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DAMAGE OF ANACANTHOTERMES TERMITES IN NATURAL CONDITIONS AND PREVENTIVE MEASURES TO FIGHT AGAINST THEM

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SUMMARY

In this article, the pest characteristics of Anacanthotermes termites in the natural, anthropogenically transformed areas of Karakalpakstan and the development of modern technology of using ecological pesticides for their protection are highlighted.

KEYWORDS: *termites, chemical preparations, prevention, ecological, chemicals, insects, garden, alfalfa, vegetable and melon crops.*

INTRODUCTION

The increase in global temperature and the increase in arid areas have created high opportunities for the development of termites. Therefore, termite pest activity worldwide is considered a real disaster of buildings, wooden products, archival libraries, textile clothing and agrocenosis field and wild plant world in all tropical and warm countries, causing them to become unusable. Especially today, the increase in the number of termites in the natural conditions of Karakalpakstan is causing serious damage to the development of wild, forest ecosystem plants adapted for the region, to agrocenosis fields in anthropogenically transformed places, and to all products and reforms created by the slave of humanity.

From this point of view, the damage characteristics of termites in natural conditions and anthropogenic-transformed places, monitoring of their distribution, adaptation of the pest to the area from a seasonal point of view, the diversity of the food unit, the degree of damage to people's houses, social, mineral-heritage, strategic objects, as well as to pests Ensuring the construction of durable buildings and implementing improved preventive measures against them are important issues.

Almost all parts of the natural conditions of Karakalpakstan are dry and sandy areas, and due to the extremely hot weather in summer, termites are suitable places for termites. The distribution of the pest is very wide in nature, it lives in communities in various ecological environments, mainly in groves, steppes and semi-arid areas. it is often observed in deserts and foothills. 2 species belonging to the Anacanthotermes (Jacobs) genus: Turkestan and Greater Caspian (A.turkestanicus Jacobs., A.ahngerianus Jacobs.) distribution of termites in anthropogenically transformed areas is known to depend directly on the capabilities of mankind.

In the results of several researches on preventive control measures against termites belonging to the genus Anacanthotermes (Jacobs, 1904) in the natural conditions of the Republic of Uzbekistan, Karakalpakstan and in anthropogenically transformed areas, the total destruction of the pest was not ensured, only temporary control was carried out, because it is natural that their hidden way of life and large number and high ability to regenerate will cause difficulties. If we bring clarity to such cases, that is, by the middle of 2002, termites in the Republic of Karakalpakstan made up 870 km2, and in the next 2 years, they expanded their area by another 30 km2. To date, 3019 houses and 14 historical monuments are known to be severely damaged by termites. It is also known that termites completely destroy living and dry plants in places that have become dehydrated and dry in the natural ecosystem, which leads to the death of orchards and negative consequences in the development of livestock farming [1; 3].

From this point of view, in the natural conditions of Uzbekistan, Karakalpakstan, the study of the seasonal phenological calendar, the development of constant control of the damage, distribution monitoring and preventive measures against termites belonging to the genus Anacanthotermes (Jacobs, 1904) are of great scientific and practical importance. is enough.

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OBJECT AND METHODOLOGY OF RESEARCH

In the conditions of Karakalpakstan during the years 2019-2023, mainly in the conditions of the natural ecosystem - along the Koyi Amudarya delta, from the deserts of Qizilkum, Orolkum, Nukusqum, the plain of Ustyurt, Beruniy, Ellikkala, Tortkul, Moynoq, Kungirot, Kanlikul, Shumanay, Khodzheyli, Nukus, Kegeyli, Chimboy, Monitoring work and anthropogenic-transformed in the agrocenosis fields of Bozotov, Karauzyak, Takhtakopir districts - Citizens' gathering of Tajyrkol Ovul, Uroq Bolga, Sarancha, Kirpich Zavod settlements, Nukus city of the Republic of Karakalpakstan, preservation and use of cultural heritage objects of the republic State Inspectorate Beruni District - Aqshakhan, the fortress of Tishirman; Ellikkala - Tuproq, Kirqqiz, Ayaz-1-2 castles; Tortkol - Jambas, Kumbaskan fortress; Karauzyak - Jampiq, Sultan Uvois mountain Gaur fortress; Khojaly - Mizdakhkan complex; Collection of research materials and experiments were carried out from the regions of Kegeili - Shibilii father's shrine, Ichan Castle.

