

STUDY ON THE EFFICIENCY AND MOBILITY OF DIFFERENT FORMS OF NITROGEN FROM FOLIAR FERTILIZERS BY USING OF ^{15}N ISOTOPE

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Abstract

The objective of the study was to establish (by using as tracer the ^{15}N isotope) the contribution of foliar complex fertilizer containing natural organic compounds for improving the efficiency of different forms of nitrogen fertilizers applied to the soil. We used the isotope in order to track the efficiency use of different forms of nitrogen fertilizer.

Efficient use of nitrogen has a positive effect on the quality of the crop which was accompanied by a corresponding decrease of the pollutant impact of chemical fertilization on the environment.

There were used fertilizers with NPK matrix containing meso and micro-nutrients, and we incorporated organic substances, such as protein hydrolysates with biostimulatory role due to the presence of free aminoacids, and we obtained maize green mass yiled increases, which are statistically significant.

The nitrogen present in various forms, such as ammonia N-NH_4 , nitric N-NO_3 , amide N-NH_2 was labelled with ^{15}N isotope. We observed that there were increases when nitrates and ammonia forms were used, when was compared with the unfertilized control variant. In fact, this study demonstrates the efficiency of protein hydrolysates.

Key words: foliar fertilizer, protein hydrolysates, ^{15}N isotope.
