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Article



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BIOLOGICAL EFFECTIVENESS OF PREPARATIONS AGAINST ROOT RODENTS IN GROUNDNUT CROPS IN DRY CONDITIONS OF JIZZAK REGION

Abstract: This article describes the results of studies on determining the biological effectiveness of seeding preparations against the main pests of the groundnut crop. The results of the study showed that Gaucho 70% n.cuk., 5 kg per ton, Kruizer Ekstra 362, sus.k., 3 l of the recommended insecticide seed treatment preparations for use against pests of agricultural crops, were planted at least 15 days before planting groundnut seeds. The root is protected from rodents for 25-30 days after germination.

Key words: Groundnut, pest, autumn nightshade, fertilizing agent, biological efficiency.

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Introduction

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Belonging to the family of legumes, groundnuts are grown in more than 100 countries (tropical and subtropical countries). China is the world's largest producer of groundnuts, accounting for 40% of the world's groundnut production, followed by India at 23%, sub-Saharan Africa (SSA) at 8.4%, and the United States at 5.6%. The average yield is only 9-12 tons/ha. Low productivity of groundnuts is associated with a number of limitations [4,5,6].

To plant groundnuts, first, the seed is sorted. For this, whole-grain, well-ripened groundnuts with 2-3 kernels are separated. Then it is prepared for planting by hand. Shelled groundnuts are cleaned of cracked, small and immature seeds. Prepared seeds are covered in special fabric bags of 15-20 kg and stored in dry and cool rooms until the time of planting. Storage in synthetic fiber bags is not suitable, as they do not allow air to flow well.

It is not recommended to plant the seed on low moisture, bumpy and uneven land. The seeds sown in such lands may not germinate evenly and simultaneously, but may remain one after the other.

Depending on the size of the seed, 70-80 kg to 100-120 kg are used per hectare. When planting, the distance between the seeds should be 10-15 cm. After the seeds have fully germinated, the plant turns dark green. The rows are loosened, pre-treated and watered. 250-300 kg of ammafos and 100-150 kg of nitrogen fertilizers per hectare are given before irrigation. Even before the second treatment, it is cleaned of weeds, the rows are softened, and nitrogen fertilizers are applied at the rate of 200-300 kg per hectare during the period when the plant is in full bloom.

Groundnuts do not require a lot of water. It is watered 4-5 times during the growing season, and 6-7 times in gravelly soils. Blackening of groundnut pods before ripening is observed. This disease is caused by a violation of the irrigation procedure, that is,

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overwatering and excessive watering. Therefore, it is better to take the egates higher.

Groundnuts ripen in late September and early October. This can be detected by the yellowing of the pods and the netting of the shell of the groundnut. Or you can tell by the darkening of the inside of the shell when bitten into the shell. Harvesting is done by hand. For this purpose, on good weather days, the pods are pulled and separated from the nuts in the field itself. If the harvested pods are bundled and separated from the stems after a few days, the moisture in the pods will be greatly reduced and the drying of a large crop will be reduced. At the time of harvest, the moisture content of the nuts is around 35-60%, and to dry them, it is recommended to spread them out to a thickness of 8-10 centimeters in buildings with good air circulation, and periodically turn and mix them in place.

Groundnuts stalks are a high-quality and strong feed for livestock. Before the bales are completely dry, they are tied, pressed or silage is made. In addition, the leaves are ground and dried, and then soaked in water and mixed with bran, they are good fodder for cattle.

The area where groundnuts are planted is fertilized with phosphorus and potash fertilizers in autumn and plowed to a depth of 25-30 cm. In the spring, plowed land is chiseled, leveled and furrows 60-70 cm wide are made.

Today, it is possible to meet several types of pests that damage the underground and surface parts of the groundnut crop. According to the results of the conducted research, it was found that one of the most harmful pests belonging to the family of tunlams is the autumn tunmal. According to the information given in the literature, the autumn nightshade (*Agrotis segetum Schiff*) is one of the common pests in irrigated fields. Its worms damage hundreds of plants belonging to 34 families. Autumn nightworms damage the seeds of germinating leguminous crops, pierce the seed pods, gnaw the roots or the stem near the root neck, and sometimes damage the above-ground part of the lawn [1,2,3].

