

Сојуз на хемичари и технолози на
Македонија

Society of Chemists and Technologists of
Macedonia



Конгрес по чиста и применета хемија
на студентите од Р. Македонија
(со меѓународно учество)

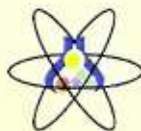
Congress of Pure and Applied Chemistry
of Students from R. Macedonia
(with international participation)



BOOK OF ABSTRACTS

Место:

Институт за хемија,
Природно-математички
факултет, Скопје



Venue:

Institute of Chemistry,
Faculty of Natural Science
and Mathematics, Skopje

06 – 08. 10. 2011, Скопје, Р. Македонија

**IX CONGRESS OF PURE AND APPLIED CHEMISTRY OF STUDENTS
FROM REPUBLIC OF MACEDONIA**

is organised by

**The Society of Chemists & Technologists of Macedonia,
Institute of Chemistry, Faculty of Natural Sciences and Mathematics,
Skopje
and
Faculty of Technology and Metallurgy, Skopje**

SCIENTIFIC COMMITTEE

PRESIDENT

Vladimir Petruševski

MEMBERS

Marina Stefova

Valentin Mirčeski

Zagorka Koneska

Jane Bogdanov

ORGANIZING COMMITTEE

PRESIDENT

Marina Stojanovska

MEMBERS

Olgica Trenčevska

Jasmina Tanatarec

Miha Bukleski

Jasmina Petreska

Ivana Micevka-Ristovska

Igor Mavromihailov

Birhan Sefer

Tomče Runčevski

Elena Tomovska



**CHEMICAL PROPERTIES OF VERTISOLS FROM THE EAST
REGION OF REPUBLIC OF MACEDONIA**

Dalibor Jovanov, Violeta Ivanova

Faculty of Agriculture, University "Goce Delčev"- Štip, Krste Misirkov bb, 2000 Štip, R.
Macedonia
e-mail: dalibor.jovanov@ugd.edu.mk

Vertisols are one of the more widespread valley soils in Republic of Macedonia, which occupy 11.34% of the total cultivated surface. The chemical properties of this soil type widely vary and depend on the soils whether they are under natural vegetation or cultivated, on the richness of the parent material with CaCO_3 , on the level of antropogenization and erosion, and, on the climate conditions which are significant for the decarbonization. The aim of this research was to determine the chemical properties of vertisols, including pH, content of carbonates and humus for nine soil profiles (37 soil samples) from the east part of Macedonia (Štip, Probištip and Ovče Pole valley). It was found that the non-calcareous vertisols were mainly present in Štip and Probištip valley, while the calcareous vertisols were dominated in Ovče Pole valley, whereas the decarbonization is weaker than in the other two regions because of the bigger aridity of the climate. The content of CaCO_3 in the vertisols from the three different regions ranged from 0 to 27.20% (average value of 8.95%). At non-calcareous vertisols, carbonates are deeply eluviated in the ground, while at calcareous vertisols carbonates are located on the surface. Concerning the pH value, it was found that the average value of pH was 7.78 and it varied in range from 6.30 to 8.86. The reaction of the soil in non-calcareous vertisols in humus-accumulative horizon A usually is neutral (average pH 6.81) and mildly acid (average pH 6.31), and rarely poorly alkaline (pH 7.78), while the calcareous vertisols show higher pH values, from 7.59 to 7.92 (poorly alkaline and moderately alkaline). The content of humus of the cultivated vertisols was highest in the cultivated Ap layer ranged from 2.22 to 3.99 %. The profile under natural grass and forest vegetation presented the highest content of humus in the humus-accumulative horizon A (4.83%) because of the abundant presence of plant residues. It was noticed that the content of humus gradually decreased with the depth and its content was significant in the parent material (average 1.57%) as a consequence of pedoturbation and homogenization of the soil mass.

Key word: vertisol, carbonates, pH, humus, Štip, Probištip, Ovče Pole valley.