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COMPONENT ANALYSIS FOR THE INFLUENCE OF YEASTS ON MULTI-ELEMENT COMPOSITION OF VRANEC WINES

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The multi-element composition of ten monovarietal Vranec red wines produced with different yeast strains was determined by ICP-MS analysis. Vranec wines were fermented with the following *Saccharomyces cerevisiae* yeast strains: Clos, RC212, D254, BDX (from Lallemand, Bordeaux, France), and six Vinalco yeasts (from Bitola, Republic of Macedonia). A total of 38 elements (Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Ge, In, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Pd, Rb, S, Sb, Se, Si, Sn, Sr, Te, Ti, Tl, V, Zn) were determined in wines before their sample preparation by microwave digestion at 240 °C [1]. The content of total elements in wines ranged between 348 to 578 mg/L, whereas wine fermented with D254 commercial yeast presented highes: concentration. The content of harmful elements, such as Pb and Cu was below the maximal allowed concentration in wines. Statistical treatments, including descriptive, factor and cluster analysis were performed in order to discriminate wines. The main observed discriminant elements were P, S, Mg, Ca, Si, Na and B.

Keywords: elemental composition, microwave digestion, factor analysis, cluster analysis, ICP-MS, Vranec wines, yeasts.

References.

[1] Ivanova-Petropulos, V., Wiltsche, H., Stafilov, T., Stefova, M., Motter, H., Lankmayr, E., Maced. J. Chem. Chem. En. 32(2) (2013) 265-281.

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