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The Effectiveness of a New Type of Light Trap in the Fight Against Harmful Insects

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Annotation. The article highlights the advantages of a new type of insect trap that provides simultaneous light as well as pheromone and syrupy insect attractants in monitoring and controlling the number of nocturnal pests, especially moths and butterflies. Conventional incandescent coil PRK-4 and BUV insect traps, which have been in practice for many years, are no longer in practice due to their harmful effects on beneficial insects. In our research, it was found that a new type of insect repellant, provided with light, pheromone and syrupy substances that attract insects at the same time, is effective. In particular, it was found that it is clearly distinguished by its harmlessness to entomophages.

Key words: Insect trap, light insect trap, syrup, pheromone, night flying, nocturnal butterflies, entomophages, insects, moth butterflies, efficiency, biodiversity.

Introduction. Humans have been fighting various pest insects for very long years. They not only damage crops, but also spread various infectious diseases that also come from damage supplies. A special place in the control of the amount of insects is occupied by the use of various handles. Glue applied colored (yellow) papers, pheromone handle, syrupy (baklajka) and other similar handles are widely used in agriculture to predict the appearance and quantity of pests, as well as to control their quantity (harmonized control system). No matter how effective the chemical method is, since it is harmful to the environment in the production of organic products, attention is now growing mainly in the use of methods and means that are not harmful to the environment [19;5;14;15;]. Among insect handles, light insect handles occupy a special place. It has been used for many years in the fight against pests of agricultural crops, especially tangachanotans (caradrina, tunlams)or in their prediction [6;14;15;].

Currently, they have been created in various district forms and are widely used on a global scale. At the initial time of insect capture, luminaires with tungsten (voltage 220 V) [17;18;19;] followed by ultraviolet light-emitting luminaires [12;20;] were used. A 320-400 nm ainix during a long period of insecticide collection in the Uziga iceberg is clearly dangerous [16;19;4;]. In later years, battery-operated light handles were also created [7;8;12;13;], it became possible to install them directly where you want the field. The use of mercury lamps has been found to increase insect retention by 50 times[14;15;17;18;19;]. However, there is also a specific drawback to the use of insect traps in light, which, although they do not harm the environment, but can cause many useful species, especially pardacanotans, spreaders and altcoyins, to become extinct.

In the Andijan region installed such (elekty photospectric handle) it was found that in the light a large number of insects fell on the insect catcher, but there are many useful insects inside them [3]. At present, however, handles are also created that are designed to collect insects alive [1; 2;] and it is also determined that they can also be used for various purposes [3;].

If insect traps are used in the light, they allow you to detect pest insects earlier and prevent their damage [9;10;11;]. Another type of insect handrail, widely used in agriculture, is the pheromone handrail, which has much more advantages to be applied, different from the others. Its advantage lies in its selective effect, efficiency, ease of application.

For this reason, it is now used on a very large scale in the fight against many cotton-growing, and root-rodent autumn tunings and terrestrial tunings in vegetable farms.

Effective methods of applying pheromone handles were recommended in practice by employees of the Institute for scientific research on plant protection of Uzbekistan [3;] in-depth study.

