

## **THE EFFECT OF THE APPLICATION OF BIODUKS AND ALBIT STIMULATOR AT SEED PLANTING AND DURING THE OPERATING PERIOD ON THE GROWTH AND DEVELOPMENT OF COTTON**

*Karimov Sharofiddin Abdulkarimovich,  
Senior researcher of the Research Institute of Cotton Breeding, Seed Production and Agrotechnology,  
Doctor of Philosophy in Agricultural Sciences, Republic of Uzbekistan*

*Karabaev Ikramjan Turaevich,  
Senior researcher of the Research Institute of Cotton Breeding, Seed Production and Agrotechnology,  
Doctor of Science in Agricultural Sciences, Republic of Uzbekistan*

**Annotation:** In the article, the highest result was achieved at the rate of 3.0 ml/t when the Bioduks and Albit stimulators were treated with the Bioduks stimulator before sowing, providing 8.5-12.1% higher field fertility of the seed. Also, when cotton was treated with Biodux and Albit stimulants at the rate of 2.0 ml/ha during the flowering period, compared to the control, the number of crop branches and bolls was higher and the opening rate of bolls was accelerated by 7.7-13.7%.

**Key words:** cotton, seed, stimulator, biodux, humimax, grape, albite, growth, development.

**Introduction** .In our country, special attention is paid to the development of the scientific and supply system of the agricultural sector. A number of reforms were implemented by the government of the republic in order to adapt this system to the requirements of the market economy. The main goal of this is to raise the position of scientific support in the agrarian field, to put scientific achievements into practice .

In the conditions of global changes and new trends in the scientific supply of the agricultural sector, maintaining competitiveness requires the production of abundant and high-quality fiber that can meet the world's requirements in response to the ever-changing new requirements of the market.

As the Republic of Uzbekistan is located in the northernmost country among the cotton-growing countries, there are several problems in collecting seeds, creating favorable conditions for the growth and development of cotton buds, and growing a high-quality crop. In order to overcome these problems, the scientists of our country are developing and improving innovative agro-technological activities. One of them is the treatment of seeds and cotton during the growth period with growth regulators and the methods of foliar feeding through suspensions, which are important agrotechnological measures for growing early, abundant and high-quality cotton crops [5, 6, 8].

One of the works in this direction was carried out in the conditions of typical gray soils of the Tashkent region, and the effectiveness of the new Biodux stimulator, produced in Russia, with arachidonic acid as an active ingredient, was studied in cotton.

**The level of study of the problem.** A. Imomaliyev, U. Madraimov, Sh. Abdualimov, K. Tadjiev, K. Davronov on improving cotton fertility, growth, development, and increasing cotton yield and fiber quality by treating cotton with stimulants before planting and during the period of growth and development. many scientific studies have been conducted by However, in the conditions of typical gray soils of Tashkent region, researches on determining the biological efficiency of new Albit and Biodux stimulants in cotton, development of optimal application criteria and terms have not been carried out sufficiently [1, 3, 4 ] .

In the experiments carried out in the conditions of Surkhondaryo region, when the seed was treated with Vitavaks 200 FF stimulator at the rate of 5 l/t, the germination accelerated and the seedlings developed well and a high yield of 3.0-4.1 t/ha was produced [9].

In the Namangan region, it was noted that cotton yield increased by 2.9 t/ha, while the height of the cotton grew by 6.8 cm compared to the control when it was treated with Unum stimulator at the rate of 2.0 ml/ha before planting and 15-20 ml/ha during the tillering period [10 ] .

The technology of applying Unum stimulator to winter wheat was developed, and in the soil and climate conditions of Tashkent, Fergana and Namangan regions, wheat seeds germinated when treated with Unum at the rate of 1.0 ml/t before planting, and 8.0-12.0 ml/ha during the tillering period. it has been proven once again that the output has accelerated, the growth and development has accelerated, and the grain yield has increased by 1.7-7.5 t/ha, and its quality has improved [1].

In research conducted in Bukhara region, when Fitovak drug was applied to the seed at 200-400 ml/t and 200-400 ml/ha during the growing season, the germination and growth development of cotton improved, and the cotton yield was 2.6-6.6 t/ha [11].

**The purpose of the study.** To study the effect of pre-sowing treatment with new stimulators on the germination of seedlings, cotton diseases, rapid plant growth, cotton yield and fiber quality in the conditions of typical gray soils of Tashkent region, and to give recommendations to farms.

