Phosphorus as a limiting factor of the field crops yied under conditions of the northern Bosnia

M. MARKOVIC, I. KOMLJENOVIC - University in Banja Luka, Republic of Srpska, Bosnia and Herzegovina
Z. DELALIC - University in Bihac, Bosnia and Herzegovina
V. KOVACEVIC - University J. J. Strossmayer in Osijek, Croatia

Growth retardation at early growth stage and chlorosis typical for P deficiency has been found in maize plants grown on some soils in the northern Bosnia. As chlorotic and normal plants grown on same plots, comparative analyses of chemical composition of aerial part of maize were made. In these preliminary investigations dry matter yield and P concentration of chlorotic plants were very significantly lower, while the Al and Fe concentration were higher as compared to non-chlorotic plants. Mainly low status of mobile P was found by soil testing. As affected by liming of Brcko state farm soil, yield of wheat was significantly increased 0.3 t/ha or 5% only, while yield of maize was similar to the control, although of improved P status in plants (ear-leaf of maize and flag-leaf of wheat). Low or absence effects of liming in USA were found mainly when low pH is not accompanied with high levels of mobile Al and Fe in soil. Under influences of P fertilization in Knespolje area, maize yields were increased up to 32% and 17% compared to the control, for 2004 and 2005, respectively. Also, there were tendency for increases protein and oil contents.