INFLUENCE OF ZINC IN THE DYNAMICS OF THE GROWTH OF ZEA MAYS PLANTLETS ROOTS

L Mihaescu, Mare Rosca Oana¹, Monica Marian*¹

¹ Department of Biology, North University of Baia Mare, 430122, oanarosca76@yahoo.com

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SUMMARY

The purpose of our work is to observe the influence of the mineral salts on the growth of the Zea mays plantlets roots. Following our survey we can state that the roots better grow in the witness solution, reaching an average value of 20.01 cm; in deficiency of nitrogen they reach an average value of 17.03 cm. In deficiency of phosphorous the growth is highly inhibited, and in deficiency of potassium it is less inhibited. Introduction. The mineral nutrition of plants has a major importance; some minerals were found which, when present, compensate the absence of other minerals for the remedy of the pathologic conditions and for the recovery to normal condition (Trifu, 1978). Materials and Work Methods. The following nutritive solutions were prepared for the research:: V₁ - complete medium, V₂ - Zinc medium, V₃ - nitrogenless medium, V₄ - potassiumless medium, V₅ - phosphorousless medium, V₆ - nitrogenless with zinc medium, V₇ - potassiumless with zinc medium, V₈ - phosphorousless with zinc medium. The synthetic method of growing plants on liquid mediums was used for the experiment. Results and Discussions. If we take out the nitrogen from the life medium of the plants we will observe that their roots suffer because of the deficiency of nitrogen. If we compare the values of the root growth on the witness solution with the values of the root growth on a phosphorousless medium, we will observe that the corn plants roots are more profoundly affected by the deficiency of phosphorous than by the deficiency of nitrogen. The comparison between the value of the root growth on the witness solution and the value on potassiumless medium shows that in the deficiency of potassium the roots do not grow. Comparing the value of the root growth on the witness with zinc solution with the value of the growth on nitrogenless with zinc medium, we observe a very slow root growth, only reaching the value of 10.27 cm. The maximum value of the root growth on phosphorousless with zinc medium reaches the value of 12.22 cm, and on potassiumless with zinc medium of 10.67 cm. Conclusions. The growth is lesser inhibited in the potassium deficiency than in the phosphorous or nitrogen deficiency. When introducing zinc, it greatly exercises its toxicity comparatively with the plants grown on a nitrogenless and potassiumless medium, and less comparatively with those grown on phosphorousless medium.

BIBLIOGRAPHY