

## **EFFECT OF BIOFERTILIZER TREATMENT OF RICE SEEDS ON GERMINATION RATE AND SEEDLING THICKNESS**

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**ABSTRACT.** This article highlights data on the impact of processing rice grains with biofertilizers of the newly created medium-ripened variety "Sadaf", bringing the planting rates to 4,5,6 million grains /ha on germination, germination of grains and density of seedlings when they are placed in field conditions.

**KEYWORDS:** rice, soil, climate, consistency, seed, fertility, fertilizer, yield, rate, term, water, technology, plain, effect.

In rice-growing countries of the world, special attention is paid to the research on the development of optimal periods and norms of cultivation as a main and repeated crop to obtain a high and quality rice crop. In this regard, it is important to develop the elements of agrotechnology of care based on the productivity possibilities of early, medium and late varieties of rice created for specific soil and climate conditions. It is important to determine the technological quality indicators such as rice cultivation in different planting periods and standards, rice vitreousness, luster, huskiness and whole rice output.

In recent years, in our republic, special attention is being paid to the development of resource-efficient technologies for planting new types of crops and growing them in agriculture. As a result of the reduction of cotton areas, extensive measures are being taken to cultivate rice as

the main and repeated crop, to establish rice seeding for each region, to expand cultivated areas, and to continuously provide the population with this product. Research to develop optimal planting dates and standards for newly created rice varieties is a challenge. In rice, the period of uniform seedling collection is considered the most important and determines the expected yield. Rice seed germination requires 23-28% water by weight and does not need oxygen. Endosperm develops due to anaerobic respiration. In the early stages of rice, when the seed is planted deep (4-5 cm), anaerobic respiration is accelerated. As a result, it causes the seed to die [2;4;5]. The planting rate is determined by the optimal amount of plant growth per hectare, and it depends on the number of seedlings saved, productive stems and the degree of crowding. Breeding biopreparations also help the germination of rice seeds at a moderate level [2;4]. In rice, when the number of seedlings is increased, the restriction of tillering will allow the plant to speed up the lateral fertilization. Thinning of the plant causes a shortage of rice grains, which drastically reduces productivity.

But even if the lawns grow sparsely due to the low planting rate, it is extremely important to feed the plants at high rates, that is, 4 mln. it is possible to get the desired yield even by planting seeds per unit [1;3]. The degree of germination of seeds in the field is of great importance for obtaining abundant harvests from agricultural crops. The rate of germination of rice seeds is very low compared to other crop seeds, i.e. 30-40% [4]. Breeder scientists of the Research Institute of Rice Breeding created a medium-sized variety of rice "Sadaf". The ripening period of the variety is 118-120 days. Scientific research is being carried out on the development of agrotechnics for the cultivation of this variety. For the newly created local early and mid-ripening rice varieties to be grown in a special greenhouse by seedling method, the plant's root and stem are treated with rice seeds treated with "**Fosstim-3**" bacterial fertilizer, "**Rizokom-2**" biopreparation and complex-acting bacterial fertilizer "**Teria-s**" and planted in cassettes. the effect on growth and development was studied.

As can be seen from the table, when biofertilizers are applied to rice seeds, the development of the root system of the plant and the growth rate of the stem are 5-11 cm higher than the control.

J. Bilalis Dimitrios, J. Karamanos Andreas [2010] studied the effects of traditional root tillage and composting of cattle manure and seaweed on soil properties and grain yield. Compared to the control, the treated variant improved soil macroporosity, heat level, humus content, and average diameter of soil aggregates, which had a positive effect on rice growth. The germination of rice seeds was 7-9% higher than the control. The thickness of the roots of the rice plant, expands the feeding area, leaf surface index, biomass, grain yield and root system development were significantly related. It was determined that the improvement of physical properties of the soil, increased porosity, had a certain effect on the better respiration of the roots [5].

**Table 1**

**Treatment of seeds of rice varieties with biofertilizers  
the effect on the growth rates of root and stem when given, cm (n=3)**

Rice varieties	Planting day	Control 17.05.	Fossim-3	Rizo-kom-2	Teria-s	Control 25.05. 2022	Fossim-3	Rizo-kom-2	Teria-s
<b>Effects of applying biofertilizers on rice varieties on plant root development, cm</b>									
Guljahon (St)	07.05.22	3	5,9	6,8	7,0	5,8	7,4	7,9	8,1
Billur	07.05.22	3	5,5	6,7	7,4	6,4	8,5	8,1	8,7
Iskandar (St)	07.05.22	4	5,9	7,2	7,8	7,3	9,2	9,5	9,5
Sadaf	07.05.22	3	6,3	7,8	8,1	7,6	9,4	9,7	9,9
<b>Effect of biofertilizer application on rice varieties on plant growth rate, cm</b>									
Guljahon (St)	07.05.22	5,8	10,1	10,4	10,7	7,8	15,3	16,3	17,4
Billur	07.05.22	5,2	10,3	10,6	10,9	8,7	15,7	16,2	17,5
Iskandar (St)	07.05.22	7,1	11,2	11,2	11,6	9,0	18,1	17,6	18,7
Sadaf	07.05.22	6,3	11,6	11,4	12,1	9,2	18,5	19,4	19,8

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When the effect of growth of nitrate, ammonia nitrogen and their combination on the growth of roots, water absorption and physiological processes in the plant were studied, the growth of roots slowed down in nitrate nitrogen, but growth did not stop in the form of ammonia. Better root development of the rice plant leads to increased tillering, resulting in more fertile stalks and the foundation for additional harvests.

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