

Selenium Content in Agricultural Soils and Wheat from the Balkan Peninsula

Authors : S. Krustev, V. Angelova, P. Zaprjanova

Abstract : Selenium (Se) is an essential micro-nutrient for human and animals but it is highly toxic. Its organic compounds play an important role in biochemistry and nutrition of the cells. Concentration levels of this element in the different regions of the world vary considerably. This study aimed to compare the availability and levels of the Se in some rural areas of the Balkan Peninsula and relationship with the concentrations of other trace elements. For this purpose soil samples and wheat grains from different regions of Bulgaria, Serbia, Nord Macedonia, Romania, and Greece situated far from large industrial centers have been analyzed. The main methods for their determination were the atomic spectral techniques – atomic absorption and plasma atomic emission. As a result of this study, data on microelements levels from the main grain-producing regions of the Balkan Peninsula were determined and systematized. The presented results confirm the low levels of Se in this region: 0.222– 0.962 mg.kg⁻¹ in soils and 0.001 - 0.005 mg.kg⁻¹ in wheat grains and require measures to offset the effect of this deficiency.

Keywords : agricultural soils, balkan peninsula, rural areas, selenium

Conference Title : ICABES 2019 : International Conference on Agricultural, Biological and Environmental Sciences

Conference Location : Lisbon, Portugal

Conference Dates : September 19-20, 2019