



The Effect of Certain Pesticides on the Germination of Seeds of Rice Plant Varieties

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Annotation. In this work, the influence of pesticides Dnox and karats on the germination of seeds of two varieties of rice from agricultural crops, the Iskandar (flame) and barley-rice (devzira, black pepper) varieties. Under the influence of these pesticides, the rate of germination of rice seeds has been observed, that is, it slows down the germination process, and from the pesticides being affected, the effect of Carat pesticide on the Iskandar Variety has been seen, and the effect of Dnox pesticide on the barley-rice variety has been greater.

Key words: rice, variety, seed, pesticide, dnox, carat, sprout.

In most countries on Earth, rice is considered one of the oldest food products. It is the main food product of the inhabitants of China, India, Japan, Pakistan, Indonesia, Vietnam and, in particular, tropical countries.

Rice is distinguished for the human body by its high quality and rapid digestion. It contains nutrients that the body needs: protein, phosphorus compounds and vitamins.

Rice contains 75.2% carbon water (mainly starch), 7.7% protein, 0.4% oil, 2.2% tissue, 0.5% ash substances and 14% water food made from rice is very quickly digested and fully absorbed. The absorption coefficient of rice is the highest — 96%, the calorie content is 3594, and wheat — 3610. In most countries on Earth, rice is considered one of the oldest food products. It is the main food of the inhabitants of China, India, Japan, Pakistan, Indonesia, Vietnam and, in particular, tropical countries [1,2].

According to FAO [1,4], 751.9 million T rice crops were grown worldwide in 2016. In particular, in Asia-680.1 million T, in China – 208.5 million T, in India – 163.3 million t, in Indonesia – 72.7 million t, in Bangladesh – 52.6 million T, in Vietnam – 43.6 million T, in Thailand – 32.6 million T, in Japan – 10.7 million t, in Sri Lanka-4.4 million T rice crop was obtained. In our republic, rice is planted on an average of 75-85 thousand hectares every year, 325 thousand t. the crop is harvested.

From the first years of independence of our republic, attention and demand for rice increased even more. Extensive theoretical and applied research has been carried out and continues to be carried out on the creation of new fertile, resistant varieties of rice to harmful organisms, as well as on cultivation. Judging by the collected data, it was noted that there are more than 100 species of pests in the rice fields of the Republic. According to the scientific research institutes of plant protection and rice industry of Uzbekistan, there are 33 types of pests that regularly damage rice and make it a huge loss in economic terms, which



belong to the 2nd Class, 9 categories and 15 families [5].

In the soil-climatic conditions of our country, in the 30-90 years of the 20th century, research was carried out on pests that harm the rice plant, as well as the fight against them (agrotechnical, biological, chemical V.P. According to Shagaev, as a result of the influence of harmful organisms in the world, more than 30% of the crop yield of agricultural crops is lost annually. That is why it is argued that it is necessary to ensure the use of intensive technologies, the widespread use of chemical agents in Plant Chemistry and the use of their effectiveness [6,7].

In this research work, we applied two varieties of rice plant – Iskandar (flame) and barley-varieties of rice (devzira, black kill), as well as chemical agents applied to them against zarakunanda – dnox and carat pesticides-as research objects.

In the experiment, a variety of Har one rice was divided into 3 rice:

1. rice-control rice (rice seeds ivitized in distilled water);
2. rice-rice seeds ivitized in 10% solution of the drug Dnox;
3. rice-rice seeds ivitized in a 10% solution of the carat drug;

These preparations were ivitized in a single dose of rice seeds, first in distilled water for a day, then in a 10% solution of pesticides for a day, and then ivitized in distilled water to observe seed germination.

At the beginning of the experiments, 100 grains of each varietal shawl and one germ were measured. In a study of rice seed weights, the following results were obtained.

