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RESULTS OF LABORATORY-FIELD TESTING OF HAIRY SEEDS COATED WITH MINERAL FERTILIZERS

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Annotation:
This article presents the results of laboratory-field tests of hairy seeds coated with mineral fertilizers to confirm the accuracy of the results obtained in theoretical studies and experimental experiments. Based on the analysis of the given results, it can be concluded that coating hairy seeds with mineral fertilizers increases their spreadability and allows obtaining seed seeds with high fertility and potential yield in field conditions.

Keywords: Natural protection agent, hairy seed, mineral fertilizer, theoretical research, field conditions, test results, fertilization energy, fertilization dynamics, yield, cotton height, boll number

In the world, before sowing the seeds of agricultural crops, scientific and research work is being carried out aimed at developing new scientific and technical bases of the resource-saving technology of increasing the spreadability of mineral fertilizers and micronutrient compositions with a solution in water. In this regard, it is of great importance to develop and put into practice a device that provides shelling of hairy seeds with a solution of mineral fertilizers and micronutrient compositions in a continuous technological process.

It is known that, based on the soil and climate conditions of our Republic, hairy seeds, which are a natural protection tool, are planted in the main part of the cotton fields. With this in mind, we recommended coating hairy seeds with mineral fertilizers to increase their spread while maintaining their natural protection.

Conducted theoretical studies and experimental experiments showed that it is possible to coat hairy seeds with mineral fertilizers and obtain seeds with granular and high dispersibility and physical and mechanical properties close to each other. In order to confirm the correctness of the results obtained in theoretical studies and experimental experiments, hairy seeds coated with mineral fertilizers were tested in laboratory-field conditions.

The table shows the results of tests of hairy seeds coated with mineral fertilizers in laboratory-field conditions

Table

Hairy seeds coated with mineral fertilizers laboratory-field test results

T/p	Name of indicators	Hairy seed prepared in the traditional way	Hulled hairy seed
1.	Mass of 1000 seeds, g	116,0	125,0
2.	Viability energy, %	96,0	97,0
3.	Fertilization in the laboratory, %	97,0	97,0
4.	Dynamics of fertility, %: 29.04.07 йил 01.05.07 йил 03.05.07 йил	 26,5 48,7 51,3	 26,7 56,0 92,1
5.	Fertilization in field conditions, %	54,1	69,5
6.	Growth (10.08.07): - cotton height, sm - harvest branches, piece - number of bags, piece	 94,7 12,7 9,3	 96,5 13,2 9,6
7.	The number of seedlings, thousands of plan ts/ha	75,6	84,3
8.	Productivity, ts/ha: 1st skin 2st skin Total	 30,1 9,1 39,2	 35,2 7,3 42,5
9.	The difference is ts/ha	-	+3,3

From the results presented in the table, it can be seen that when hairy seeds are treated with mineral fertilizers, the weight of 1000 seeds increased by 9.0 grams compared to the control, and there was no significant difference in germination energy and germination in laboratory conditions.

In field conditions, there was no significant difference in the dynamics of germination in the observation on the first day. But in the next observation, the dynamics of germination of hairy seeds covered with mineral fertilizers was accelerated, compared to the control, it was 7.3% higher on 05.01.07, and 10.8% higher on 05.03.07. As a result, the germination of shelled hairy seeds in field conditions was 15.4% higher than the control. Therefore, by coating hairy seeds with mineral fertilizers, it is possible to obtain seed seeds whose fertility in laboratory conditions is not less than that of hairy seeds prepared in the traditional way, and the fertility in field conditions is higher than that.

Coating hairy seeds with mineral fertilizers had a positive effect not only on their fertility in field conditions, but also on cotton growth. Cotton sprouts grew

rapidly, the seedlings were well preserved before harvest, and the yield was 39.2 t/ha in the control, and 42.5 t/ha in the shelled variant, which was 3.3 t/ha more than the conventionally prepared seed. It should also be noted that such an increase in productivity was obtained mainly at the cost of the first harvest, which was considered the most valuable.

Based on the analysis of the results presented in the table, it can be concluded that coating hairy seeds with mineral fertilizers increases their spreadability and allows obtaining seed seeds with high fertility and potential yield in field conditions.

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