**Research methodology.** The research was carried out on the basis of the first experimental system in the conditions of the typical gray soils of the Tashkent region. Before planting, the seed was treated with Biodux stimulator at the rate of 2.0-3.0-4.0 ml/t during the soaking period, and it was sprayed with a hand sprayer at the rate of 2.0 ml/ha during the flowering period of cotton. For comparison, the Gumimax stimulator treated at the rate of 0.8 l/ha in the seed and 0.3 l/ha in the flowering period and the general control options were taken as a comparison (see Table 1).

Biodux is in liquid form, colorless, its active substance is arachidonic acid, produced in Russia at the enterprise "Organik Park" LLC. Recommended for use in various agricultural crops. It is safe for humans and warm-blooded animals, birds, fish and bees, as well as for the environment.

**Table 1**  
**Experimental system 1**

No	Experience options	Pre-sowing treatment rate	Processing criteria during the flowering period of cotton
1	Control	It is not processed	
2	Gumimax	0.8 l/t	0.3 l/ha
3	Biodux	2.0 ml/t	2.0 ml/ha
4	Biodux	3.0 ml/t	2.0 ml/ha
5	Biodux	4.0 ml/t	2.0 ml/ha

On the basis of the second experimental system, the Albit stimulator was applied to the plant before sowing and during the vegetation period of cotton, and Uzgumi stimulator was compared (Table 2).

Albit stimulator is a brown liquid, a weak star of conifers, it has stimulant, fungicidal and antidote properties. The active ingredient is poly-alfalfa-hydroxybutyric acid - 6.2 g/kg, magnesium sulfate - 29.8 g/kg, potassium phosphorite - 91.1 g/kg, potassium nitric acid - 91.2 g/kg, urea - 181.5 g/kg. Albit is used as an antidote to accelerate the growth and development of crops, to protect against disease and stress, to protect the soil and the environment, and to reduce the adverse effects of toxic pesticides on plants. Albit can be used mixed with pesticides and agrochemicals, toxicity class IV, less harmful, produced at the Russian company "Albit Antidot" OOO.

Table 2

**2-experimental system**

No	Experience options	Forwarding rate, l/t	The norm of processing during the vegetative period of the cow	
			in agreement	and the period of prosperity
1	Supervision	Ishlov is not given		
2	Doesn't happen	0.8 l/t	0.3 l/ha	0.4 l/ha
3	Albit	50 ml/t	40 ml/t	
4	Albit	75 ml/t	40 ml/t	
5	Albit	100 ml/t	40 ml/t	

Observations, phenological calculations and analyzes in the experiment were carried out in accordance with UzPITI's Metodika polevyx opytov s xlochatnikom and methodical manual for conducting field experiments. Agrotechnical activities in the experimental field were conducted based on the agrotechnical rules adopted in the farm [2, 8].

**Research results.**

When the seeds were treated with Biodux stimulator before planting in the experimental field based on the first experimental system, the field germination of the seeds showed different indicators depending on the biological characteristics of the cotton variety and weather conditions. In the first observation of seed fertility in field conditions, the level of fertility in the control variant was 45.4%, while in the variants treated with Biodux, this indicator was observed to be 48.2-50.2%.

It should be noted that the fertility index in the variants treated with Biodux stimulator was significantly higher in comparison to the control variant.

At the same time, in the options treated with the Biodux stimulator, high indicators of seed germination were found in the observations conducted in the following periods (6-8.05).

In the last period of observation conducted on May 9-10, the germination rate of the seed was 72.8% in the control, while it was 81.3-84.9% in the variants treated with Biodux at the rate of 2.0-4.0 ml/t. It was noted that it was 8.5-12.1% higher than the variant. Also, this indicator was slightly higher than the indicator of Gumimax stimulant (81.6%), which was used as a standard. The best results were obtained in the version of Biodux, treated at the rate of 3.0 ml/t.

So, the Biodux stimulator ensured that the field fertility of manure was 8.5-12.1% higher, and high results were achieved at the rate of 3.0 ml/t of manure.

In the experiment, in order to determine the effect of the Biodux stimulator on the growth and development of cotton, the state of the plant was periodically studied through biometric observations. In this case, we believe that its positive effect was manifested due to the creation of favorable conditions for the growth of the plant in the variants treated with the Biodux stimulator during the development of the seed and cotton.

