

## **Effectiveness of microelements and stimulator of diacetatmonoethanolamine on growth and development of perspective cotton kinds**

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At present it is conducted an intensive search for natural and synthetic growth regulators and study of their role in processes of formation and abscission of fruit organs in cotton and other crops. Various growth stimulators with high biological activity - auxin-type and inhibitors were synthesized. It is known that growth regulators render a strong influence on the process of vital activity of a plant. On the basis of this fact, it was studied an effectiveness of diacetate monoethanolamine stimulant with microelements. The article presents the data of field experiment under the influence of microelements and a stimulator of diacetate monoethanolamine on the number of sympodium, buds and flowers at different times of growth and development of cotton kinds. As a result, it was shown that the influence of copper, boron and their mixtures with the diacetate monoethanolamine stimulator leads to an increase in the growth and development of cotton kinds.

**Keywords:** microelements, stimulator of diacetate monoethanolamine, growth and development, cotton kinds, budding, fruit formation, fruiting organs, stem, valves, mixtures.

**Introduction.** High culture of husbandry creates the conditions for introduction of brand new achievements of physiologic and biochemical investigations to cotton-growing. Microelements are active centers of enzymes that improve metabolism in plant and animal organisms. The highest efficiency of microelements is noted at sufficient provision of plants with basic elements of mineral nutrition - nitrogen, phosphorus and potassium. Microelements stimulate growth of plants and accelerate their development; render a positive effect on the resistance of plants against adverse environmental conditions; play an important role in control of certain diseases of plants. [1]

**Materials and methods.** Analysis of literature sources shows that, influence of hormones on growth, development and productivity of cotton yields gives the best results and a yield is 11%. In connection with this, a field experiment was established with kinds *Bukhara-102* and *Omad* according to the scheme presented below. Seeds of cotton kinds were pre-soaked in a solution of stimulant of diacetate monoethanolamine, as well as in a mixture with a microelement of boron and copper. Further, we conducted an accounting of the germination of seeds and phenological observations of the growth and development of cotton plants.

**Results and discussion.** Under the field conditions, it was investigated the influence of such microelements as copper and boron in a mixture with diacetate monoethanolamine stimulator on growth and development of *Bukhara-102* and *Omad* kinds. Studies have shown that in the first 5 days and subsequent periods, including the 35th day of development of cotton of *Bukhara-102* kind, microelements and a stimulant did not have a noticeable effect on the growth of the main stem and the formation of sympodium. However, as it was shown in experimental variants, number of buds and flowers increases. For example, it is seen

from the diagram that on the 20<sup>th</sup> day of development a number of buds increases by 2 times in copper + stimulator variant and by almost 30% in the buds in boron + stimulant variant. Quantity of colors of Bukhara -102 kind in the experimental variants is increased as compared with control on the 30<sup>th</sup> day of development. As opposed to Bukhara – 102 kind, a reaction of another Omad kind to processing with microelements and diacetate monoethanolamine was more noticeable and effective. Thus, it is seen that in 5 days copper influences on height of the stem, formation of the symposia of cotton Omad kind. It should be noted that influence of the stimulant in the mixture with microelements not only accelerates, but also prolongs the period of fruit formation, and also increases the yield of cotton.

**Conclusions.** Under the influence of copper, boron and growth regulator, a number of buds, flowers in the phase of the beginning of mass budding and flowering increases. Comparing the influence of microelements and their mixtures on the fruit formation of Bukhara-102 and Omad, we came to the conclusion that the reaction of varieties was specific and unequal. Only in Omad kind period of the fruit formation phase also increased, which is very important for the short-stemmed kind, such as this kind. The yield of raw cotton is greater at the seeds wetting with a solution of boric acid, especially in the diacetate monoethanolamine variant.

**REFERENCES.** 1. Dzhuraeva, F.A. Effect of diacetate monoethanolamine on the growth and development of various varieties of cotton. Reports of Academy Sciences of Uzbekistan. 2010. №1. P.5-8.