



Investigations on the influence of long-term fertilization on maize yield in the Moldavian Plain

Despina AILINCAI, C. AILINCAI - S.C.D.A. Podu-Iloaiei, Iasi

D. BUCUR - USAMV Iasi

CIMPEANU S. - USAMV Bucuresti

Maria ZBANT - S.C.D.A. Podu-Iloaiei, Iasi

L. RAUS - USAMV Iasi

A. MERCUS - I.S.P.I.F. Iasi

Investigations conducted in long-term (40 years) stationary experiments (under unirrigated) followed the influence of different fertilizer rates on the evolution of soil agrochemical characteristics and yield obtained in main crops, placed in 5 year rotations.

In maize placed in 5 year rotations, the mean yield obtained under unfertilized (during 1980-2004) was of 3250 kg/ha. Yield increases obtained in that period by the application of rates of N100P80 were of 2210 kg/ha, and increasing the rate to N150P80 (9 years of the last 25 being dry), resulted in a limitation of yield increases to 2380 kg/ha.

Fertilization only with nitrogen or phosphorus resulted in obtaining the highest yield increases of 1720 (53%) and, respectively, 820 (25%) kg/ha.

The mean nutrient amounts used from soil with main and secondary crop (grains and stalks) varied according to rates, between 70 and 151 kg/ha, at nitrogen and between 11 and 24 kg/ha, at phosphorus.