

NEW ENVIRONMENTALLY MANAGEMENT PRACTICES TO REDUCE PESTICIDE LOAD AS A BIOPROTECTION AGAINST PESTS.

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Abstract. The results of observations carried out in the agrocenoses of Uzbekistan with the help of analogues of sex pheromones of various cutworm species, as well as two species of moths, are summarized. The species composition of scoops, dominant and subdominant species was revealed. The possibility of using analogues of sex pheromones, both domestic and foreign, to establish the species composition of the cutworm complex in agrocenoses of cotton crop rotation is shown. pests.

Keywords: ecology, environmental safety, pheromones, cutworms, aphids, leaf structure, cotton, kenaf, corn, alfalfa, pesticides.

Introduction

Ecology has acquired practical interest since the dawn of human development. In a primitive society, each individual, in order to survive, had to have some knowledge about his environment or about the forces of nature, plants and animals. Like other areas of knowledge, ecology has developed continuously, but unevenly throughout the history of mankind.

In foreign countries of the 20th-21st centuries, “The problem of environmental security has gone beyond national and regional and has become a global problem for all mankind ... Mankind really felt the threat it faces, resulting in an anthropogenic impact on the environment.” Intensive human economic activity has brought the world to the brink of ecological catastrophe. Human impact on the environment is multifaceted. The main anthropogenic factors that destroy the habitat are: urban growth, mining, road transport, industry and chemicalization of agriculture. When protecting plants from pests, chemical methods were mainly used. In the deterioration of the environment in the first place is the chemical impact. The role of chemical objects in human life cannot be overestimated. They are given one of the important places in the fight against pests, diseases and weeds of agricultural crops, but the actions of pesticides are never unambiguous. Pesticides used in agriculture are organic compounds that are toxic not only to pests, but also to humans and animals. Man uses pesticides to destroy a limited number of organisms, which make up no more than 0.5% of the total number of species inhabiting the biosphere, while pesticides, when applied, affect all living organisms. When carrying out protective measures, pesticides are always directed against the population [Khanhodjaeva N.B.]. Due to environmental problems, it

is currently relevant to breed varieties that are resistant to various pests, created on the basis of wild species with high sustainable potential, as well as the use of pest pheromones in agriculture as a method of pest control and their advantages over pesticides from an ecological point of view.

The modernization and intensive development of agriculture is understood as the implementation of investment projects for the construction of new, reconstruction and modernization of existing processing enterprises, the widespread introduction of intensive methods in agricultural production, primarily modern water and resource-saving agricultural technologies, the use of high-performance agricultural machinery; expansion of research work on the creation and introduction into production of new breeding varieties of agricultural crops that are resistant to diseases and pests, adapted to local soil, climatic and environmental conditions. [Lebedeva K.V.]

The research was carried out with the aim of minimizing and, if possible, eliminating the adverse effects of anthropogenic factors, ensuring the safety of the environment and people.

Pheromones are one of the types of external stimuli that affect the behavior and physiological state of insects, a complex of special olfactory signals. These are biological markers of a kind, volatile chemosignals that control neuroendocrine behavioral responses, developmental processes, as well as processes associated with social behavior and reproduction. Dangerous agricultural pests are scoops of this family. Noctuidae and Cotton Aphid (*Aphis gossypii* Glov), causing great damage to cotton and other farms. With a strong colonization of these pests, yield losses can exceed 50%.

Number of scoop complex in agrocenoses of cotton crop rotation

In the surveyed fields of cotton crop rotation (cotton, kenaf,) the scoop complex, determined by the presence of pheromones, as a rule, is of the same type. However, differences were observed in some years, which concerned mainly small species. Thus, in all areas the dominant species was the tangle scoop (*Emmeliatrabealis*), the subdominant species was the exclamation scoop (*Agrotisexclamationis*) and the winter scoop (*Agrotissegetum*). In the cotton field, we found bindweed cutworms (*Emmeliatrabealis*), winter cutworms (*Agrotissegetum*), exclamation cutworms (*Agrotisexclamationis*), cotton cutworms (*Helicoverpaarmigera*), meadow cutworms (*Mythimnaunipuncta*), as well as gamma cutworms (*Autographagamma*), C-black cutworms (*Xestia c-nigrum*), epsilon scoop (*Agrotisipsilon*). In the cotton fields, the bindweed cutworm (*Emmeliatrabealis*) was the dominant species, the exclamation cutworm (*Agrotisexclamationis*) and the winter cutworm (*Agrotissegetum*) were subdominant. So, a day after the installation of pheromone traps, 14.7 individuals were caught on red pepper, and 11 individuals were caught on tomatoes and alfalfa. According to available data, the generalized

economic threshold of harmfulness is considered to be catching, on average, per trap per day (night) 5 or more winter scoop butterflies (*Agrotis segetum*), which corresponds to a caterpillar density of 2.6 - 4.0 individuals per 1 m². (Table 3.4)

