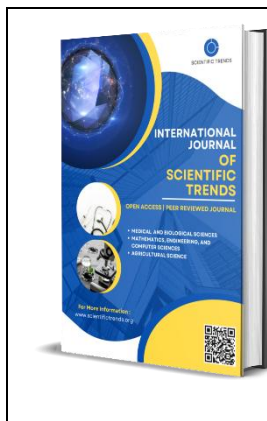


Methods of Monitoring the Development and Spread of Harmful Organisms in Geese

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Abstract

In this article, in cases associated with a sharp increase in the volume of information in the planning and organization of alternative decisions on plant protection using information technologies in agricultural production, the speed of data processing, decision-making and their delivery to users and the development of harmful organisms in the field, and the spread of the disease.

Keywords: Cotton, harmfulness, monitoring, pheromone trap, microbiological, ecosystem, population, efficacy, phytosanitary, prevention, prognosis, harmfulness, ethnophages.

Introduction

In the system of combating harmful organisms, their unjustified use from the ecological and economic framework led to the emergence of serious problems due to the widespread use of chemicals. Not only does this negatively affect the environment, but also has led to the emergence of resistance of harmful organisms to plant protection agents. In some cases, this increases the dependence of the crop on the direct and indirect increase in the susceptibility of certain diseases and diseases, the effectiveness of measures to combat the disease. Therefore, the idea of switching to the management of the ecosystem of crops and orchards in order to ensure an increase in the yield of cultural crops, create unfavorable conditions for harmful organisms or reduce their impact on crop formation, rather than combating certain types of harmful organisms, is increasingly recognized internationally.

Planning of measures for plant protection is based on taking into account the phytosanitary condition of crops, the conditions of the formation of natural populations of harmful, beneficial insects. Implementation of protective measures is closely related to the agrotechnical support of agricultural crops. For the rational application of the system of plant protection, plans for the protection of current and perennial plants are drawn up for each farm, district, region and the whole country. Current and perspective plans for plant protection are developed on the basis of forecasts of changes in the phytosanitary situation in each region of the republic [1].

The problem of protecting plants from harmful organisms is one of the most important ones of national importance. Scientifically and organizationally, this issue is very complex and requires

the involvement of specialists from different fields of knowledge. This, in turn, provides for the assessment of the state of harmful organisms and the comparison and generalization of the results obtained by researchers on the methods of their change, the identification of the necessary concepts, terms and mutual understanding. However, until now, there are no universally accepted methods, uniform program and methodology of monitoring. Therefore, the issues of creating and organizing environmental monitoring of the development of harmful organisms [2; 3; 4; 5; 6; 7; 8.] In addition, high-quality monitoring using pheromone catchers (FT) can be used to improve microbiological conditions [9; 10; 11; 12; 13.] The method provides for the quality of the wrestling.

Research Methods

The research was carried out following the accepted methods. At the same time, research on the biological protection of the goose was carried out by S.N. Alimukhamedov, B.P. Adashkevich, Z.K. Adilov, Mirzaliyeva, A.SH. It was carried out on the basis of the recommendations of Khamrayev and others. When breeding goose, the recommendations of UzPITI were used. In researches, general-entomological (Golub et al., Dorokhova et al., Aleksin, Tansky et al.), predictive (Larchenko, Zapevalova, Moroko, Babakhanova, Yakhyaev) and protection (Polyakov, Saulich, Sergeev, Levina, Doronina, Makarova, et al.) were used. In the development of the system of automated forecasting of the development and spread of the Goose tunma, the methods of Kh.K.Yakhyaev were used.

Results of the Study

The in-depth study of agricultural ecosystems, their structure, development and impact on various forms, and the scales of ecological impacts. Therefore, it is initially required to develop technologically objective and optimal methods for determining the status and development of populations of critical components of the crop ecosystem. At the same time, the state of an agroecosystem creates a need to develop methods and technology of continuous data acquisition, processing methods and technology that can characterize the trends, scale and repetition of changes in its structural state due to the influence of certain environmental factors. All these important methodological and technological developments are based on the use of data on ecology and statistics of important compositions of ecology, physiology and agro-cenoses. Research in this area is being encouraged everywhere. Because they contribute to the effectiveness of protective measures now and serve as an important foundation for improving the plan for their application in the future. Biological method control map by republic (shown in Figure 1).

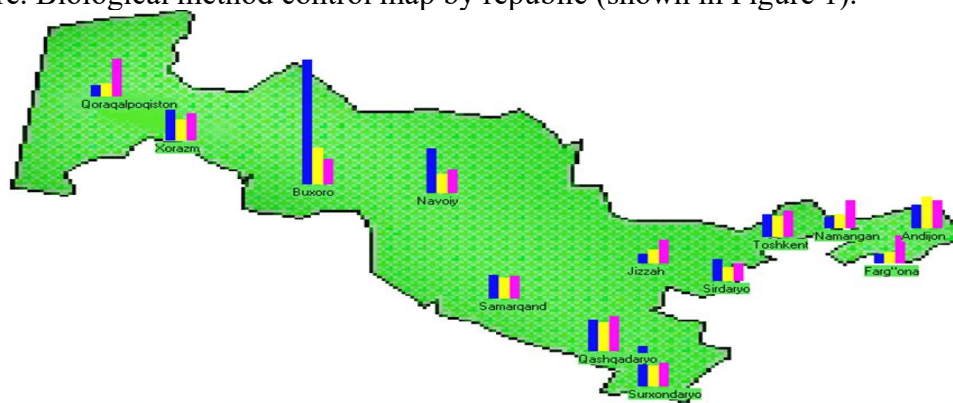


Figure 1. Map of control of the biological method in regions of the Republic

Currently, in order to protect plants, they rely on an increasing number of data describing and describing the distribution, development, economic significance, state and development of crops, various other factors in the ecological state. Only as a result of timely receipt and full processing of such information, it is possible to make an optimal decision to ensure preventive orientation of protective measures and their high pay-off.

