

Biological Protection Of Plants

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Abstract – For the last thirty years, agriculture has been distinguished by the fact that when growing agricultural products the concept of organic and ecological management is increasingly taken as a basis, since human health (which depends to a large extent on the environment) is above all. In this regard, all over the world, programs are being stimulated and developed to improve the well-being of agricultural ecosystems. For this purpose, new agronomic and biological methods of growing crops are being applied, leaving in the past the use of synthetic materials, pesticides and other components that previously caused significant harm to nature.

Keywords – Crop Protection, Biological Methods, Toxicity, Biological Product, Drug Dose, Active Ingredient, Chemicals.

Modern plant protection is constantly striving to reduce the use of chemical funds. Information networks are full of messages about effective biologization and rejection of chemical plant protection products (CCP).

Biological plant protection is a system of measures to protect plants and plant products from harmful organisms through the use of biological products or the use of regulatory and extermination activities natural enemies of pests; and a section on plant protection science. Biological methods of plant protection have become a good alternative to the use of chemistry and are successfully used in agriculture to control pests and pathogens of various diseases, since they are safe for humans and animals. As a result, only over the past ten years, the assortment of biological products has grown significantly and every year their effectiveness, and, accordingly, popularity is growing. Biological products, in contrast to those that have become habitual for many insecticides, are that they are created on the basis of living microorganisms, such as bacteria, viruses and acariphages (species of useful spores and predatory fungi).

Basic methods of biological plant protection Application of biological preparations:

- Introduction of entomophage, entomopathogen, useful phytophage
- Method of flooding by entomophage
- Protection of entomophages

The main advantage of using biological methods of pest control is the absence of toxicity and the fact that they can be used in any phase of the growing season of cultivated plants, and even just before the harvest itself. Biological products do not affect the taste, color and smell of ripe fruits, vegetables or berries and quickly dissolve in natural conditions without harming the environment.

The principle of biological products is based on the following principle: pathogenic bacteria infect insect pests, as a result of which they die, and the main advantage of their use is that they act selectively, without harming beneficial insects (for example, plant pollinators), domestic and other warm-blooded animals.

There are two main ways of exposure to biological products: he or penetrates the pest through the intestines, or affects its nervous system.

In the first case, having consumed a plant sprayed with the drug, an insect, dies from food poisoning, in the second case, everything is much more tragic, since the pest dies of hunger. When treating plants with biological products, remember the following:

1. As a rule, one spray is not enough to obtain the desired effect, so three to six treatments must be applied.
2. Biopreparations have a delayed action, so there is no need to wait for a clear and pronounced effect after their application. Harmful insects, as a rule, die only on the third or fifth day, with the greatest effect manifested around the tenth day. Nevertheless, already in a few hours after the treatment of plants, the pests stop feeding, respectively, the harm from them becomes minimal.
3. The efficiency of etching is influenced by weather conditions (with cold weather and high humidity, the effect of processing is reduced).
4. Biological products, as mentioned above, are absolutely harmless to humans, animals, birds, fish and beneficial insects.
5. Biological products do not harm nature, do not accumulate inside fruits, vegetables, berries and other edible plants, do not pollute the soil and, as has been said many times, do not harm the environment.

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