Table 3. Indicators of species diversity of the cutworm complex in crop rotation fields cotton (Yukori -Yuz village)

Index	Corn	Kenaf	Index	Corn	Kenaf
H± _{mH}	1.178±0.05	0.648±0.080	H± _{mH}	0.968±0.078	1.088±0.0007
λ ± m _λ	0.391±0.0008	0.677±0.002	λ ± m _λ	0.416±0.0008	0.440±0.002

Table 4. Indicators of relative abundance P_i and species diversity (H , λ) of the complex of scoops of agrocenoses of cotton crop rotation (Yukori -Yuz village)

View scoop and indicator	Kenaf	Border kenaf and cotton	Alfalfa	Corn
Indicators relative abundance				
winter	0.166	0.095	0.179	0.84
exclamation	0.075	0.148	0.208	0.84
bindweed	0.479	0.451	0.233	0.700
Gamma	0.276	0.238	0.216	0.210
A drop	0.002	0	0.074	0
S - black	0.0008	0.001	0.046	0

Indicators specific diversity				
H± _{mH}	1.199±0.93	1.198±0.020	1.326±0.032	0.809±0.043
λ±m _λ	0.339±0.002	0.157±0.0002	0.180±0.002	0.541±0.004

In this regard, we are in the fields of the village of Yukori -Yuz and the research institute of vegetable and gourd crops of the Tashkent district of the Tashkent region. a study of the species composition and abundance of some cutworm species was carried out using known synthetic sex pheromones. As the latter, we used: for the winter cutworm *Agrotis segetum* - two-component synthesis systems (OC-75 and OC-77), and later three - (OC-8) and four-component systems (OC-8-2), made in; for the exclamatory cutworm *Agrotis exclamationis* - a two-component mixture (BC-23), and later a four-component pheromone (BC-123); for the bindweed scoop *Erastria trabealis* - cis-5-decenyl acetate at a dose of 1 mg; for scoops-gamma *Autographa gamma* - a mixture of dodecenyl acetate and cis-7-dodecenol (SG-86); scoop-drop of *Autographa (Plusia) confusa*-cis-7-dodecenyl acetate at a dose of 1 mg; scoop-epsilon *Autographa ipsilon* - a mixture of cis-7-dodecenyl acetate and cis-9-tetradecenyl acetate; cutworms C-black *Amathes C-nigrum*-cis-7-

tetradecenyl acetate and cotton cutworms *Heliothis armigera*-two-component system cis-11 and cis-9-hexadecenal [Jacobson M.].

Conclusion

Unfortunately, cotton crops are often affected by diseases: fusarium and verticillium wilt; gommosis of bolls and stem; root rot; microsporiosis and alternariosis ; fiber curl and others.

There are several measures for the control and prevention of cotton diseases. These are timely elimination of pests, prevention of stem sticking, improved plowing, separate collection of healthy and diseased cotton, high-quality harvesting of predecessors in the stubble of which insect carriers winter, timely fertilization (to increase immunity), and, of course, chemical treatment and spraying with a solution urea in the phase of 3-4 leaves. Cotton pests are spider mites, thrips, aphids, different types of scoops, bollworms and some others.

gabrobrakon on the fields, which destroy larvae and caterpillars), high-quality autumn cleaning of fields from infected plants, their removal and destruction; removal of mulberries or other trees growing near crops, winter watering, deep autumn plowing.

The use of biological means of protection is perhaps the most interesting. Trichogramma and Gabrobrakon are parasites of most insects that damage crops. Moreover, trichograms infect eggs of pests, and gabrobracon - adult insects. The use of biological measures to control pests of crops can significantly reduce, if not completely cancel the insecticidal treatment of fields. This leads, on the one hand, to a reduction in the cost of drugs with a high safety of plants, and on the other hand, it allows you to grow crops without the use of chemicals.

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