

DISTRIBUTION OF THE MAIN PESTS OF COTTON IN KOSHKUPIR DISTRICT, KHOREZM REGION, REPUBLIC OF UZBEKISTAN

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ABSTRACT

This article shows the data analyzed on the basis of GAT technology on common cotton pests and factors affecting their spread in the results of monitoring carried out in Qushkupir district in 2022. Pests such as spider mite, spider mite, cotton boll weevil were studied.

Keywords: cotton tunnel, spider web, soil mechanical composition, irrigation networks, boll, leaf.

Decree of the President of the Republic of Uzbekistan "On additional organizational measures to increase cotton productivity, introduce science and innovation in cotton cultivation" dated July 7, 2022 based on the decision PQ-308, common pests were studied in Koshkupir district. Experiments were conducted in 24 farm fields.

The research used Landsat 5 TM and Landsat 8 OLI images. Aerospace methods and GIS technologies have a great potential to assess and map production possibilities in agricultural land [4]. We use ArcGIS 10.2 for pest distribution. We analyzed based on the program.

Determination of the number of pests in the field was determined according to the methods developed by ITI (Scientific Research Institute) of Plant Protection of Uzbekistan. (Methodological guidelines for the testing of insecticides, acaricidal biologically active substances and fungicides, 2007). According to the research method, a total of 100 cotton plants were examined from 20 places along the diagonal of each field. During the observations, the number of larvae encountered in each plant was recorded. The damage level of cotton fields was expressed by the average number of cotton bollworm larvae per one plant [1,3]. In total, 0.3-0.5 bollworms were found in 100 bushels of cotton in a field of 219 hectares, and they were lost due to sending bioproducts outside the schedule. Cockroaches were found on 100 hectares of land, spider mites on 47 hectares of land, and spider mites on 14 hectares of land.

Rodent pests cause great damage in all cotton-growing districts of Uzbekistan. The most dangerous of them is cotton night. Other tunnels also damage cotton, but their influence is less. In Central Asia, cotton wool is found everywhere. However, its number and damage are different in different soil and climate regions. Each bollworm can damage up to 15-20 flower buds and bolls during its lifetime. It is important to determine their quantity criterion in chemical treatment against them. Because chemical warfare needs to justify itself economically. According to the results of a special study, the presence of more than 10-12 in 100 plants in

medium-fiber cotton showed the need for chemical control against them. The first generation of bollworm does not cause much damage to cotton. Cotton is more damaged by the second generation of bollworm. This generation corresponds to the budding and flowering phase of cotton. The increase of pests depends on the high humidity of the atmospheric air, often they lay more eggs in areas with dense irrigation networks. In the cotton fields of Koshkupir district, it was 0.3-0.5 per 100 bushels of cotton. During this period, chemical treatment of cotton is not considered economically effective. The fields where the Kusak worm has appeared began to spread widely in the fields of ghazovot, uzbekiyp-2, and medium-soil soils around the irrigation networks of the district shown in the attached map. During this period, biological products were distributed by the employees of the biolaboratory. In addition, cotton buds die at temperatures above 40 degrees. During the transition period of bollworm cotton fields, the temperature exceeded 40 degrees on June 24-27, which caused a reduction in the number of cotton buds at the time of their development. Then, July 20-23, temperatures above 45 degrees caused the box cotton fields to completely disappear. Biolaboratories distributed trichograms, 1000 golden eyes in a 5x5 scheme to the areas affected by the bollworm every 3 days. Alfalfa kandala and field kandala were also found in the fields around irrigation networks of Koshkupir district where water is always available. Cockroaches belong to the stinging insects, which cause great damage to corn, flowers, and pods. Shona causes the flowers to fall. The increase of these candals in the field can be caused by increased humidity in the field during a certain period - rain, strong dew.

In the chemical control of this pest, it is necessary to pay great attention to its number in the field. Because if more than 130 pests are found in 100 bushels of cotton, chemical control can be carried out against it. Scientists have determined that if it is less than that, economic efficiency will also be affected. In the conditions of the cotton fields of the Khorezm region, the situation of a sharp increase in the number of kandalas was almost never found. But increased rainfall in the summer months can create a ground for this pest to cause severe damage to cotton in the region. Therefore, recording and analyzing the amount of rain helps to determine the spread of this pest. In Koshkupir district, there were 7-8 fields where kandalas corresponded to 100 bushels of cotton. These fields often coincided with tall cotton fields.

