XX КОНГРЕС НА СОЈУЗОТ НА
ХЕМИЧАРИТЕ И ТЕХНОЛОЗИТЕ НА МАКЕДОНИЈА

20th CONGRESS OF THE SOCIETY OF
CHEMISTS AND TECHNOLOGISTS OF MACEDONIA

КНИГА НА АПСТРАКТИ
ABSTRACT BOOK

БИКОНГРЕС `08
BICONGRESS `08

Охрид
17–20 Септември 2008

Ohrid
17-20 September 2008

ACE–05-E

HPLC DETERMINATION OF ORGANIC ACIDS IN MACEDONIAN WINES

Violeta Ivanova[1,2], Goran Milanov[1], Ana Sarafimovska[1],
Klime Beleski[1], Marina Stefova[2], Trajče Stafilov[2]

[1]Wine and vine growing Department, Institute of Agriculture,
University „Ss Cyril and Methodius“, Skopje, Republic of Macedonia
[2]Institute of Chemstry, Faculty of Natural Sciences and Mathematics,
University „Ss Cyril and Methodius“, Skopje, Republic of Macedonia
violeta22ivanova@yahoo.com

Quantitative determination of organic acids in wine is important part of fermentation monitoring during winemaking and can be an additional support for sensorial and microbiological quality of wines. The levels of organic acids must be carefully controlled to enable proper fermentation and to prevent spoilage. Organic acids of 21 red, 4 rose and 26 white wines, harvested 2007, from different wine regions in R. Macedonia, were determined by reverse-phase high-performance liquid chromatography (RP-HPLC-DAD). Separation of the acids was performed with C18 column (250 x 4.6 mm, 5 μm) and isocratic elution using aqueous solution of phosphoric acid, pH 2.2, was applied for separation of the analytes. Determination of acids was made by direct injection after the appropriate sample dilution and filtration. The highest concentrations of the tartaric acid were found in Vranec wine, 3.66 mg/L and Chardonnay wine, 3.41 mg/L. Malo-lactic fermentation was finished for Cabernet Sauvignon and Kadarka wines measuring malic acid concentrations of 0.021 and 0.020 mg/L, respectively, and highest content of lactic acid was observed for the same wines as was expected (1.76 and 1.79 mg/L, respectively). The content of citric acid in the analyzed wines ranged between 81.03 and 986.39 μg/L. Shikimic acid content, as a parameter for the verification of varietal authenticity of the wines, was determined and the concentrations were ranged from 15.22 to 36.28 mg/L for red wines and 3.77 to 14.75 mg/L for white analyzed wines.

Key words: organic acids, wine, HPLC, tartaric, malic, lactic, citric, shikimic acid