

INSECTS HARMING PLANTS AND MEASURES TO CONTROL THEM

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Abstract: In the article, insects that harm plants and the use of pesticides to combat them, information about scientific researches of entomologists, pest control works is given.

Key words : Insecticides, pesticides, bollworm, Colorado beetle, insecticides, entomologists.

The use of agricultural pest control methods depends on a number of conditions. It includes the type of crops, the biological characteristics of pests, the applied agro-technical measures, the phases of plant development, the place of application of the method, the technology of the method, the type and number of pests, the level of damage to plants, and the economic and biological value of the action. It is necessary to take into account the effect. Taking into account the natural economy of harmful organisms, it is necessary to create an opportunity for their mass reproduction and development, not to exceed the limits that cause economic damage. 2. Creating favorable conditions for the growth and development of agricultural plants, implementing advanced technology, increasing resistance to diseases and pests and, as a result, creating conditions for the lowest risk of pests. 3. Prevention of their spread from agricultural fields infested with pests to other areas, one farm or multiple fields. 4. It is necessary to develop measures and methods that prevent pests from meeting in fields, gardens, meadows and various agricultural fields, in warehouses where agricultural products are stored. 5. It is recommended to use extermination or extermination methods against pests that damage crops or threaten to destroy crops. Thus, science-based methods of pest control play a leading role in maintaining agricultural crop yields and providing quality products for industry and food. The rapid reproduction and damage of pests depends on many external factors, including the availability of sufficient food plants, especially the climatic conditions necessary for the development of pests. Scientifically based agrotechnical measures are aimed at long-term mass control of pests and reducing their level of damage.

Pesticides are divided according to the methods of entering the organism of pests as follows: pesticides acting through the gastrointestinal tract - they enter the organism of the pest with food and act through the gastrointestinal system. Pesticides that enter the body through the skin of harmful organisms are called surface or contact pesticides. These pesticides burn and damage the outer skin of pests. They damage the gastrointestinal tract. Systemic pesticides are quickly absorbed into the plant body through the roots or leaves, spread throughout the body and affect all parts of the plant. Systemic pesticides have little effect on beneficial insects. Pesticides are divided into types that affect the entire plant or destroy the entire organism, and those that have a selective effect, that is, those that affect one pest and do not affect another. As mechanical measures against pests, prevention means against their accumulation, persistence, movement or damage to plants are used. In addition, removal of plant debris and insect nests, cleaning of plant trunks from old bark, and other mechanical measures are also included. Manure, grass, trees, trap belts, and mulch are used to prevent pests from accumulating or laying eggs. When insects accumulate in such places, they are destroyed in various ways. Mechanical control measures consist of cutting and burning dead and damaged trunks of trees, extracting and removing rotten, damaged fruits. In particular, it is possible to destroy them by picking

them by hand in the fight against the bollworm (*Heliothis oryzae*). For example, when tomatoes are ripe, bollworms are also picked by hand, because insecticides cannot be used at this time. Both manual picking and mechanical removal of the Colorado potato beetle and its eggs have been proposed. Similarly, the cabbage butterfly (*Pieris brassicae*) lays its eggs in clusters. Each ball contains up to 250 eggs. These eggs can be killed before the worms hatch. The hawthorn butterfly (*Aporia crataegi*) has up to 25 overwintering maggots stuck together like a spider's nest on the branches after the leaves are shed, which can be removed and killed by hand. In summer, the cupped nests of the apple moth (*Huponomeuta malinellus*) are also removed by hand-picking. Many pests enter the village under the bark of trees. For example, apple maggots (*Carpocapsa pomonella*), and in summer, caterpillars of the cocooned moth (*Coleophora hemerobiola*) turn into cones. Therefore, in early spring or late autumn, a sheet is written under the trees, and the bark and insects spilled on it are burned. Currently, special pheromone traps for many harmful organisms have been developed and are widely used in our country. In particular, pheromone traps are widely used, which are effective against the cotton bollworm (*Chloridea obsoleta*). Pheromone traps are based on substances extracted from pests of the opposite sex, which attract the opposite sex of the pest, and butterflies of the opposite sex will fly there and stick to the applied glue. In this way, it will be possible to get information about the appearance of insects in advance. Physical methods are also used effectively in pest control. This method is especially effective in preserving the area and yield of agricultural crops. For example, if the (*Bruchus pisorum*) crop (grain) is damaged by pea-eaters during storage, if stored in a freezer at $-10, -11^{\circ}\text{C}$, almost all pea-eaters will die in one week. Bean borer (*Acanthoscelides obtectus*) dies completely after 12 hours at -10°C . In some cases, they are heated using a high-frequency current to destroy pests in the grain. In the fight against greenhouse pests, thermal treatment of seeds and steam treatment of greenhouse soils will kill many pests - larvae of root mite (*Rhizoglyphus shibamotoi*), autumn mite (*Agrotis segeim*), wild mite (*Euxoa conspicua*). Grain rail cars and platforms infested with warehouse pests, including the long-nosed barn beetle (*Calandra granaria*), are steam disinfected. In some cases, mites and aphids living on greenhouse and indoor plants can be controlled using water heated to $50-53^{\circ}\text{C}$. The dry heat control method is also used against warehouse pests, infested products are heated at 50°C for 15 minutes. In addition to insects, many pathogens also die. In most cases, dead branches of fruit trees, damaged warehouse waste, fallen leaves are burned. In the mountain and pre-desert zones, when the remains of dry plants are burned, this includes khaswa (*Eurygaster integriceps*), mulberry (*Aelia acuminata*), wheat thrips (*Haplotrips tritici*), wheat arrack (*Cephus pyomaeus*). pests are eliminated. The method of attracting insects to the crack is also used to predict their appearance. Many insects, especially the cotton moth (*Pectinophora gossypiella*), which we have as a quarantine object, are red that the color is sensitive to light, and some insects are ultraviolet it is found that the color flies more towards the light. Currently, work is being carried out on the use of radiation rays in the storage and processing of agricultural products. This method is based on the principle of sterilization of many harmful insects with the help of generalized light. At the Paris Conference of 1851, relations on the quarantine service and later plant quarantine were also established. The importance of the plant quarantine system on the international scale was the international conference held in Lausanne (Switzerland) in 1877 against the death of vines in large areas due to the widespread phylloxera in Europe. In the United States, the Quarantine Act of 1912 applied to the United States Department of Agriculture and the Quarantine Service. Quarantine law in Russia. At present, artificial preparations are the most important among pesticides, and they are widely used in developed countries. All pyrethroids are stable in sunlight, are less mobile in the soil, can be stored for up to a month, and the effect on soil microorganisms reaches

