

Eurasian
Research Bulletin

Application of Precautionary Measures in the Use of Chemical Preparations in Agriculture

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ABSTRACT

The article describes the necessary information about agriculture, plant protection, harmful insects, diseases, weeds, pesticides, organophosphorus compounds, humans and warm-blooded animals, rules of use, waiting period, biological efficiency, and environmental cleanliness.

Keywords:

protection of plants from harmful organisms, plant diseases, pests, weeds, control measures, chemicals, understanding of pesticide toxicity, people, wildlife and nature conservation.

Introduction

The era of chemical pest control in agriculture began in 1940. If the cultivated crop is not protected from disease spreaders, harmful insects and weeds, part of the expenses spent on crop cultivation will not be compensated. The ripening period of the crop is prolonged, and low-quality products are harvested. The chemical method also takes a leading place in the organization of plant protection work. In this case, the expected result will be achieved quickly, it will be possible to fully mechanize all work. As a result of the successful development of the chemical industry, the type and amount of chemical preparations used in agriculture have been increasing over the years. Chemical preparations are low-toxic, medium-acting, and strong-acting, and are divided into groups with extremely strong influence. Pesticides can poison animals and humans, can be stored in the environment and accumulate in the product, therefore, it is necessary to have strictly scientifically based recommendations and restrictions for each preparation and they

ensure the safe and effective use of the pesticide.

The main part

The rules for the use of pesticides are determined by the State Chemical Commission in cooperation with the Ministry of Health. The main requirements for the use of pesticides are as follows.

1. It is necessary to strictly adhere to the recommended consumption norms of drugs. Increasing or decreasing the established standards can lead to unpleasant consequences.
2. Use chemical control only when necessary, that is when the influence of the pest exceeds the economic criterion. It is necessary to take into account the system of combating this pest and the influence of beneficial insects.
3. It is necessary to follow the instruction on the safety rules when storing, transporting and using pesticides.

4. Strict adherence to waiting periods - the time between the last treatment and harvest - ensures that the permitted amount of pesticide residues in feed products is not exceeded [2-5]. In addition to the above requirements, a local specialist must also have sufficient knowledge. The head of the farm is the person responsible for organizing the fight against pests, diseases, and weeds in agriculture. A special sign should be installed in 2 or 3 places of the area treated with chemical preparations. In this sign, warning words are written in capital letters, and the name of the farm and the family name of the responsible person are written in smaller words (Fig. 1).

**TREATED WITH A STRONG CHEMICAL!
HUMAN ENTRY IS PROHIBITED FROM JUNE
1 TO JUNE 20.**

Responsible person: Chairman of the board of "Yulduz" f/x: O.O. Abdullaev.

Figure 1. Sample text with a warning sign.

Make it possible to read the text of this sign without entering the field.

Bees (15 km away) and domestic animals are removed from the area before toxic chemicals are used. During the season of mulberry silkworm care, toxic preparations cannot be used near mulberry trees. The following activities are also prohibited:

- Use of running water to dissolve chemicals;
- Use of water flowing from areas where toxic preparations have been used;
- Herbicides cannot be used together.

When herbicides are used, the above-ground organs of the weed are completely dried up, and the pest and disease-causing microorganisms living in the weed are also killed. For example: if you destroy the sycamore plant in spring and summer, the spider mite on its leaves will also disappear, if you collect and burn the dried sycamore residue from late autumn to early spring, you will also lose the pest worms inside the stem.

Pesticides can be used in combination with a special speciality. For example, a spider mite control measure can be used in combination with spider mite and aphid drugs. If we add

phosphoric and potassium fertilizers to the prepared ISO(00Q) before use, the plant's resistance to sucking pests will increase along with feeding from the leaves.

Before working with organophosphorus toxic preparations, all responsible persons must pass a medical examination to perform the work without risk. When organophosphorus drugs are sprayed on a certain area, the head of the farm must be in the place where the drug is being sprayed, and he must take care of the quality of drug spraying and measures for the safety of the population.

Work managers and supervisors (agronomists) should warn foremen, heads of livestock farms, zootechnicians, beekeepers, as well as local residents about the place of spraying poisonous drugs and the time of spraying several days before the start of spraying.

For 15 days after the spraying of poisonous chemicals, mowing the grass in the places where the medicine is sprayed on ditches, ditches and roadsides and giving it to cattle, mowing the grass in the places where the medicine is sprayed and giving it to cattle, temporarily feeding cattle in the places near the sprayed area, it is forbidden to drive cattle through those lands. It is forbidden to feed livestock and poultry in the fields sprayed with organophosphorus substances that have an internal effect for up to 30 days. Grain, hay and silage are not fed to livestock until 50 days after they have been treated with toxic chemicals. It is not possible to transport livestock, poultry and fodder in vehicles that have not been previously transported with organophosphorus compounds and then neutralized.

Irrigation of livestock with runoff from fields sprayed with organophosphorus compounds is prohibited throughout the spraying season. At this time, they should be watered from other clean water sources.

As a precautionary measure, water mains (except anchorages) should be shut off for up to three days before starting to apply pesticides.

During the period of spraying organic phosphorus compounds on cultivated fields, it is possible to move beehives 10-15 kilometres

away from this place and bring them back at least 15-20 days after spraying the medicine. Weeding (by hand and by machine), weeding of cotton and other crops, cutting and other work, if necessary, within the first 15 days after spraying chemicals, all work is done with protective clothing and rubber gloves.

In order to prevent pesticides from falling on other agricultural sectors (trees, vegetable crops here), as well as to prevent air pollution in populated areas, in such areas and plots 300 meters away from livestock and poultry farms, the use of tractor aggregates and the use of low-impact pesticides should be specified.

When chemicals are accidentally spilt on fruit trees, vineyards, grain or rice crops during the spraying of organic phosphorus compounds on cotton, then the fruits of these crops cannot be consumed without the permission of the district or regional sanitary-epidemiological station. In addition, a report on the violation of sanitary rules will be drawn up [1,6,7].

It is not allowed to use ditch water and bathe until the sanitary-epidemiological station gives permission. At this time, it is necessary to reserve enough water for 3 days in advance for use on the farm and store it in closed containers in the rooms. To prevent toxic chemicals from falling on food products and dishes, they should be kept in closed buildings during the spraying of medicine in the fields and for three days after that. It is prohibited to leave sprayers or dusters of medicine spraying machines for a long time in the direct vicinity of populated areas.

Each pesticide has a waiting period after it has been used. After the waiting period, the biological effectiveness is determined. The biological effectiveness of pesticides is determined by the amount of the pest reduced due to its effect or by the damaged, diseased plant itself and some of its parts (root, fruit, leaf, stem, etc.).

Biological efficiency can be calculated using several formulas. Abbott's formula is often used:

$C =$

Here: S – biological efficiency %;

A -the amount of the pest before pesticide application in the experimental plot, pcs

a – amount after pesticide application, pcs

B - the amount of the pest in the control area before applying the pesticide, units;

b – amount after pesticide application, units [3].

Conclusion

Although agricultural experts take measures to use chemical preparations only in the most necessary cases, irregular use of chemical preparations by our farmers is increasing year by year. It is known from practice that due to the careless use of chemical preparations, people are sometimes disabled for their entire lives. In addition, self-indulgent use of pesticides without expert advice causes negative results in maintaining environmental cleanliness, especially in the development of beekeeping. If necessary conditions are created for the living of bees, the state of Uzbekistan will be able to supply quality honey according to the needs of all countries of the world.

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