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Before installing them in the field, adhesives are prepared: an amount of 3-4 g of entomological glue is applied to a laminated piece of paper using a shovel. Before that, the glue is heated in the sun. The capsule in which the pheromone is located is fixed on a thin wire violin. A stick with a height of 60-100 CM is laid out with one end and prepared for studding on the ground. A 30 cm branch is tied to the second end. The handles are applied to the fields every 200 m or 5-10 to the cotton field one by one. The butterfly is then set to 2 in area one at a time when it starts to fall. They should be 20-30 cm above the crops. Then the smell of pheromone spreads well [3;]. But some problems also arise when applying pheromone handles in practice. Pheromones are usually placed in the field earlier, until late at night the shade is kept in the cool, and on the eve of the evening (sunset) exit, they are recommended to be placed in the field from another. Otherwise they can quickly lose their impact strength (activity) by staying under the sun (pheromones must be renewed every 10 days). However, in practice, this is often ignored: as a result, inaccuracies arise in the prediction. Therefore, it is recommended that pheromones do not look coldly at their absence during the day. At present, scientists around the world are conducting scientific research on the control of the amount of pest pests (tunlams, barguards, moths and b) by the method of desorientation and are also used in practice in some states. Research work on this issue has been started in Uzbekistan. When this method is used, insects cannot find their opposite sex, and the number of pests naturally decreases when the spawning process is not enough. The most important thing is to influence the same particular species, while others do not harm it. In subsequent years, in the Agriculture of Uzbekistan, handles with yeast solution (the composition consists of boiled water, sugar, honey, and yeast yeast) are widely used. Their difference from pheromone handles is that a wide range of insect species falls on such handles both of their sexes. Sometimes there is a fall of many useful insects (especially oltinko's own entomophage). A certain amount of autumn Nightshade, as well as a decrease in the amount of butterflies of the nightshade, is achieved if such an insect is properly applied to the handle. This in turn can be achieved by reducing the damage of the above-mentioned pests to crops of vegetables and potatoes [7;8;]. However, harm to useful insects is its big drawback. In addition, glue papers of various colors (more yellow) are also widely used in vegetable growing (especially in greenhouses). Such an insect on the handles often falls a swan and another sucking pest insect. Of course this method is also better at controlling the amount of insects than using nature-poisoning pesticides. In general, the use of all the above-mentioned insect traps in the management of the amount of pests of agricultural crops, in forecasting and accounting work is an urgent topic, and only in this area it is required to strengthen scientific research work. Some foreign scientists have found that the use of pheromone handles in combination with insect handles in light increases the efficiency of Themig.

Object and methods of research. The average amounts of 1 m2 in the area of the cave of the night of the cave were calculated (calculated separately in the field and around it) and their density in this area was determined. The biological effectiveness of the study was determined on the basis of the method of Chichaev (2004), as well as using the equation Abbot (1925) [5;18-20 b.].

Research results. A study conducted in the Samarkand region shows that many altyncoins insects fall and die, usually on light handles and syrup-fermented handles. With a new type of syrup and in the light, useful insects fall on the handles, but do not die.

This device is in the form of a square box, on the outer sides of which four vortex-shaped vents are installed for the entry of insects. The smell of light and nectar from caterpillars spreads, attracting insects. Insects that have entered through the claws fall into special cages made of box-shaped netting. In the middle is a container that spreads the smell of niktar, and on the sides of it, light and the smell of niktar are scattered outside the racks with light lamps

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Table 1.
The effectiveness of new types of insect handles.
Pastdargom District of Samarkand region, 2020-2021.
(B.S.Boltaev information, 2020-2021.)

№	Insect handle type	The number of insects dropped per night		
		Tones	Altyno	
			All	Died
1.	The light trap	10,4	34,3	30,5
2.	Baklashka (applicable)	3,7	10,2	9,6
3.	New insect handle	5,8	8,7	4,4
4.	Insect handle with buckles	3,5	6,5	6,5
5.	Pheromone handle	5,5	1,0	1,5

For control at the edges of the pore field when the device is dark, it is first installed on 10 hectares, one by one on 5 hectares. Butterflies go into the box, striving for light through the claws. The advantage of this new type of insect trap is that both male and female egg-laying butterflies fall on it. Useful insects that have entered through the rake also do not die. Because they fall into boxes made of a small type (Table 1). Altcoyins and other useful insects that have fallen into boxes made of mesh are either expelled into nature or given to nearby biolaboratoria. As a result, it is easy to update the generation of many useful entomophages. Experiments carried out in the cotton farms of the Pastdargom District of the Samarkand region (in 2020-20221) showed that none of the beneficial insects that fell on the handle of a new type of insect died. It has been observed that all the beneficial insects that fell into the nutrient insect handle (bakalashka) died.

The new insect handle test was tested in 2020-2021. The difference between the two insect handles is that the death of entomophages in the insect handle was prevented, the predictive efficiency of pests increased.

Conclusions. In fact, there is no doubt about the effectiveness of the chemical method in protecting agricultural crops from pests, since a high effect is achieved in the short term if the drug is used in a timely manner, correctly. However, the application of chemical agents also has its own disadvantages and disadvantages. First of all, they give a high effect in the fight against pests, as well as directly affect beneficial insects, scratching them. As a result, the amount of natural kushandas decreases sharply and causes great damage to biodiversity. This in turn creates favorable conditions for the sharp reproduction of pests.

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