It is important to protect groundnuts from dangerous pests in order to obtain a high and quality harvest. Therefore, researches were carried out in order to carry out effective control measures against the root rodents, which kill groundnuts in young sprouts and damage the root part.

Due to insufficient spring and summer rainfall in the areas where groundnuts are grown in Uzbekistan, irrigation is definitely needed. Providing the plants with the required amount of moisture during irrigation leads to an increase in productivity. Mainly during the filling of the kernel inside the pod, moisture should always be present in the root part. Because, in order for gynaphora to enter the soil easily, the amount of moisture in the soil should be sufficient. When groundnuts are planted as a main crop, soil moisture

is harvested in the spring. In some cases, the spring is dry and if the soil moisture is not enough, the rice fields are watered by dividing the rows. However, it is important not to let the pond get flooded.

One of the main factors for obtaining a good yield of groundnuts is to provide them with sufficient water according to the water demand of the crop. When the groundnut plant is not supplied with enough water, the physiological processes in it are disturbed. As a result, the growth and development of the plant slows down and productivity decreases. If there is an excess of water supply before and after the period also the leaves of the plant turn yellow, the process of fruiting is delayed, as a result, it has a negative effect on productivity. In order to obtain a high and quality product from the groundnut plant, it is very important to correctly determine the amount of irrigation and its duration. In most cases, farmers determine the irrigation periods of groundnuts based on their condition or calendar days. As a result, it leads to the deterioration of the quality of the crop obtained from plants.

Research has shown that groundnuts are severely damaged by root-rotting beetles.

Taking into account the above, in the course of our research, research was carried out against root-gnawing insects at the experimental farm of the Scientific Research Institute of Plant Genetic Resources in Qibrai district of Tashkent region.

In the studies, 5 kg per ton of Gaucho 70% n.kuk, Kruizer Ekstra 362, 3 l of sus.k drug were treated 15 days before planting groundnut seeds.

Experimentation and performance evaluation were carried out on the basis of the generally accepted method. And biological efficiency was done using Abbot's formula (1925).

In the conducted studies, after germination of groundnut seeds in the control option, on average, 0.9 pieces on the 3rd day, 2.7 pieces on the 7th day, 3.1 pieces on the 14th day, 3.6 pieces on the 21st day and On the 28th day, 3.9 worms were counted. In the variant where the seeds were planted with medicated seeds, i.e., in the variant treated with Gaucho drug at the rate of 5 kg, no root gnawing insects were found until the 21st day of the calculation. On the 28th day of the calculation, 0.6 pests were found in an area of 2.5 m². In the following options, 0.8-0.3 pieces of root gnawing larvae were found on the 28th day of the calculation (Table 1).

Based on the results of the conducted researches, Gaucho 70% n.kuk., 5kg per ton, Kruizer Ekstra 362, sus.k., preparation of 3 l of consumption rates of groundnut seeds at least 15 days after sowing of groundnut seeds from the insecticide seed dressing preparations recommended for use against pests of agricultural crops when planted in advance, crops are protected from rodents until 25-30 days after germination.

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Table 1. Biological effectiveness of seed treatment of leguminous crops with seed-drugs against root rotting beetles.

(Experimental farm of the Research Institute of Plant Genetic Resources in Kibrai District, Tashkent Region).

№	Options	Drug consumption kg, l/t	Average number of worms per 2.5 m ² , by days after emergence					Biological efficiency, %				
			3	7	14	21	28	3	7	14	21	28
1.	Avalanche w.pow. 70%	5,0	0	0	0	0	0,6	100	100	100	100	84,6
2.	Cruiser 35% sus.c.	4,0	0	0	0	0	0,8	100	100	100	100	79,4
3.	Cruiser Extra 362, sus.c.	3,0	0	0	0	0	0,3	100	100	100	100	92,3
4.	Control (untreated)	-	0,9	2,7	3,1	3,6	3,9	-	-	-	-	-

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