

Zinc and copper content in soil and plant during different vegetation periods

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Abstract

Important biogenic elements of plants are zinc and copper, which come into them from the soil in the form of cations. Plants selectively absorb the elements they need in accordance with physiological and biochemical needs, as well as the characteristics of their vegetation. Copper and zinc are part of the enzymes that are necessary for the normal course of many biochemical reactions. Lack or excess of any chemical element causes a violation of the normal course of biochemical and physiological processes in plants. The paper presents the results of the study of zinc and copper content in the soil, as well as in the above-ground and underground organs of the studied plant object. Quantitative determination of zinc and copper was carried out on an atomic absorption spectrometer. As an object of study, a flower plant of the Gentian family (lat. *Gentianaceae*), genus *Eustoma* (lat. *Eustoma*), grade *Aube Pink Picotee*. Vegetation experiments were carried out on the basis of LLC "Greenhouse "Iceberg". According to the data, the content of zinc and copper in the organs of the studied plant decreases in a number of root – aboveground part – flower. In different periods of vegetation there is a different accumulation of copper and zinc in the aboveground and underground organs. The root of this plant performs a barrier function, blocking the flow of copper into the plant from the soil at 27 weeks of development. In this case, the zinc content in the root of the plant during this period increases significantly, but this figure in the above-ground part of the plant varies slightly. According to the calculated average value of the biological absorption coefficient, it can be seen that the accumulation of zinc in the plant occurs to a greater extent than the accumulation of copper.

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