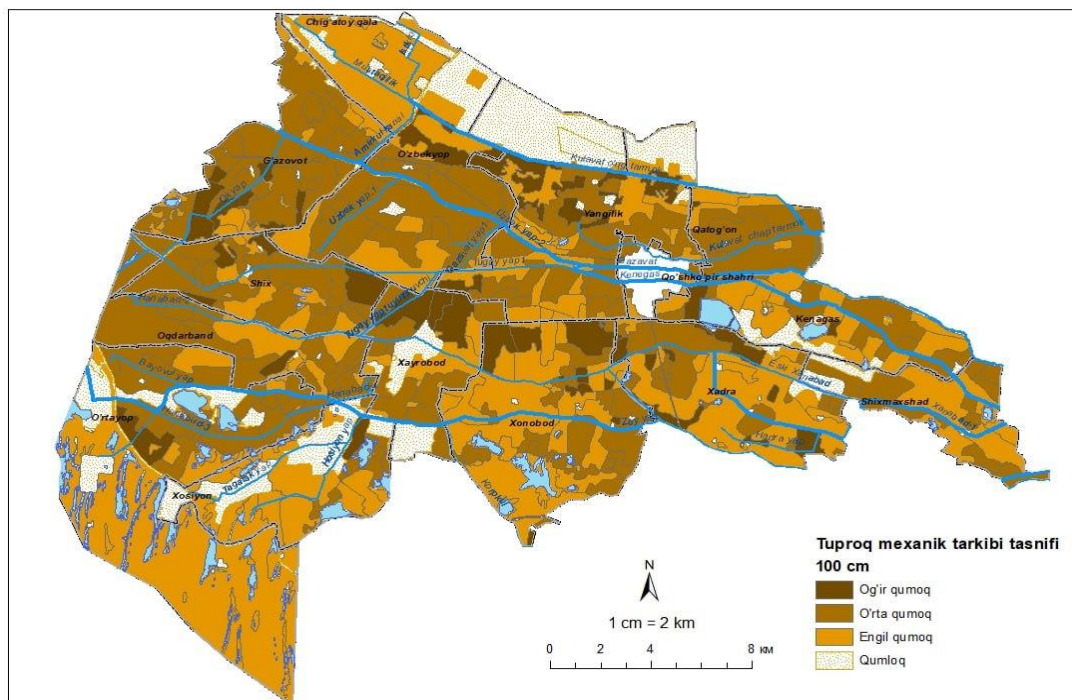


Figure 1. Irrigation networks and soil map of Koshkupir district.

Spider, see photo 1. Light humic soils are common in Koshkupir district. These soils cannot retain moisture for long compared to soils with heavy sand mechanical composition. On June 24-27, the temperature exceeded 40 degrees and the relative humidity of the atmosphere decreased to 18%, creating favorable conditions for the spider mite. Because the spider mite needs dry atmospheric air for its development. It is more common in fields with light sandy loam soils that are often thirsty. Since the spider mite development period coincided with the irrigation period, it could not cause significant damage to the cotton. Many dead spider mites were found in irrigated fields.

In conclusion, it is necessary to further develop the prediction system and introduce innovative technologies in the pest and disease control system. Because methods of combating each pest have been developed. Effectiveness can be achieved only when using them on time. On July 27-28, 6 hectares of cotton fields of Khairovot Abod farm in Bekmanov region were observed to exceed the economic damage criteria (in 10% of plants, spider mite colonies covered up to 20% of the leaf plate), and the crop was saved by using the anti-spider mite insecticide.

The spider mite is a rare insect that spreads everywhere in the field. They are mainly distributed in some points of the field. As soon as this is determined, it will be more economical and biologically effective to treat that place. If the spider mite is not destroyed in that place, it will spread to all parts of the field and other fields through the workers, cultivators, and biostimulator spraying units. It was found that this situation was observed in Khayrovot Abad farm. That's why we recommend treating the processing units that entered the field with chemicals such as anti-spider mite, nissorán, gold, etc. before moving to another field.

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