GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 13, Issue 11 November (2025)

ON TYPES OF INSECT PHERAMONE CATCHES

Sattorov Shokhimardon Khushmamatovich
Usmonov Muhiddin Mukhtor ugli
Abdillaev Marat Ibodillaevich
Kimsanboev Khuzhamurat Khamrokulovich
Research Institute of Plant Quarantine and Protection

ABSTRACT

The article provides information about sex pheromone traps of insects and their types. The consistent use of pheromone traps in the republic was noted. Features of the use of pheromone dispensers (MD) in production.

Keywords: Pheramon, traps, dispenser, type of traps, consumption rate.

INTRODUCTION

Pheromones are biologically active substances (ectohormones) secreted by the exocrine glands of certain species of animals, which determine the relationship of individuals of a given species, their physiological or behavioral reactions.

This article mainly provides information about epagones - sexual attractants or sex pheromones of insects. The first information about the sex pheromones of insects was presented by the great French naturalist, entomologist Jean-Henri Fabre in his works of the late 19th and early 20th centuries. Under the leadership of the German scientist A. Butenand, in 1962, the pheromone of the silkworm was isolated and named “Bombinol”. Later, with the introduction of chromatography-based research into the field of science, work on the isolation of insect pheromones accelerated.

To date, pheromones of more than 1,000 species of insects have been synthesized, and about 80 types of pheromone traps are being produced [1]. In particular, in 2021-2022, the Japanese company Shin-Etsu Chemical Co. Ltd. tested and registered the pheromone dispenser of the same name, that is, Shin-Etsu MD STT, in apple orchards to “distract” males of apple fruit moths. This pheromone dispenser is made on the basis of ethylene vinyl acetate, in a unique “Twin-tube” shape (a ring-shaped belt) and is hung on the branches of trees in the apple orchard at the rate of 500 units per hectare. The volatile vapors (VP) of the 3-component pheromone complex contained in the dispenser are released from the entire surface of the Twin-tube throughout the season, and a single use of this dispenser is sufficient [3].

Considering the novelty of the use of these pheromone traps and their limited research, it is necessary to pay attention to the following factors, namely: the effective concentration of pheromone dispensers in the protection zone (recommended amount per 1 hectare) and the effect of wind on them, air temperature, shape and surface of the protected area, and plant density, and to conduct separate studies in this regard [4].

Table The main part. According to the characteristics of the effect, pheromones are divided into the following types

№	Types	Features
1.	Epagons	sexual attractants
2.	Admixnions	route planners
3.	Toribons	summoners of fear and uneasiness
4.	Gonofions	gender reassignment agents
5.	Gamofions	sexual arousal
6.	Etofions	behavioral pheromones
7.	Lexnevmons	disguising animals as other alien species

The widespread introduction of pheromone traps into agriculture, especially plant protection, occurred in the 70s-80s of the last century, and their use is envisaged in three areas: monitoring of harmful insects in agrocenoses, mass capture (collection), and "disorientation" of males.

The set of pheromone traps consists of 3 parts, namely a pheromone rubber capsule, non-drying glue and a trap (nest), and later their various forms began to be offered. To date, pheromone traps have been used only in one area, for monitoring pests. In particular, pheromone traps have been used in cotton and other crop fields for the cotton moth, autumn moth, and later for the apple fruit borer, tomato and potato moth.

In recent years, our republic has begun to study the method of "distracting" male pests using new types of pheromone traps (MD dispensers). Based on experiments conducted in foreign countries, including Uzbekistan, it can be noted that the use of these pheromone dispensers has the following advantages:

- Protection from pests throughout the entire vegetation period as a result of a single application ("deterrence").
- Reduce the use of insecticides by 50-70% through use in an integrated pest management system (IPM);
- Safe for entomophagous insects and pollinators;
- Independent of weather conditions;
- Possibility of use in combination with chemical protection agents.

The issue of using pheromone traps in cotton growing in Uzbekistan began to be studied in the 80s of the last century at the Central Asian Research Institute of Plant Protection, under the leadership of Professor Sh. Khojaev. In this regard, the pheromone trap (Armigal, 2 mg) produced by the Institute of Bioorganic Chemistry of the Academy of Sciences of Uzbekistan was widely studied and put into practice in order to monitor the flight of cotton bollworm moths in cotton fields. Later, the pheromone traps of this institute were used for tomato and potato moths and storage pests.

Nowadays, a number of pheromone traps of the Moldovan company "Rukim" and the local manufacturer "Osiyohimimport" LLC are used in our republic.

The above-mentioned pheromone traps are mainly used to monitor the occurrence of harmful insects in certain atrecenoses and, on this basis, determine the timing of biological or chemical control measures against them. However, over the past 3-4 years, a number of works have

been carried out on the use of new types of pheromone traps for a different purpose, namely, to "disorient" male insects.

CONCLUSION

Also, pheromone traps of this type are produced by the Republic of Moldova company “Mezhtrans Moldova S.R.L.” under the trade brand “Eco Center”. Currently, this company has 45 types of pheromone traps for agricultural and forestry pests and 8 types of storage pests. In 2022-2023, on behalf of the Moldovan company’s subsidiary in Uzbekistan, “Eco Center MD”, LLC, tests were conducted and registered in our republic of conventional adhesive (for monitoring) and MD dispenser (for “distraction”) pheromone traps for such harmful insects as tomato and potato moths, apple and plum fruit borers, cherry fly, cotton bollworm, pomegranate moth.

REFERENCES

1. Ферамоны - справочник /Пестициды.ru, https. www.pesticidy.ru.
2. Khodzhaev Sh.T., Abdukakhhorov V.S. Yusupova M.N. “Cotton moth and pheromone”. Advanced experience in protecting plants from pests (collection of articles). Tashkent. 2008. P. 22-29.
3. Каширская Н.Я. и др. “Применение феромонов “Шин-Етсу”в системе защиты яблони от яблонной плодожорки”. Плодоводство и ягодоводство России. 2019; 59: С. 227-232.
4.Бородовченно А.А. “Применение феромонных диспенсеров как элемент интегрированной защиты плодового сада” Ж: Защита и карантин растений. №5 2017 г. С. 23-24.