

СЕЛЬСКОХОЗЯЙСТВЕННЫЕ НАУКИ

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IMPORTANCE OF AGROTECHNICAL METHODS AGAINST PLANT PESTS

The article reveals a great importance of agrotechnical methods against plant pests, irrigation lands chasing by flooding and carrying out the defoliation of cotton scoops which has a productive efficiency.

Key words: *plough, biotope, planted lands, organic, of agro-technical, cultivation, agroprocess.*

Agro technical arrangements for growing plants may vary depending on the type of each crop, quantity, a purpose and duration, but in the climatic and soil conditions of our republic, that is, tillage in autumn or in spring is the most important for all lands. Because, first of all, it is an inequality in increasing a soil fertility. It is very sufficient to improve the structure of the soil, in order to increase the amount of the most valuable humid substances in it, to preserve moisture. Nevertheless, positive microbiological trends in the soil are also the result of the normal development of various joint animals [4; 6; 7]. Autumn snowfalls are of a great importance even with abundant decrease in winter weeds. In one of the latest scientific articles published by [1], it is not in vain that a system for releasing them from deep steam fields is recommended.

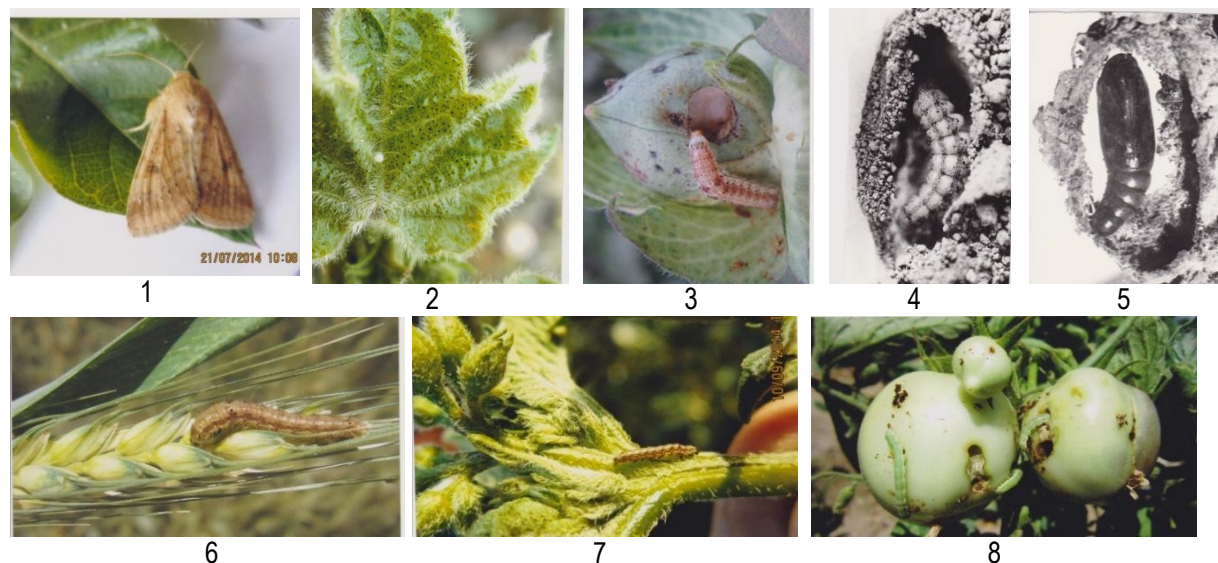


Fig. 1. Plant pests:

- 1 – butterfly; 2 – eggs laid on leaves; 3 – worms damaging cotton bolls; 4 – a worm that creates pupae in the ground; 5 – a caterpillar inside the pupa; 6 – a cotton scoop on a spikelet of grain; 7 – a worm on the shoots of a potato; 8 – severely damaged tomato fruits

The famous entomologist Vladimir Vladimirovich Yakhontov [9] once wrote about its importance in pest control: “there are such insects that the role of an ordinary grove, for example, cotton, is invaluable in controlling them”. As a result of a landslide on the soil, moonlit pearls sunk in winter were destroyed, it was assumed that funguses and butterflies were killed. It is not a secret that many pests (scoops, thrips, spiders, whiteflies, bedbugs) penetrate stocks.