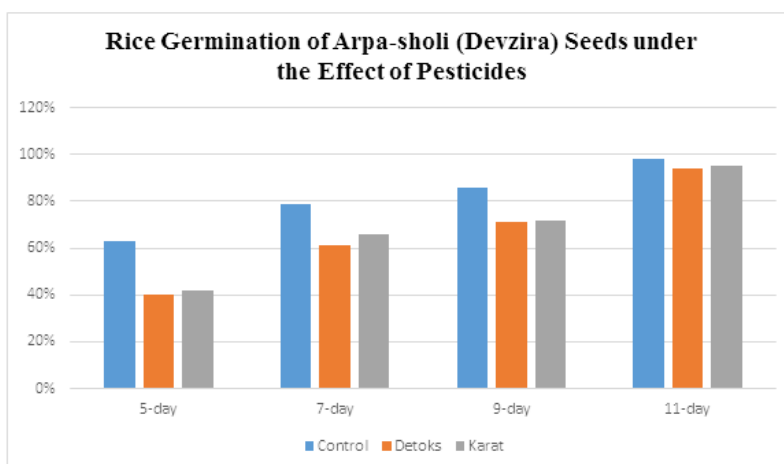
Table 1 Quantitative indicator of rice varieties studied

№	Rice variety name	Weight of 1 seed	Weight of 1000 seed
1	Iskandar (alanga)	0,034	3,0205
2	Arpa-sholi (devzira, qora qiltiriq)	0,036	3,147

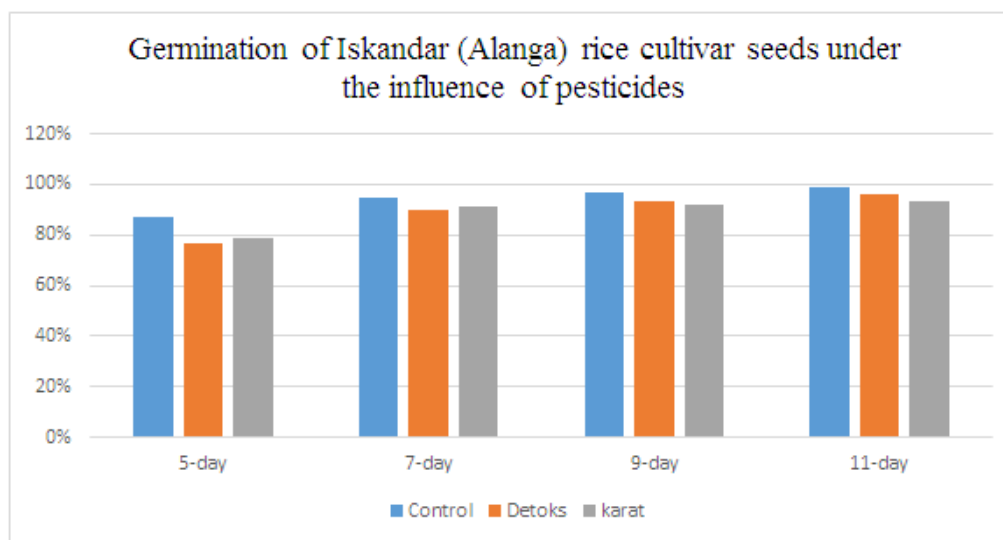
In the experiments, the weight of 1 seed and 100 seeds of the studied rice varieties was measured. When looking at the seed weight, it was seen that the parameters of the Arpa-sholi (devzira, black rice) variety were higher than the seeds of the Iskandar (alanga) variety. (Table 1)

In our next experiments, the process of germination of rice varieties was studied. The obtained results were compared to the control group. Seed germination was measured on the 5th, 7th, 9th, and 11th days of freezing. The obtained results showed that the rate of germination of Iskandar (flame) rice seeds when soaked in Dnox solution was 76.5% on the 5th day, 90% on the 7th day, 93.5% on the 9th day, and 96% on the 11th day. The germination rate of the seeds of this studied variety when heated in Karat drug solution was 79% on the 5th day, 91% on the 7th day, 92% on the 9th day, and 93.5% on the 11th day.

Picture 1



Picture 2



In the next experiments, Arpa-sholi (devzira) seeds were soaked in a solution of the drug Dnox. The success rate was as follows. On the 5th day - 40%, on the 7th day - 61%, on the 9th day - 71%, and on the 11th day - 94%. When the seeds of this variety are warmed in the Karat solution, the germination rate of the seeds is 42% on the 5th day, 66 on the 7th day. % showed 72% on day 9 and 95% on day 11. Based on the obtained results, it can be said that under the influence of pesticides used against pests, the germination index of rice seeds decreased, that is, germination was slowed down. Of the pesticides affected, it was seen that Karat pesticide was more effective on Iskandar variety, and Dnox pesticide was more effective on Barley-rice variety (Figures 1-2).

In conclusion, it can be said that the decrease in the fertility of the seeds of rice cultivars affected by pesticides may be the result of derailment of some biochemical processes in the cells of these seeds. For this, it is necessary to study some biochemical processes in seeds.

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