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# THE POSSIBILITY OF REGULATING THE SEED GERMINATION OF WHEAT CULTIVAR VASILISA BY TREATMENT WITH EPIBRASSINOLIDE AND WITH A 150 mM NaCl BACKGROUND

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The effect of epibrassinolide solutions at concentrations of  $10^{-7}$ ,  $10^{-8}$ , and  $10^{-9}$  % with a background salinity of NaCl of 150 mmol on the change in the length of seedlings of soft spring wheat of the Vasilisa variety was studied. It was shown that epibrassinolide at a concentration of  $10^{-8}$  % significantly reduces the negative effect of salinization.

**Keywords:** epibrassinolide, soft spring wheat, chloride salinity.

Under the conditions of global warming, that leads to aridization, soil salinization is becoming a significant problem [1], since it harms the development of plants, especially in the early stages. It is known from the literature that epibrassinolide reduced the negative effect of salinity upon exogenous use in *Brassica napus*, *Arabidopsis thaliana*, *Cucumis sativus*, *Medicago sativa* and other plants [2, 3]. In this regard, it is relevant to conduct studies to study the effect of epibrassinolide on seed germination of an important grain crop – soft wheat under stressful salinization conditions.

The study was conducted in laboratory conditions, the object is the seeds of soft spring wheat cultivar Vasilisa. The experiment was carried out according to GOST 12038-84 by the roll method. Previously, the seeds were disinfected with a 30% sodium hypochlorite solution for 10 minutes. Seeds germinated at a temperature of 22 °C. The experimental options are solutions of epibrassinolide at concentrations of  $10^{-7}$ ,  $10^{-8}$  and  $10^{-9}$  % (hereinafter – EB7, EB8, EB9) with background salinization of NaCl (150 mmol). NaCl in the background concentration was used as a control. Statistical processing of the results was carried out using MS Excel 2007.

Statistical analysis of the data showed that all used concentrations of the epibrassinolide solution under conditions of high salt content showed growth-promoting activity (Fig. 1) compared to the control.

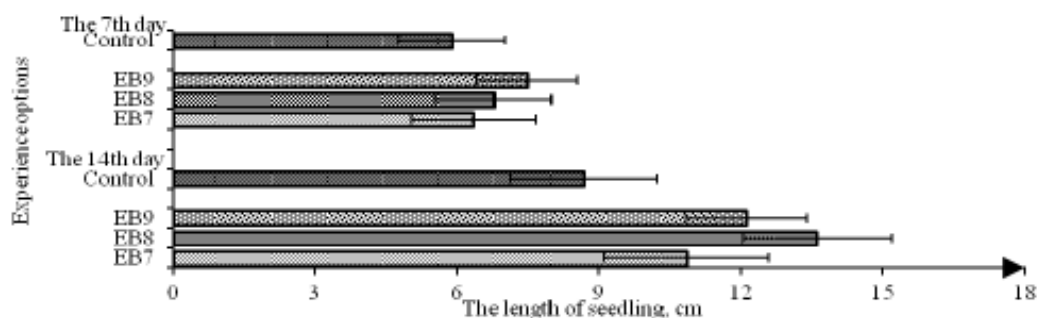


Fig. 1. – The effect of epibrassinolide on the growth of spring wheat seedlings of the Vasilisa cultivar against the background of chloride salinity (150 mM NaCl)

On the seventh day the greatest positive effect was observed with the use of EB9 solution: an increase in seedling length by 27,19 % relative to the control was revealed. However, on the 14 day of the experiment, EB8 exhibited the highest biological activity. The seedling length significantly increased at  $P \leq 0,05$  by 56,8 % relative to the control. Thus, under the conditions of chloride salinization, the treatment of spring wheat seeds with the three studied epibrassinolide solutions leads to an increase in the length of the seedling.

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