

Fourier-transform infrared spectroscopy for analysis of Stanušina wines produced by honey addition before fermentation

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Abstract

In this study, two Stanušina wines were produced with addition of honey before fermentation (20 and 40 g/L added honey) in order to study the influence of the honey on the chemical composition of wine. In total, 14 parameters have been simultaneously determined in honey Stanušina wines applying fourier-transform infrared spectroscopy (FT-IR) and compared to the control wine (produced without addition of honey). Following parameters were determined: alcohol, density, glycerol, pH, total acidity, total sugars, individual carbohydrates (glucose, fructose and saccharose), as well as individual organic acids (tartaric lactic, malic, citric and acetic). It was noticed that wine fermented with 20 g/L honey added before fermentation presented increased content of almost all parameters, with exception of glucose and saccharose, which concentration was highest in the wine fermented with 40 g/L added honey. Concerning the organic acids, tartaric acid was the dominant organic acid in wines, as it was expected, followed by malic, citric and lactic acid, regardless the addition of honey. In general, wines presented satisfactory values for alcohol, pH, total acidity, glycerol and acetic acid, confirming the quality and stability of the wines.

Keywords: honey, fermentation, alcohol, carbohydrates, organic acids, basic parameters, FT-IR, Stanušina wine.

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