

**STUDY OF PHYSIOLOGICAL BIOCHEMICAL CHARACTERISTICS OF
CUCUMBER SEEDLINGS IN CASE OF DAILY PROCESSING WITH
SALT SOLUTIONS ZN, MN, CU, MO**

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Study of the implication of metals of macro and minor elements in the mineral nutrition of plants has very long history in Ukraine and in the whole world and have already achieved substantial success (Morgun, 2001). Currently a lot of attention is paid to genetic, biochemical, biophysical aspects of the present problem and development of complex fertilizers, which contain necessary metals with other fertilizer elements and stimulant fertilizer elements. Soils of lots of areas of Ukraine are characterized by the deficit of the elements of the mineral nutrition of plants, including minor elements, such as: zinc, cuprum, manganese, molybdenum. On soils with low provision of minor elements applying special fertilizer allows to increase the harvest of some agricultural crops for 10-15 % and more (Pauser, 2002). That is why pre-daily processing of cucumber seeds salt solutions of zinc, cuprum, manganese and molybdenum must increase productivity of the present vegetable crop, impact on some physiological biochemical characteristics. The aim of this work was to study influence of



minor elements of zinc, cuprum, manganese and molybdenum on physiological biochemical characteristics in cucumber seedlings of sort "Dzherelo". There in cucumber seedlings were determined proportion of pigments (Mac-Kinny), protein (Louri), sugar (Bertrand) (Yermakov, 1987). Pre-daily processing of cucumber seeds were made with zinc sulfate solution of (Zn) 0,05 %, copper sulfate solution (Cu) of 0,005 %, manganese sulfate solution (Mn) of 0,1 % and ammonium metatungstate ammonium molybdate solution of 0,05 %. Comparison was made between 10-day seedlings of *Cucumis sativus* L. of sort "Dzherelo".

During study of impact of presowing soaking of cucumber seeds on their daily characteristics were disclosed that germinating ability of seeds improves in all the variants on 16 - 31 %, the most productive are the variants with manganese (29,0 % higher then control group) and molybdenum (31 % higher then control group). In whole in proportion of chlorophyll the variants with cuprum, manganese and molybdenum exceed the control in 2-2,5 times. In proportion of chlorophyll b the variant with manganese exceeds the control on 80 %, and in amount of chlorophyll the variants with cuprum and manganese exceed the control in 1,5-2 times. In proportion of protein the variants with usage of presowing processing with salt solutions of minor elements exceed the control on 13-64 %. In particular, the variant with copper showed the increase of proportion of proteins on 64 % in comparison with control. In proportion of sugar, the variants with usage of salts of minor elements exceeded the control on 22-41 %. The variant with usage of zinc showed increase of sugar on 41 % in comparison with the control.

So, the presowing processing of cucumber seeds with salt solutions of studied minor elements improves their sowing characteristics, increasing the characteristics of germinating capacity of seeds, impacts positively on formation and development of a cucumber, provides increase of proportion of proteins and pigments.

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