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Research article

EVALUATION OF WINE PARAMETERS DURING THE MATURATION PROCESS IN DIFFERENT TYPES OF WOOD

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Abstract

This study investigates the influence of various oak types on the microbiological, chemical, and physical properties of wines during maturation. Eight samples were analysed, including Cabernet Sauvignon matured in American, French, Hungarian, and Balkan oak barrels, as well as a young Cabernet Sauvignon, a Vranç matured in Balkan oak, and grape juice. Parameters assessed included microbiological content, sugar levels, alcohol content, glycerol content, pH, acidity, turbidity, and sulfur dioxide (SO_2) levels. Results showed that samples matured in Hungarian oak exhibited higher stability compared to other wood types, while significant discrepancies were observed between declared and measured alcohol levels. Microbiological analyses revealed the presence of *Acetobacter,* yeasts, and molds in several samples, except for the young wine and Vranç, which were microorganism-free. Additionally, turbidity values exceeded acceptable standards across all samples. These findings highlight the influence of wood type and maturation conditions on wine quality, suggesting strategies for optimizing aging processes to ensure product stability and optimal sensory attributes.