Rapid analysis of Stanušina wines using a fourier-transform infrared spectroscopy

ELENA BOGVA[a], ŠTEFAN AILER[b], SILVIA JAKABOVÁ [c], VIOLETA DIMOVSKA[a], VIOLETA IVANOVA-PETROPULOS[a, *]

[a]Goce Delcev University, Faculty of Agriculture, 2000, , Stip, Republic of North Macedonia, violeta.ivanova@ugd.edu.mk

[b]Slovak University of Agriculture in Nitra, Faculty of Horticulture and Landscape Engineering, Institute of Horticulture, 94976 Nitra, Slovakia

[c]Slovak University of Agriculture in Nitra, Faculty of Biotechnology and Food Sciences, Institute of Food Sciences, Tr. A. Hlinku 2, 94976 Nitra, Slovakia

Stanušina is an autochthonous Macedonian grape variety, grown mainly at the oldest Tikveš wine district. The main characteristic of this variety is its high endurance, especially on droughts and it ability to grow at vineyards with not very fertile soils. In this study, three Stanušina wines have been produced with addition of two doses of honey before fermentation (20 and 40 g/L added honey) and one control wine without addition of honey. A fourier-transform infrared spectroscopy (FT-IR) was applied for rapid and simultaneous determination of 14 parameters in Stanušina wines, including alcohol, density, glycerol, pH, total acidity, total sugars, individual carbohydrates (glucose, fructose and saccharose) and individual organic acids (tartaric lactic, malic, citric and acetic). Addition of 20 g/L honey before fermentation increased the content of almost all parameters, with exception of glucose and saccharose, which concentration was highest in the wine with highest amount of added honey. Tartaric acid was the dominant organic acid, followed by malic, citric and lactic acid. All wines presented satisfactory values for alcohol, pH, total acidity, glycerol and acetic acid, which confirm the quality and stability of the wines.

Key words: organic acids, carbohydrates, basic parameters, FT-IR, Stanušina wine.

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