

THE DETERMINATION OF YEAST VIABILITY IN THE CONCENTRATED SUGAR SOLUTIONS

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The quality of sparkling wines depends on the biologically active substances which go over in the wine out of the yeast cells in the autolysis process. The autolysis of yeast releases substances with antioxidant properties as well as amino acids, peptides, nucleotides, polysaccharides, mannoproteins, fatty and nucleic acids, enzymes, vitamins of B group, mineral substances and etc. All these compounds have a direct or indirect positive effect on sparkling wine [1;2]. In the production of sparkling wines in pressure tanks, the cycle is short and practically the autolysis process of the yeast is missing.

For amelioration of the quality of sparkling wines produced in pressure tanks at the Department of Oenology and Chemistry, research was carried out on the prior autolysis (plasmolysis) process of yeast under the action of osmotic pressure [3].

The object of this investigation is to find new methods of directing the autolysis process, which has a positive effect on the production of sparkling wines in pressure tanks by administering active dry yeast in the draft liquor, to speed up the autolysis process of the yeast and with the release autolysis compounds in wine.

The viability of active dry yeast in concentrated sugar solutions with doses of 400, 500, 600, 700 and 800 g/l was determined with the help of the Motic type microscope during a certain period of time. The following served as research objects: the raw material wine from the Alb de Onițcani variety; active dry yeast of the Anchor type and refined sugar containing sucrose 99.9%.

It was established that at the concentration of the sugar solution 600 g/l and at the temperature of 20°C, for 24 hours 49% of yeast plasmolysis, and for 72 hours – 54%. Practically under production conditions, the plasmolysis of yeast under the action of osmotic pressure in the draft liquor can be carried out for 24 hours at usually conditions.

Key words: dry white wine, variety, sugar, liquor, microscope, mortified, viable yeast, hours

References:

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