Place of investigation. Studies were carried out in the period of 2013-2016 in Tashlak farms of Uzbekistan, Ferghana region, with specific climatic and soil conditions. The methods considered are accepted in cotton growing and entomology [2; 5; 8].

Obtained results. The density of wintering funguses in various biotopes and cytoseres of the most common cotton scoops (CS) did not stay unnoticed. Special observations and studies carried out in the conditions of the Tashlak district showed that the largest number of pest stocks is observed in tomato and corn fields, as well as in unfinished areas of cotton fields (Table 1).

Winter stock of cotton pox occurs even in autumn wheat crops; partially on the edges of the fields, also around the field there can be found domes of cotton scoops [10].

As it can be seen from the table, in the beginning of winter (in December), there were not found moon domes after cotton, and butterflies began to stick to the pheromone traps of cotton scoops a little bit later.

Table 1

The tightness of Cocoons of cotton scoops left to winter in biotopes.
Ferghana region Baghdad district, within 2013-2015

Years of investigation	Amount of cotton scoops unit /m ²								
	At the edges of the fields	Cultivated fields	corn	Autumnal wheat	tomato	pumpkin	peper.	potato	arachis
			In sowed fields						
2013	0,20	0	0,74	0,31	1,32	0,3	0,1	0	0,87
2014	0	0	1,20	0,16	0,96	0,2	0	0	1,10
2015	0,32	0	-0,61	0,41	1,10	0	0	0,16	0,77

Cotton Feeding. It is known that there is no point to expect a large crop from a plant that is not fed with mineral and organic fertilizers, which have a timely and different basis. According to the agrochemical cartogram, the cotton, which feeds on NPK, has the ability to replace (compensate) pests and diseases that are resistant to damage, damaged crops does not mean “seen” insects. For example, cotton wilt and other diseases that do not feed on potassium fertilizers, which are not particularly significant.

Rinse the field (ground) and water supply. Typically, at the end of winter, saline lands are washed in certain areas of land, by flooding for several days. The significance of this agro technical event is wider; it also pays attention to reducing the number of wintering pests. According to the results of our special experiments, it turned out that the butterflies did not fly out from one of 16 pupaes (CS) lying under the water with a moderate temperature for 48 hours, that is why, they die. Given that the water temperature in winter is much lower, we can say that the effect will be higher.

Artificial irrigation and crop cultivation. Irrigation of crops and cultivation in the range is also a manifestation of the fight against cotton scoops and other pests. The reason for this is: an immature plant is resistant to most adverse situations, and the damage done to its damaged pests remains partially invisible. Secondly, any insecticides (especially those with systemic properties) sprinkled with water from a saturated plant demonstrate high efficiency. And with the help of cultivation, as a result of mechanical impact, the prestige of many pests is reduced.

Chasing cotton. Our special control showed that the cotton scoop begins to lay eggs in it after entering the period of glory (usually in the first half of June). The bulk of the eggs (up to 100%) is poured on top of the leaves of the plant. 72-80% of these is put at the point of growth of branches. So, if, depending on the care of the cotton, it is necessary to sprinkle it (to “mint”) at the moment when the butterflies of the cotton scoop lay their eggs in the mass (for example, the 3rd decade of July or early August), then the pest eggs and young caterpillars may also die. For this, the employee must collect the cut-off part into, put on a special apron and remove it from the field. We determined this based on the experiment below.

The experiment was conducted on the agricultural fields of Tashlak region in the first decade of August 2015, when the third generation of the scoop was developing. A well-developed and watered cotton field was selected and part of it was allocated for the experiment. For each option 1 hectare of land was allocated. In this field, when minting, when cottonseed lays eggs abundantly, young worms first came out. In the control variant, it was found that, on average, 100 cotton balls each contain 20,6 eggs and 5,6 worms (Table 2). Cotton is chased once. After that, repeated checks were carried out within 15 days. The experiment consisted of three options, in the first of which growth points were thrown out, and in the second, working aprons were recruited and taken out of the field.

