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THE INFLUENCE OF WHEAT AGROBIOCENOSIS FACTORS ON THE DEVELOPMENT OF SUCKING PEST SPECIES

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ABSTRACT:

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The article includes the results of studies on the development bioecology of sucking pests found in the wheat agrobiocenosis of the Republic of Karakalpakstan, the impact of biotope factors on the damage caused by dominant species. The damage caused by the wheat aphid, sunn pest and wheat thrips, which is considered the main species in terms of its spreading area, was determined and the dynamics of development was indicated.

INTRODUCTION. One of the main reasons for the low yield of wheat varieties grown in the conditions of the Republic of Karakalpakstan is the formation of new criteria for the elements of abiotic and biotic factors of the biocenosis in recent years. In particular, some types of pests appear in recent years, causing great damage to the growth and development of the plant, leading to a decrease in yield.

It has been proven that many types of pests spread and cause damage in the wheat biotope, depending on the occurrence of factors in this biotope and the conditions for the compatible development of biological organisms. The development of the scientific basis for the application of integrated control measures, based on the study of the bioecology of the pests that are widely developing in the fields of wheat crops, and the damage they cause, is of great practical importance and is an urgent problem waiting for a quick solution.

The object and methods of the experiment. Our main object is winter wheat planted in Chimbay, Kegeyli and Nukus districts of the Republic of Karakalpakstan and sucking pests found in the fields. Recommended agro-technical measures specific to the agro-climate and soil of the region were applied in wheat-planted fields. Types of pests spread in the field,

spreading dynamics were identified on the basis of the methods of B.P.Adashkeevich (1983) [1], Sh.T. Khodjaev etc. (2004) [4], the damage of pests to the harvest – V.I.Tanskiy (1988) [3], carrying out the experiments and statistic analyzing were organized on the basis of the method of B.A.Dospekhov (1986) [2].

Results of the research.

It was observed that the microclimatic conditions that appear in the wheat field from early spring until the ripening of the crop are optimal for the reproduction of insects in the biotope. As a result, many insect species migrated to the field from outside. Among the species that migrate to the biotope, some theoretical and practical information was obtained about the development characteristics of specialized wheat pests. Because, if the main types mob in the field from early spring, then by June, when the wheat ripens, it is forced to enter the dormant phase. It is necessary to take into account the factors in the dynamics of development in order to withstand the influence of these adverse biotic and abiotic factors and accumulate in the winter months until the autumn months.

It is necessary to determine the dynamics of the development of the dominant species according to the criteria of the spread areas of these species, the damage they cause, to carry out countermeasures during the periods when they leave the wintering place and gather in the wheat field and reach the wintering place in summer and autumn. In addition, the determination of the dynamics of the direct development of these species in the wheat field determines the optimal period for carrying out countermeasures under optimal conditions. Under these conditions, the dynamics of development of wheat thrips, wheat aphid, and sunn pest, which are the dominant types of pests that develop in the wheat biotope, were studied.

The results of the research indicate that wheat thrips, wheat aphid, and sunn pest species, which are considered adapted species, have their own development characteristics in the development dynamics of the pests spread in wheat fields.

Because in the wheat fields of the observed districts, in the years when the air temperature rises to an average of 10.3-12.8°C, from the second ten days of April, wheat thrips and in the third ten days, wheat aphids and sunn pests (mature types) start to develop.

It was taken into account that the dynamics of pest development became active in the first ten days of May, and recorded the maximum level for 20-25 days.

It was taken into account that the wheat aphid developed maximally in the second ten days of May, and increased in the field until the second ten days of June.

The development of the sunn pest became active from the second ten days of May, and in some fields it continued until the end of June, when the harvest was ripe, and it was found that a certain number went overwintering in September.

In the wheat field, wheat aphid was more, wheat thrips was less, and sunn pest was slightly less. It became clear that the conditions of the districts and the carried out agrotechnical activities, the number of pests depending on the location of the field, and the

dynamics of development were different.

Under these agro-climatic conditions, sunn pests, thrips and aphids were encountered in the wheat field in the third ten days of April, and pests actively developed in the wheat fields of Nukus district.

Among the pests, wheat thrips increased mostly in May, reaching 46.2-48.1 units per 100 plants controlled in the second ten days, 127.4-165.2 units in the third ten days, and the number is slightly less in June. It was taken into account that this species is more developed in the wheat fields of Nukus district and slightly less in Chimbay district.

It was noted that wheat aphid (*Schizaphis graminum* Rond.) has specific characteristics in terms of development dynamics. Larvae of the pest appear in the field at the end of the second ten days of April, in the third ten days, a sharp increase in number was taken into account. In the wheat fields of Nukus and Chimbay districts, the number reached 13.5-24.5 units, in the first ten days of May it was 20.2-108.4 units, and at the end of the month it increased to 143.1-216.7 units.

It has been noted that the dynamics of the development of sunn pests is active and the criterion of damage is large. The overwintered mature breed of the pest comes to the wheat field in the third ten days of April and starts developing. It has the biological characteristic of rapid reproduction. As a result, it turned out that the pest, which was found in 1.4-3.0 units per 100 plants, started additional feeding in the phases of accumulation and tuber release. The spread of the pest in the field was observed in the first and second ten days of May, and the number of fields covered with eggs increased.

Pests vary in years and regions according to the spreading number and areas. Because in Nukus district, the pest is more common in wheat biotopes, in Chimbay, it is moderate, and in Kegeyli, it is considered to be low compared to other districts. It was proven that the main reason for this depends on the efficiency of the pest control measures carried out in the districts.

It is evidenced by the fact that the mature breed of the sunn pest, its eggs reached 9.5 eggs per 100 plants in the third ten days of May, actively multiplied in the first ten days of June, and its number decreased from the second ten days, and a certain number went to overwintering.

As a result of observations, the number of pests developing in the wheat field decreases from the second ten days of June, and decreases to a minimum level in the third ten days, proving that it is related to the ripening of wheat.

The analysis of the results of the conducted observations revealed that the wheat thrips, which has multiplied in the wheat biotope, enters the summer dormancy state in the second ten days of June, the wheat aphid in the first, and the sunn pest in the third ten days.

Conclusion: It has been proven that the main elements of abiotic and biotic factors have a positive effect on the bioecology of the development of wheat thrips and sunn pests in the wheat field cultivated in the agro-climatic conditions of Karakalpakstan.

In this agro-climatic conditions, the wheat thrips female lays 24.9 eggs in May, 90-95% of the larvae hatch, and when there are 1.0-2.6 mature eggs per plant, 8.8-10.9 eggs are laid per plant, and the development of larvae of 17.4-28.9 units was taken into account.

At the end of April, in May, the sunn pest laid 60.2 eggs, 46.1 eggs hatched, and 34.5 mature breeds were taken into account. It has been proven that after multiplies in 1 m², 1.0-2.1 females laying 10.5-12.2 eggs, 6.9-9.5 larvae develop, and the number of mature breeds that go overwintering in the third ten days of June reaches 2.5. The main pests of wheat appear in the field from the third ten days of April and by the end of May the number of wheat thrips increases to 165.2, wheat aphid to 216.7, and sunn pest to 35.6, and it is necessary to organize measures to control these species in optimal conditions.

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