It should be noted that the positive effect of Biodux on the growth and development of cotton was determined during the 3-4 ginseng, tillering, flowering and ripening periods. For example, in the variants treated with the Biodux stimulator, on June 1, the height of the main stem is 9.2-9.5 cm, the number of leaves is 3.1-3.3, and on July 2, the plant height is 28.8-29.9 cm, the harvest branches 5.1-5.6 units, the number of combs was 5.2-5.3 units, slightly superior to the control option.

In the observations made during the flowering and fruiting periods of cotton, it was found that the plant height and the accumulation of yield elements were optimized and higher values were obtained when the seeds were treated with Biodux and cotton at different rates during the growth period.

In the observation carried out on September 18 before the cotton harvest, the degree of opening of the cysts was determined. In this case, the number of open cysts in the control variant was 3.5 pieces or 35.4%, while in the variants treated with Biodux stimulator at different rates, it was 4.7-5.5 pieces or 43.1-49.1%, and the control It was observed that the rate of opening of blisters increased by 7.7-13.7% compared to the variant.

Thus, it was researched that when treated with Biodux stimulator before sowing and during the flowering period of cotton, it has a positive effect on its growth and development, as well as acceleration of harvest, and it creates a basis for growing a high and quality crop.

In the research area conducted on the basis of the second experimental system, the seeds were treated with Albit stimulator at different rates and prepared for planting. However, after heavy rains, the seed was planted in a field with high humidity. At the follow-up on May 15, significantly higher results were obtained in the Albit stimulator than in the control, with close to each other data with no significant difference observed between experimental variants. For example, the rate of seed germination in the control option was 61.4%, in Uzgumi it was 68.2%, while it was found that Albit 50 ml/t rate was 68.7%, Albit 75 ml/t rate was 72.7% and Albit 100 ml/t rate was 75.3%. . When the seed was treated with Albit, germination was accelerated by 7.3-13.9% compared to the control.

It is known that it is important to determine the effect of new physiologically active substances on the growth and development of cotton ontogeny. Therefore, it was found that Albite actively affects the growth and development of cotton from the early stages of its development. The height of the cotton, the number of true leaves, the number of bolls, bolls, flowers and bolls have been optimized. In particular, on June 2, the height of the cotton is 13.1-15.1 cm according to the options, the number of true leaves is 3.4-3.7 pieces, when the seed is treated with Albit, the height is 0.5-1.2 cm higher, the number of true leaves is 0 ,1-0.2 units more.

In the experiment, during the observation on July 2, the height of the cone was 36.8-44.4 cm, on July 30 it was 75.1-84.8 cm, and the number of horns was 5.6-6.5 and 12.4-13.3, respectively. , the combs were 6.4-7.6 and 5.9-6.5 pieces, the flowers and buds were 3.0-3.3 pieces, and the pods were equal to 6.7-7.4 pieces per bunch.

During the ripening period of the cotton, the height of the control was 80.3 cm, the harvest branches were 12.5 pieces, the bolls were 8.0 pieces, and 2.7 pieces (33.8%) of them were opened. ml/ha in the treated variants, the height is 86.7-90.2 cm, the harvest branches are 13.3-13.5 pcs., the pods are 9.1-9.5 pcs., and the opened ones are 3.2-3.7 pcs. (35 ,2-38.9 %), in the options where Albit is used, the height of the cotton is 6.4-9.9 cm, the yield branches are 0.8-1.0 pieces, the bolls are 1.1-1.5 pieces more, their the opening rate was 1.4-5.1% higher. Positive results were also obtained when Albit stimulator was mixed with entolicho and entomite pesticides for treating cotton, which is a reason to conclude that Albit stimulator can be used in combination with pesticides.

**Summary.** Thus, in the typical gray soils and natural climatic conditions of the Tashkent region, when seeds are treated with Biodux and Albit stimulator and during the flowering and flowering periods of cotton, the rate of seed germination is 10-20 percent higher, and healthy and uniform sprouts are obtained even in natural adverse weather conditions . it was found that the recovery was achieved, it had a positive effect on the growth and development of cotton, the height was 3.6-10.0 cm, the number of bolls increased by 1.0-3.1 and the opening of bolls was accelerated by 1.4-16.6%.

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