Table 2

The effect of varied coinage for cotton scoops in the fields. The experiment was conducted in Tashlak district, the cotton variety – “Sulton”, on August 3-5, 2014-2015

Variations	Eggs and worms before the chasing per 100 plants		Amount of worms per 100 plants				Efficiency, % in days			
	egg	Worm	3	6	10	15	3	6	10	15
Chasing out of apron	16,3	4,7	3,7	10,7	13,4	3,0	32,2	12,1	16,9	0
Chasing in apron	13,7	4,3	3,2	6,5	8,5	1,9	36,0	41,6	42,4	39,9
Control without chasing	20,6	5,6	6,5	14,5	19,2	4,1	–	–	–	–
Positive effect of chasing in apron	–	–	–	–	–	–	3,8	29,5	25,5	39,9

The control chasing of cotton is in the third embodiment. The following conclusions can be drawn from the results of the experiment.

1. General provisions of agrotechnical coinage on cotton, if the cotton scoop coincides with the laying time, then a significant effect can be achieved by reducing the number of pests.

2. If the coinage of cotton is collected in special aprons and thrown out of the field 36-42%, then the control efficiency will increase than the collection of coinage without a special apron – 29–39 %.

The accuracy of the experiment is proven. (table 3). Three options were compared and studied with each other. The efficiency of minting cotton and the timing of their conduct, as well as the developmental relationship of cotton scoops.

Table 3

Tashlak district, Agrarian Farm under the name “Sohibzhon MMM” in Tukhtaboeva farm, in 2015

№	Variations	Density of eggs and worms in term of chasing	Density of pests (in an average per 100 plants, units)			Efficiency of an agro events, %
			6. 08.	12. 08.	20. 08.	
1	Early cotton chasing	2/9 (16.07-18.07)	10/9	1/17	0/5	19,3
2.	Compliance of cotton chasing with an abundant strike of cotton scoops	23/3 (26.07-08.08)	11/6	2/11	1/8	37,5
3	Control (cotton does not chase, to 0,4)	19/4 (26.07-8.08)	7/11	3/16	0/13	–

As can be seen from the table, in the second version of the experiment, the highest efficiency was achieved (37,5 % of the biological effect compared to the control).

In general, it should be noted that in cases prone to damage to the goose worm, it is necessary, at first to spray the cotton and establish the timing of its application with the pest on the mass planting of eggs.

Spraying measures carried out in favorable terms, along with the approach to cotton fruit growing, can provide additional assistance to the extent that there is no need to carry out special treatment against worms. The remote growth point of the plant must be collected in aprons and removed from the field.

Carrying out defoliation. Although cotton does not stop growing and developing using this agro method, it artificially drops the bulk of the leaves. How is it beneficial for plant protection? Of course there is a benefit. All absorbing pests (scoops, thrips, white-winged ones) that develop using plant tissues are destroyed first. During the collapse of cotton, the main advantage is where the new fibers are not “glued” (black aphid) obtained from contamination by insect waste [3]. This takes place among the huge strategic achievements. Also, the nutritious form of cotton worm tuna worms die partially, and the rest develop slowly, poisoning, or not getting divorced at all. Therefore, defoliation without delay with the opening of half of the middle box will give good results.

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ВАЖНОСТЬ АГРОТЕХНИЧЕСКИХ МЕТОДОВ В БОРЬБЕ С ВРЕДИТЕЛЯМИ РАСТЕНИЙ

В статье раскрывается значительная роль агротехнических приемов борьбы с вредителями растений орошаемых земель путем затопления и проведения дефолиации хлопковых полей, которые имеют продуктивную эффективность.

Ключевые слова: плуг, биотоп, посевные площади, органика, агротехника, возделывание, агропроцесс.