Biological means (entomopathogenic microorganism Beauveria tenella fungus VD-85 strain) and chemical preparations are used to protect against 2 species of Anacanthotermes (Jacobs) termites under natural conditions: Turkestan and large Caspian termites (A.turkestanicus Jacobs., A.ahngerianus Jacobs.) ("Fipronil Ekstra (20%)", "Sermit (20%) sus.k.", "Piralaks - Lux") was applied. In field experiments, the biological effectiveness of diluting biological agents and chemical preparations in various amounts (0.001%-0.003%-0.005% conc.) was determined on termite nests [4; 5].

All the obtained data were processed in the Biostat, Origin 6.1 [Microsoft USA] program and Lakin statistical processing method [2].

RESEARCH RESULTS

Biological agent Beauveria tenella VD-85 strain against the Big Caspian termite (A.ahngerianus Jacobs.) belonging to the genus Anacanthotermes in natural conditions, "Sermite (20%) sus" from chemical preparations. k.", "Piralaks-Lux" and local raw materials "Oligomer superplasticizer" in the process of studying the biological effectiveness of 30 days after the experiment, one termite nest was dug for each preparation and the number of termite layers was counted. In this case, the number of termites in nests where the mixture of biological agent B. tenella VD-85 strain (1107) was used was on average 1676.4±3.1; (100%) has been reached. 260.3±1.1 on the 30th day when we studied the effectiveness of the biological agent during the experiment; 811.7±1.8 on 60 days; On the 90th day, a total of 1253.5±0.9 termite species were killed within days, and the biological efficiency was 422.9±0.5/74.7% compared to the live pest.

During research, Cermit (20%) was used in chemical preparations. k., the total average number of termites in the tests of "Piralaks-Lux" mixture was 1805.9±4.2/1876.2±3.1 in 100% indicators. During research, Cermit (20%) was used in chemical preparations. k., the total average number of termites in the "Piralaks-Lux" mixture tests was 1805.9±4/1876.2±3.1 at 100%. Killing in days based on the effectiveness of chemical preparations against termites 30 days Cermit (20%) sus. k., 278.5±1.3 in the feed in the mixture; 297.3±1.4 in "Piralaks-Lux"; 976.8±1.9/998.9±2.2 by 60 days; On the 90th day, this indicator was 1497.1±0.8/1686.5±0.9, and the number of live termites was 308.8±0.1/189.7±0.1, and the biological efficiency was 82.9 % was found to be 89.8% (Table 1).

1-Table

Biological agent Beauveria tenella VD-85 straini, chemical preparations against the termite Big Caspian termite (A.ahngerianus Jacobs.) of Anacanthotermes (Jacobs) "Cermite (20%) sus. k.", "Piralax-Lux" and local raw material "Oligomer superplasticizer" Biological efficiency

№	Biological means, chemical preparations and local raw materials	Number of termites in nests	Number of termites killed in days			Biological efficiency (number and % of living termites)	
			30 days	60 days	90 days		
1	*Beauveria tenella* ВД-85 штамми ($1*10^7$)	1676,4±3,1 (100%)	260,3±1,1	811,7±1,8	1253,5±0,9	422,9±0,5	74,7%
2	*"Sermit* (20%) сус. к."	1805,9±4,2 (100%)	278,5±1,3	976,8±1,9	1497,1±0,8	308,8±0,1	82,9%
3	*"Piralax-Lux"*	1876,2±3,1 (100%)	297,3±1,4	998,9±2,2	1686,5±0,9	189,7±0,1	89,8%
4	*"Oligomer superplasticizer"*	2005,2±3,5 (100%)	304,5±1,4	517,7±2,1	1602,7±0,8	402,5±0,2	79,9%
5	Control	2201,4±4,2 (100%)	-	-	-	-	100%

Note: (n=3, M±m: significance vs. control P<0.01)

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When studying the effectiveness of "Oligomer superplasticizer" taken as a local raw material against termites, the total average indicator of the number of pests in the initial nest was 2005.2±3.5 (100%), the number of termites that died during the experiment was 304.5±1.4 on the 30th day; 517.7±2.1 on 60 days; It turned out to be 1602.7±0.8 on the 90th day. Biological efficiency was 402.5±0.2/79.9% compared to live termites.

In general, according to the results of scientific studies, during the process of digging termite nests, the toxic food based on the chemical drug "Piralax-Lux" and "Oligomer superplasticizer" obtained as a local raw material is almost completely transported from the infected area, but the toxic food is stored in the food collection places without being consumed. noted. In this case, the attractiveness of "Piralax-Lux" and "Oligomer superplasticizer" to termites in the nest was felt.

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