
Cadmium and lead occurrence in soil and grape from Murfatlar Vineyard

Nicoleta MATEI,^a Antoanela POPESCU*,^b Gabriel-Lucian RADU,^c Victoria ARTEM^d and Georgeta PAVALACHE^b

^a*Faculty of Applied Sciences and Engineering, Ovidius University, Constanța, 900527, Romania*

^b*Faculty of Pharmacy, Ovidius University Constanța, Constanța, 900527, Romania*

^c*National Institute for Biological Science, Centre of Bioanalysis, 296, Splaiul Independentei, Bucharest, 060031, Romania*

^d*Research Centre for Viticulture and Enology Murfatlar, Constanța, Romania*

Abstract. The study investigates the pollution with heavy metals of grapes and soil. The grapes nourish from the respective soil, with all existing substances: either nutrients or toxic materials. This link, between grapes and soil, made mandatory to focus on observing the level of toxic materials in both samples grapes and land. The aim of this research is to analyze the level of Cd and Pb in *Vitis vinifera* L. grape fruits and soil, by flame atomic absorption spectrometry (FAAS) method. The grapes and the soil used in this work were sampled from the Murfatlar City, a nonindustrial area, placed far from the car traffic pollution. Cd and Pb were quantified, after the chemical mineralization of the samples using nitric acid. It can be noticed that the values of cadmium and lead concentrations in grapes were lower than the recommendable maximum limit.

Keywords: cadmium, lead, grape, soil, FAAS.
