

Moldavian wine and soil analysis using neutron activation analysis

Neutron activation analysis was used to determine 35 elements in vineyard chernozem soil and 18 elements in wines from Romanesti and Cricova, Republic of Moldova. Soil elemental content allowed evidencing more similarities between considered soils and the Upper Continental Crust and the World Average Soil. The content of Cr, Mn, Co, Zn and As, proved that, with excepting As, the soil have no traces of anthropogenic contamination. The As content, according to existing data, can be regarded as a characteristic of Moldavian soils, not related to any industrial polluting process. From all 28 trace elements evidenced in soil, only 13, the soluble ones, were found in all wines samples, which finally allowed determination the corresponding transfer factors whose values varied between 0.02 mg/l (U) and 38 mg/l (K). In this regard, all sorts of wines, regardless sort showed a significant concentration of potassium, varying from 370 to 700 mg/l. A subsequent Discriminant Analysis allowed discriminating all wine samples according to their types: red and white as well as to their origin.

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