



INFLUENCE OF AGROTECHNICAL MEASURES ON REDUCING THE HARMFULNESS OF COTTON SCOOP ON AGROBIOCENOSIS OF TOBACCO

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1. INTRODUCTION.

In the agrobiocenosis of tobacco, various types of terrestrial phytophages are found throughout the growing season. A dangerous and main land pest is the cotton bollworm (*Helicoverpa (Heliiothis) armigera Hbn*). On the tobacco plantations of the Urgut district of the Samarkand region of Uzbekistan. In recent years, the cotton bollworm has transformed from seed to production and is considered the most dangerous pest of tobacco. Annual losses caused by the cotton bollworm, on average, amount to 30% of the crop, and with its mass reproduction, plant damage can exceed 50%. At the same time, not only the yield decreases, but also the quality of raw tobacco and seed products deteriorates [1,2,3].

2. RESEARCH METHODOLOGY.

The monitoring of the harmfulness of the cotton bollworm was carried out every ten days of the growing season on farms of the Urgut district of the Samarkand region. Spring counts of the cotton bollworm began with an air temperature of 17-25 ° C and soil warming up to 12-14 ° C (to a depth of 8-10 cm). The dynamics of the number of adults of the cotton bollworm was taken into account by pheromone traps "Delta". A week before the expected summer, the pest was hung out one trap per surveyed field, at the rate of five traps per 1 ha. The traps were inspected once a week.

3. RESEARCH RESULTS AND THEIR DISCUSSION.

Cotton scoop - *Helicoverpa (Heliiothis) armigera Hbn*. belongs to the family of scoops - (Noctuidae), the order of Lepidoptera insects (Lepidoptera). The butterfly has a wingspan of 30-40 mm. The coloration of the forewings of most males is grayish-yellow, with a greenish tinge; a darker transverse band is located in the apical third of the wing. The hindwings are paler, with a brown stripe in front of the outer margin and a dark spot in the middle. Females are darker colored and have yellowish brown shades. Caterpillars are 30 - 45 mm long, covered with small pads, except for the chest shield. The head is yellowish with spots, the thoracic shield with a dark marble pattern. The emergence of butterflies in spring begins in the last decade of April or early May and continues until mid-June. The timing of the emergence of butterflies depends on the depth of diapause of the wintering pupae, the temperature and humidity regime during the winter, and also on the spring temperatures. The emergence begins when the soil warms up to 12-13 ° C to a depth of 8-10 cm or at an air temperature of 18-22 ° C [4,5,6].

The system of agrotechnical measures against the cotton bollworm includes tillage, crop rotation and plant care, up to harvest. After planting tobacco seedlings in the field, the soil should be in a loose state all the time. This is achieved by high-quality planting and inter-row soil cultivation. Usually it is 2-3 cultivation with loosening in rows and destruction of weeds. Since the first generation of the cotton bollworm does not harm tobacco, but develops mainly on weeds, they must be destroyed from the moment of germination, preventing development and rooting. Manual weeding with loosening of the soil in the rows should be done after cultivation in the aisles. It is also necessary to carry out a light hilling of the plants during the last hand weeding. Thanks to this, all the weeds that have sprung up in the row are covered with a layer of soil and die. In the experiments, the first inter-row cultivation with loosening in the rows was carried out at the optimum time, that is, 10 days (June 9) after the tobacco was planted in the field.

The second cultivation carried out on time and three manual weeding allowed to significantly reduce the number of the pest. The number of caterpillars of the cotton bollworm in this field was 0.6 ind./plant. In another experimental field, cultivation was delayed for three weeks, due to unstable weather conditions, and was carried out only on June 15, and naturally increased to 1.1 specimens / plants. In the experimental field, the first inter-row cultivation was carried out on the 13th day (June 2) after planting, then - manual weeding and the second cultivation - 13 days (June 18) after the first with two subsequent manual weeding. This ensured the timely destruction of weeds, contributed to the better rooting of tobacco and the acceleration of its growth processes. The number of cotton bollworm caterpillars in this field did not exceed the EPV and amounted to 0.5 ind./plant. The tobacco was planted on the field 5 days later than the established date (May 28). The first inter-row cultivation with one hand weeding was carried out 11 days (June 9) after the tobacco planting. Due to prolonged and heavy rainfall at the end of May, the dates of the second cultivation were missed and it was carried out only three weeks after the first. As a result, the tobacco field was heavily contaminated, and the number of pests was 0.9 ind./plant.

The best predecessor and effective crop rotation are among the agrotechnical methods that ensure the rupture of trophic ties and prevent the development of the cotton bollworm. Plants that are immune to tobacco pests are the best precursors. For tobacco, these are cereal crops. They are harvested early, and therefore there is a great opportunity for successful weed control. The advantage of grain predecessors in tobacco crop rotation is also that the ground pests, characteristic of tobacco, are not typical for grain crops. The use of one method does not bring sufficiently high results, so we have developed a system of safe methods and preparations for protecting tobacco from cotton bollworm.

In production conditions, the system for protecting tobacco from the cotton bollworm was tested - pheromonitoring of the pest, mandatory compliance with agrotechnical measures (hand weeding, phytosanitary predecessor, bait culture, pinching, verskovanie). So, the protective measures against the cotton bollworm developed and tested by us have made it possible to significantly improve the system of protection of tobacco plantings.

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