

F.64. OPTIMIZATION OF ALIGOTE DRY WHITE WINE PRODUCTION UNDER TUM MICRO-WINEMAKING CONDITIONS

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Abstract. Sulfur dioxide has been used in winemaking since antiquity, first for the disinfection of grape processing areas and for the storage of wine, containers, and technological equipment, and later for the treatment of must and wine. Currently, winemakers consider that obtaining quality wines under industrial conditions without the use of sulfur dioxide is practically impossible, but it is obvious that there are currently wines that have not been treated with sulfur dioxide, but they require special care to prevent various diseases and get a quality product. In laboratory conditions, three samples of dry white wine of the European Aligote grape variety were studied, produced by three different processes respecting the entire technological process: I – classical method without sulphation, II – classical method with sulphation of 20 mg sulfur dioxide/L of wine and III – the classic method with sulphation of 40 mg sulfur dioxide/L of wine in industrial micro-winemaking conditions. According to the results of the microscopic examination, yeast colonies, agglomerates of bacteria, crystalline particles, tartaric salts, microorganisms, and autolyzed yeasts were identified. Also visible were the cells of genus *Oidium* and *Aspergillus* molds from brown to black color. It follows that the wines obtained by processes I and II do not correspond microbiologically and physico-chemically to the quality standards in force and are harmless to human consumption. The most sensitive oenological microorganisms are bacteria, for the destruction of which the concentration of molecular sulfur dioxide lower than 5 mg/L of wine is sufficient, followed by oenological yeasts of the *Saccharomyces* genus with doses over 10 mg/L and the most resistant are molds, for destruction which require high concentrations of molecular sulfur dioxide - greater than 35 mg/L of wine. Organoleptically study, the primary flavors characteristic of the wine variety were associated with the SO₂ dose of 0 and 20 mg/L, but otherwise absent in the samples with the treatment of 40 mg/L SO₂. In this organoleptic study, no defects of the wine (sensory or visual) produced by the 3 technological processes were detected.

Keywords: oenological microorganisms, sensory characteristics, sulfur dioxide and white wine technology.

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