OMICS International
conferenceseries.com

Kovacevic V et al., J Food Process Technol 2015, 6:8
http://dx.doi.org/10.4172/2157-7110.S1.024

4th International Conference and Exhibition on

Food Processing & Technology

August 10-12, 2015 London, UK

Impact of liming on micronutrients status in maize grain

Kovacevic V*[1], Kadar I.[2], Rastija M[1], Rastija D[1] and **Iljkic D[1]**
[1]University J. J. Strossmayer in Osijek, Faculty of Agriculture, Osijek, Croatia
[2]Research Institute for Soil Science and Agricultural Chemistry (RISSAC), Budapest, Hungary

Soil acidity is a major yield-limiting factor for crop production. Liming is the most important and most effective practice to ameliorate soil acidity constraints for optimal crop production. However, liming can be accompanied with dramatic reduction of some nutrients intake in plants. Among widely cultivated food crops, maize plays a particularly important role. Aim of this study was testing impacts of liming with fertdolomite (24.0 % CaO + 16.0 % MgO + 3.0 % N + 2.5 % P2O5 + 3.0 % K2O) in five rates from 5 to 40 t ha-1 (spring 2008) on micronutrient status in maize grain (the growing seasons 2010 and 2011). In general, concentrations of manganese (Mn), iron (Fe), zinc (Zn), copper (Cu) and boron (B) in maize grain were very low and inadequate with aspect of animal and human feed needs. The growing season characteristics (mainly precipitation and temperature regimes) were more effective factor impact on grain micronutrient status in maize compared to liming (comparison averages values in mg kg-1 in dry matter of all tretaments in 2010 and 2011: 4.77 and 7.07 Mn, 20.6 and 25.8 Zn, 20.7 and 24.7 Fe, 1.67 and 1.46 Cu, 1.19 and 1.36 B, respcetively. As affected by liming slightly decreased concentrations of Mn, Zn and B, while grain-Fe and -Cu were independent on liming. By comparison the control (unlimed treatment) and averages limed treatment (2-year averages: 2010 and 2011) there found values as follows (mg kg-1 in dry matter): 6.44 and 5.81 Mn, 23.7 and 23.1 Fe, 23.3 and 22.5 Zn, 1.55 and 1.56 Cu, 1.41 and 1.24 B, respectively.

Biography

Dr. Vlado Kovacevic, retired (since 1st October 2014) full professor at the Faculty of Agriculture in Osijek, Croatia. Vlado Kovacevic was born in Bizovac, Croatia, July 19, 1948. He graduated from the University of Osijek (Faculty of Agriculture) in 1970, received his MSc from the University of Zagreb in 1975 (Faculty of Agriculture, the field soil science and plant nutrition). In 1980 he received his PhD in University Novi Sad. He was appointed docent in 1982, associate professor in 1986 and full professor in 1990. He was employed in Agricultural Institute Osijek from 1971 to 1992 and from 1992 to 2014 in Faculty of Agriculture Osijek as professor of Special Farming and The Cereals. Dr Kovacevic with coworkers published two books and about 400 articles (scientific and revial papers). He was active participated on about 60 international meetings. The field of his scientific activities are maize and wheat nutrition, genetic aspects of plant nutrition and response of plant to environmental stress. He decorated 1997 from Prasident of Croatia by Croatian medal Red Danice hrvatske with Ruder Boskovic image. Also, hedecorated 1998 from Croatian Parliament by State prize for Science.

vlado.kovacevic@pfos.hr

Notes: