

COTTON PESTS AND THEIR CONTROL MEASURES

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Abstract. Cotton is damaged by all kinds of insects from the time of emergence of weeds to the time of production. Sucking insects. Spider mite. This pest is common in all growing districts. One spider mite lays 100-160 eggs and lives for 30-40 days. Aphids overwinter in plant debris and soil. With the arrival of spring, it first moves to weeds and alfalfa, and then to cotton. Aphids live in swarms on the back side of the cotton leaf, at the point of growth. Alfalfa kandala. Mainly, with its oral apparatus, it damages cotton bolls by pricking and sucking them.

Keywords: agrotechnical, quarantine, biological, adult, egg, larva, nymph, infected cotton leaf.

ВРЕДИТЕЛИ ХЛОПКА И МЕРЫ БОРЬБЫ С НИМИ

Аннотация. Хлопок повреждается всеми видами насекомых с момента появления сорняков до момента производства. Сосущими насекомыми. Паутинный клещ. Этот вредитель распространен во всех регионах произрастания. Один паутинный клещ откладывает 100-160 яиц и живет 30-40 дней. Тля зимует в растительных остатках и почве. С приходом весны он перемещается сначала на сорняки и люцерну, а затем на хлопчатник. Тля живет роями на обратной стороне листа хлопчатника, в точке роста. Люцерна кандала. Главным образом своим ротовым аппаратом он повреждает хлопковые коробочки, прокалывая и высасывая их.

Ключевые слова: агротехнический, карантинный, биологический, имаго, яйцо, личинка, нимфа, зараженный лист хлопчатника

INTRODUCTION

Protection from pests is one of the important factors in obtaining a high-quality harvest from agricultural crops, including cotton. Protection of plants from pests is a whole system. This system includes organizational-economic, agrotechnical, quarantine, biological and chemical measures. These measures are aimed at preventing the reproduction of pests and their complete destruction.

MATERIALS AND METHODS

Figure 1.

A spider's nest. a) adult, b) egg, c) larva, g) nymph, d) infected cotton leaf



Insects reproduce by laying eggs or living. They cause damage from lichen deficiency to adulthood. Harmful insects are divided into suckers and rodents. Sucking insects that damage cotton include spider mites, aphids (police, aphids, large cotton aphids), tobacco thrips, and rodent pests - autumn caterpillars, cotton caterpillars, locusts. Cotton is damaged by all kinds of insects from the time of emergence of weeds to the time of production. Sucking insects. Spider mite. This pest is common in all growing districts. It usually overwinters at the edge of the field under stubble, mulberry, and cotton seedlings in the spring. The spider mite is an omnivorous insect that damages more than 200 types of plants; cotton, mulberry, sugarcane crops, vegetable crops, beans, soybeans, peas, alfalfa, apples, etc.

RESULTS

The earlier the spider mite hits the plant, the more damage it causes. It looks like a spider, the length of its body is 0.3-0.6 mm, its color is yellow, the infected leaf becomes reddish and is clearly visible from a distance. A spider mite undergoes a complete development cycle in 8-12 days in summer (June, July, August), 15-20 days in May, and 25-30 days in March-April. In cotton, it gives 12-20 generations depending on weather conditions. One spider mite lays 100-160 eggs and lives for 30-40 days. It lays up to 30 eggs in weeds and lives for about 10 days. Slow development in fine fiber cotton. It lives by sucking plant sap. In heavily infected cotton, the leaves and fruit organs fall off.

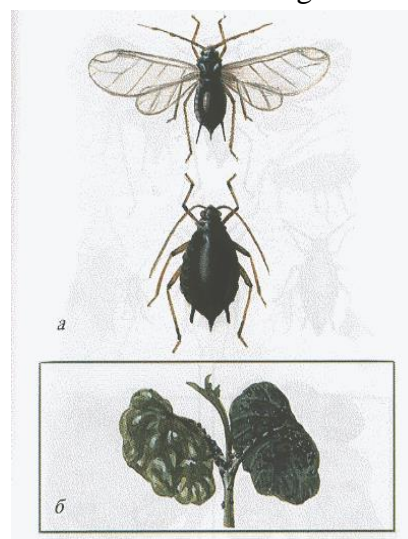
Counter measures. In this case, agrotechnical measure is important, mainly it is necessary to remove last year's plant residues.

It is also important to wear a jacket in winter. But the main method is chemical control. Cotton is treated with any of the following preparations: chlor-ethanol 20% q.e. 3-5 t.e., phosphamide (BI-58) 40% t.e. 1.5-2.5 t.e. zalon 35% t.e. 2.5-3.0 l/ha, tedion 50% n.e 3-5 kg/ha, ortus 5% x.p. 0.75-1.0 kg/ha black 48% k.e. 1.5 p/ha, sulfur powder 20-30 kg/ha, colloidal sulfur etc. 2-5 kg/ha, lime-sulphur solution (ISO) 0.5-1.0 300-600 m/ha.

The drugs are applied using OVX-14, OVX-28 or aircraft. Natural caterpillars eat from 50 to 800 eggs of cannibal thrips, goldfish, predatory candala, etc.

Figure 2.

Alfalfa or acacia juice. (Photo by A. Blumer) a-winged and wingless aphid adults, b-damaged cotton seedling



DISCUSSION

Plant lice (aphids). Cotton is damaged by alfalfa or acacia weevil, cotton boll weevil and large cotton weevil. Aphids overwinter in plant debris and soil. With the arrival of spring, it first moves to weeds and alfalfa, and then to cotton. Aphids live in swarms on the back side of the cotton leaf, at the point of growth. The edges of the aphid leaves curl back, the growth point dries up, and the fruit organs fall off. Such a plant grows slowly and the yield decreases by 15-20%. Especially, if aphids fall on seedlings in the early period of development, the damage caused is several times higher than if they fall late. If aphids fall during the ripening phase, the fiber becomes dirty with the sap released by the lice, the top becomes black and the quality of the fiber deteriorates.

Plant lice are very small insects that live by sucking plant sap. The development cycle is premature, during the season the bega louse gives 12-15 generations, the other lice give 20-26 generations. In summer, nests live for 18 days and give up to 150 larvae. In winter, the mature insect mates and lays eggs and hibernates as eggs.

Alfalfa or acacia louse. This aphid damages cotton, groundnut, acacia, alfalfa, peas, and safflower crops. It seriously damages cotton in May-June. The body of the live-bearing female is shiny black and reaches a length of 1.3-2.1 mm.

After living in cotton for 30 days, it moves to alfalfa and winters there as an egg. The policy bit. It damages cotton, polizi crops, groundnuts, hemp crops and others. Aphids overwinter in weeds as adults or larvae. It flies out in April and lives in weeds, and from the beginning of May it moves to cotton. It multiplies in May-June, September-October.

The large cotton weevil infests cotton, mung beans, and beans. It is common in Yantak. The size of the large cotton louse is 3.5-4.0 mm, the body is bluish, the eye is green. It overwinters as eggs in cotton and cotton. It gives live birth without hatching all summer, the last joint lays eggs by hatching.

Countermeasures. It is mainly combated with the help of toxic chemicals: antio 25% k.e. 2-2.5 l/ha, phosphalide 40% k.e. 1.5-2.5 l/ha, etaphos 50% k.e. 4 l/ha, chimbush 25% k.e. 0.3 l/ha, karbofos 50% k.e. 0.6-1.2 l/ha decisis 2.5% k.e. 0.4 l/ha and others.

The natural hosts of lice include the louse beetle, the buzzing fly, the seven-pointed hornet, the golden eye, and the gallica. A golden-eyed larva can kill up to 300 plant lice and a ladybug larva can kill up to 600 plant lice.

Handcuffs. These are biting pests, with alfalfa and field knotweed causing the most damage.

Alfalfa kandala. Mainly, with its oral apparatus, it damages cotton bolls by pricking and sucking them. Damaged pods and flowers dry up, the yield of fiber in the pods decreases, and the quality of the crop deteriorates. Mature insect 6.5-9.0 mm, green in color. In Uzbekistan, it gives 3-4 generations, winters as eggs. Field kandala is similar to alfalfa kandala, but smaller, 3.4-4.0 mm, green in color. The mature insect overwinters among plant debris. Candala reproduces by laying eggs on the leaf and its band. It damages the plant from early spring to late autumn.

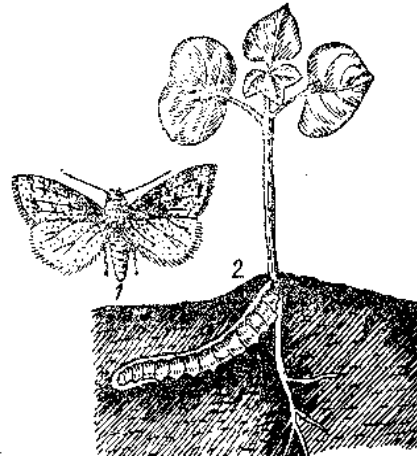
It damages the growing point and young leaves from weeding to weeding, and it damages the weed and node during weeding and flowering. If the pod is damaged, black spots will appear and it will be delayed. Gives 3-4 generations during the year.

Countermeasures. Medicines used against spider mites and lice will also eliminate lice. Tobacco thrips on the left - a larva, on the right - an adult Thrips is a small insect, 0.8-0.9 mm. The oral apparatus is sucking. Winters in plant debris. It develops in weeds from March.

The female lives for a month and lays up to 100 eggs. Thrips damage the growing point and young leaves. The affected leaf has a silvery sheen, and the growing point may die completely.

Control measures are the same as for spider mites and lice.

Figure 3.



Autumn night Butterfly; 20 autumn nightworm damaging the cotton root. K rotting pests. Autumn tunlam (rootworm) likes to eat crops such as cotton, alfalfa beet, corn, field crops, wild grouse, albuta, which are common in irrigated fields. It hibernates as a worm at a depth of 5-10 cm. In March, they turn into pupae, and in April, the first butterflies fly out and lay eggs. Hatched larvae damage cotton roots, stems and leaves. When the worms multiply in abundance, they severely damage the cotton seedlings, and the seedlings are thinned out and have to be replanted. A mature worm is 5 cm long. The butterfly lives for 20-40 days, hatches up to 2000, and lays more than 500-600 eggs. In 3-7 days, gray larvae emerge from the eggs, first feed on the leaves, then penetrate the soil and damage the above-ground part of the plant only at night.

Autumn nightshade gives 3-4 generations in our conditions. The natural insects of the autumn night include the gabbrokop, trichogramma, golden eye, tachin fly and others.

Countermeasures:

Autumn plowing of the land, plowing the fields;

1. Spray 1.5-1.8 kg/ha of chlorophos solution after sprouting of cotton seedlings, use 0.7-1.0 kg of dendrobacillin against 1-2-year-old bollworm;

2. Prepare poisonous food from Kunjara and apply 20-50 kg per hectare;

3. At the beginning of egg-laying, 60,000 trichograms per hectare, 80,000 trichograms per hectare after 5-6 days, and 60,000 trichograms per hectare after another 2-3 days.

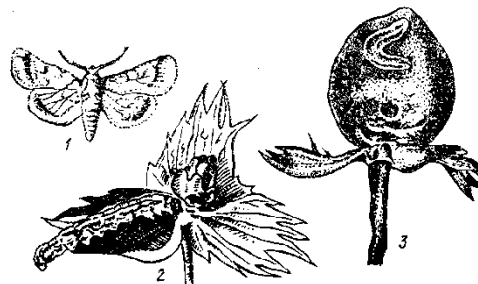


Figure 23.

Cotton tunnel:

The cotton bollworm is a widespread omnivorous insect in Uzbekistan. It damages cotton, corn, tomatoes, legumes, pumpkins, peanuts and other crops. Mass damage to the cotton tunnel begins with the shunting phase. It damages the flower, the bud and the bud. If it spreads strongly, it sharply reduces productivity and spoils the quality of the crop. Damaged pods, flowers and nodes are shed. Young caterpillars feed on growth point and young leaf, middle larvae feed on pods and flowers, and adults feed on buds and pods. One worm damages 15-20 crops.

1) butterfly 2) flower damage; 3) cyst damage

The cotton moth butterfly emerges in April-May when the soil temperature reaches 16°C. Take off can last up to a month. Lays the first egg in the weeds. It begins to lay eggs on cotton from the carding phase. Autumn evening primrose likes moist, well-drained fields. After 4-6 days from eggs, maggots emerge. It is light green in color and soon the beak darkens and becomes dark in color. After going through six years, in the last year it enters the soil and forms a nest at a depth of 5-12 cm and turns into a cone. After 8-12 days, the butterfly flies out and the cycle of development returns, which lasts 30-40 days. One butterfly lays 400 to 1000 eggs. Gives 3-4 generations in a year.

The cotton moth overwinters in fields empty of cotton, corn, and tomatoes and in their fields. Countermeasures. Weeding the fields and fields, burying the cut growth point in the pot. Extensive use of biological methods against cotton bollworms is effective. Every 3-5 days after the butterflies start laying eggs, trichogram is distributed per hectare in the scheme of 60+80+60 thousand.

Gabrokop against worms in the ratio of 1:20, 1:10 and 1:5 is released every 7-8 days. In addition, anaptele, golden eye and tachin fly can be used.

If there are 8-12 cotton bollworm eggs or worms per 100 bushels, 3-4 biotobacilivin and 0.7-1.2 kg of dendrobacillin should be applied per hectare.

Zolon 35% k.e 2.5-3.0 l/ha, 30% n.k 3-3.3 kg/ha, Sevin 85% n.k 2-2.5 kg/ha and others should be used as insecticides. . Ambut 25% 0.8 kg/ha, Decsis 25% 0.7-1.0 kg/ha Nurel-D 20% 0.4 kg/ha are sprayed against adult worms.

Karadrina. A common pest. Omnivorous insect. Small ones gnaw fresh leaves, and big ones gnaw leaves, stems, flowers and buds. Butterflies begin to fly from March and continue until late autumn. Overwintering butterfly lays up to 2000 eggs. The next generation lays 300-600 eggs. Worms of the first and second ages live as pupae. From the third age, it descends to the ground in search of suckling. After 6 years, it descends from the plant to the ground in 16-22 days. After 8-10 days, the butterfly will fly out. In our conditions, it gives 5-6 syllables. The current development is 30 days. The optimal time to fight against it is the period of laying eggs and the emergence of young worms.

Countermeasures:

1. Timely removal of weeds
2. Treatment of roadsides and uvates with nitrafen in early spring
3. The biological and chemical method of cotton wool is the same

CONCLUSIONS

In addition to these main rodent pests, locusts also damage cotton. They are the Asian locust, the Moroccan locust and the Italian locust. These basically give one generation. Larvae hatch from the eggs in the spring. They mature, mate in the summer, and lay eggs in burrows in

the soil. Egg laying lasts for 2 months and larvae hatch in the spring. To fight against them, toxic preparations Sumi-Alfa 0.2-0.4 l/ha and others are used.

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