2-4 weeks. It does not have a negative effect on protected plants, a large amount of it decomposes in the bark of plants for 2 days. These pyrethroids are surface or enteric insecticides that are more effective than other pesticides. Their consumption rate is from 10 g to 200 g per hectare. They have high efficiency and the effect on pests is very high and fast. At the same time, about 50 pest species have developed resistance to synthetic pyrethroids. In addition to these, derivatives of thiodithiocarbamine and carbamic acid, nitro also includes derived phenolic compounds, mineral oils, urea derivatives, etc. Substances that kill insects are called insecticides. The dry heat control method is also used against warehouse pests, infested products are heated at 50°C for 15 minutes. In addition to insects, many pathogens also die. In most cases, dead branches of fruit trees, damaged warehouse waste, fallen leaves are burned. In the mountain and pre-desert zones, when the remains of dry plants are burned, this includes khaswa (*Eurygaster integriceps*), mulberry (*Aelia acuminata*), wheat thrips (*Haplotrips tritici*), wheat arrack (*Cephus pyomaeus*). pests are eliminated. The method of attracting insects to the crack is also used to predict their appearance. Many insects, especially the cotton moth (*Pectinophora gossypiella*), which we have as a quarantine object, are red that the color is sensitive to light, and some insects are ultraviolet it is found that the color flies more towards the light. Agronomist entomologists know in advance the increase of pests, i.e., forecast and plan the rotation of other, i.e. plant species that are unfavorable for pests, in such places, allowing the mass increase of pests in the fields. should not be eaten. For this purpose, organization of control work, organization of seminars and courses in order to improve the skills of supervisors in this field, training of farmers and farm specialists to fight against pests, if necessary, the necessary equipment, mechanisms, etc. includes the purchase and use of pest control products. Determining areas of pest risk and solving the problems of their elimination are required measures, including the placement of each cultivated plant species in certain climatic conditions and geographical areas. Leaders of farms and farmers should be involved in the development of measures to organize the fight against pests of agricultural crops, and they should be provided with funds. Organizational activities include science-based planning of crop species, varieties and hybrids and are part of state-level activities. Developing new lands, improving land reclamation, creating favorable conditions for good development of agricultural crops, improving soil conditions, creating unfavorable conditions for pests. Moroccan locusts, Asian or wood locusts, grasshoppers, prussians and other grasshoppers lay their eggs in compacted, i.e., uncultivated land, and do not lay eggs well in cultivated fields. Many pest eggs, worms, and fungi overwinter in uncultivated, i.e., uncultivated land, and from these lands are transferred to agricultural crops. Development of these lands leads to a change in the plant species entering the feeding system of the pest and eliminates the risk of good activity and mass control of the pest. Drainage of land, floodplains, and lake draining destroys habitats needed by locusts. This locust flies from these swamps and lands on agricultural crops. The development of pastures and proper management of pastures can reduce the number of Moroccan locusts. Pests are specific to each type of plant, they feed only on certain types of plants, changing the type of plant, that is, planting a different type of plant, will lead to the death of this pest. In particular, the pea weevil (*Bruchus pisorum*) falls only on peas and destroys 60-70% of the crop, that is, this pest is monophagous and damages only peas. Therefore, if peas are planted in one area for several years, its damage will be very large. But if another crop is planted for 2-3 years, this pest will be completely destroyed. The alfalfa phytonomus beetle (*Phytonomus variabilis*) does not live in crops other than alfalfa, so it causes great damage to old alfalfa. But cutting down the bed or planting other crops will kill the pests. If the same crop is planted in the same field for several years, for example, oligophagous pests such as cabbage moth (*Plutellamaculipenis*) and cabbage butterfly (*Pieris brassicae*) belonging to the family of cabbage and

other cruciferous vegetables increase year after year and cause great damage to plants. Similarly, the Colorado potato beetle (*Leptinotarsa decemlineata*) also damages potato, tomato, eggplant, and other plants belonging to the family of leguminous plants. causes it to multiply. Crop rotation leads to the destruction of monophagous pests of agricultural crops. Science-based crop rotation helps to grow healthy plants that are resistant to pests and diseases that are ready to winter in the soil, in addition to increasing crop yields. In order to prevent pests from harming crops, it is important not only to produce high-yielding varieties, but also to select varieties that are resistant to pests and diseases. Biological method. It is necessary to use the natural enemies of these pests, predators, parasites and disease-causing organisms in order to prevent the rapid development and reproduction of pests of agricultural crops.

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