GRAPE CONCENTRATE

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Abstract:

Nowadays, the world produces a wide range of vinegars such as: cider vinegar, wine vinegar, beer vinegar, malt vinegar, fruit vinegar, rice vinegar, etc. The rate of transformation of ethyl alcohol into acetic acid depends on several factors, such as: the nature of the microorganisms and the substrate, the degree of aeration, the influence of temperature, etc.

Within this study, was analyzed the technology of obtaining wine vinegar from grape concentrate. Optimal conditions were established for the alcoholic and acetic fermentation of the grape concentrate. Concentrated grape juice for the first stage of alcoholic fermentation was diluted to a sugar concentration of 25%, the temperature during the alcoholic fermentation was 25 ± 1 °C, isolated from UV rays and with minimal access to air. For the second step of acetic acid fermentation (AAF) was taken wine obtained from the first stage of fermentation with alcohol concentration below 13% and organic white wine vinegar with quality parameters: TTA (total titratable acidity) = 6%, residual alcohol - 0.93%, pH = 3.33, $\rho = 1.070$ kg / m³. The temperature during acetic acid fermentation (AAF) was 28 ± 1 °C with access to air but isolated from UV rays. In order to study the influence of nutrient salts on the acetic acid fermentation (AAF) process, samples with and without nutrient salts were researched. It was found that in both samples with and without nutrient salts during 27 days there is a slight difference of TTA (total titratable acidity) of 1.26% more in the sample with nutrient salts than in the sample without nutrient salts. In this study, were established the technology and parameters for obtaining vinegar from grape concentrate and it was shown that the use of nutrient salts can reduce the time of obtaining it.

Key words: *acetic acid fermentation, wine vinegar, grape concentrate, acetic acid, ethyl alcohol.*