To protect plants from harmful objects, it is necessary, initially, using targeted methods, to provide constant accounting and control of the state of the population of harmful organisms. At the same time, protective measures must be carried out taking into account the harmful norm of pests. This leads to the need to create a properly organized and differentiated information system for plant protection. Such a system consists of four departments: data acquisition, transmission, processing and accumulation (storage). In addition, it is necessary to comply with certain rules of use of data, prevent errors in receiving, collecting, processing, decision-making.

The volume and accuracy of the initial data reveals the importance of the entire information system. At the same time, obtaining initial information is the most difficult and labor-intensive part of the information system. This is achieved through the results of the ecological, physiological, ethiological, economic and mathematical-statistical foundations of methods of obtaining preliminary data, methods of automation of their acquisition and processing. At the same time, it is necessary to ensure that only the information necessary for the solution of the issue is received within the specified time frame and volume.



1-rasm. G'o'behind the tunnels

Therefore, it is necessary to substantiate scientifically (ecological, physiological, statistical) the content, volume and timing of certain information that allows organizing plant protection on the basis of forecasts of distribution, development and harm of individual species, taking into account the approach of the terms of harm. Before creating an information system for plant protection, the requirements for it should be thoroughly analyzed.

In order to protect plants, the process of information processing can be divided into:

- phytosanitary condition of crops, analysis of phenological, age and territorial structures of populations of harmful organisms;
- forecast of the distribution, development and economic significance of harmful organisms;
- recommendations on preventive measures (development of optimal options);
- creating the foundations for rational planning, organization and conduct of the fight against harmful organisms;

In order to carry out effective protection of plants that meet the requirements of modern crop growing, special attention is paid to the forecast of the spread and development of harmful organisms, as well as to the prediction of the impact of harmful organisms on the productivity of crops and orchards (damage forecast). The development of methods for the creation and implementation of such forecasts requires the organization of goal-oriented complex research. The application of information technology in agricultural production is associated with a sharp growth in the volume of information technology when making alternative decisions on planning and organization of work to protect plants. The demands on the speed of data processing, decision-making and their delivery to users have also increased. Therefore, in the first instance, great emphasis should be placed on the issues of primary data collection, transfer, storage and processing. Various forms of forecasting are developed and used to ensure targeted and effective protection of plants. Only with the help of these forecasts it becomes possible to rationally build the system of protection of plants, substantiate planning the volume of protection measures and choose the exact timing of their implementation. Currently, seven types of forecasts can be distinguished, and each of them is aimed at solving a specific problem.

Multi-year forecasts show the average probable economic significance of a particular species or complex of harmful organisms, its expected range of change over the years, depending on the prospects for agricultural production specialization, intensity, and technology changes. For some objects, long-term fluctuations in solar radiation activity are also taken into account as a factor influencing their distribution and development. Such forecasts are developed by scientific institutions. They are used to substantiate long-term programs of scientific work, plan volumes of plant protection products, develop new plant protection tools taking into account technical developments, plan personnel training, improve the system of plant protection services.

Long-term forecasts are developed for a year or a season. They characterize the expected special distribution of populations of harmful organisms (biotopes to be settled, crop species, etc.), density of location, reproduction, intensity of development, survival relative to the previous year or the corresponding season, respectively for specific regions of the country. Their evaluation is carried out in terms of quantity and quality. Such forecasts are necessary to redirect protection measures towards preventive goals and justify the use of plant protection products. Thanks to them, it allows you to clarify the forecasts of a year ahead.

Short-term forecasts are constructed for a period ranging from a few days to up to a month. They apply to pests and certain types of diseases. These projections are necessary to clarify the state of the damage, to implement additional interventions, or to exclude from plans activities that are envisaged but are not necessary in the current situation.

They are based on taking into account the clear principles of development of important factors and their effect on the population of harmful organisms.

Phenological forecasts determine the ontogenesis of phenological phenomena or harmful organisms and cultural crops, and determine the estimated rate of their change under the prevailing environmental conditions. They are developed for one generation period, for one period of plant development or for a period lasting no more than a month. Phenological forecasts serve as the basis for determining and protecting the harmfulness of individual species under the current environmental conditions, setting the optimal terms for preventive measures.

Alert - prompt warning of farms about the timing of carrying out protection measures based on the forecast of a specific harmful organism or about their inspection in order to determine the expediency of processing crops and woodpeckers, depending on the environmental situation. The warning is based on the short-term forecast of phenology, the harmfulness of individual species, taking into account the emerging ecological situation and its effect on the interaction with harmful objects and cultured plants.

Forecasting the probable activity of ethnomophages and pathogens – identification of the possible effects of predators, parasites and causative agents of epizootics on populations of harmful insects, canals and rodents in order to prevent chemical protection treatments of crops. It is developed on the basis of signs of episotial development, taking into account ecological criteria of the status of populations of harmful species, the ratio of ethnomophages and certain phytophagi species in terms of quantity. Based on these data set indicators and based on these indicators may be able to stop chemical processing against certain types of pests.

Damage level forecast. The extent of damage caused by pests and pathogens is determined by the following four conditions:

the level of the number of pests, the conditions of infection and the intensity of disease progression;

harmful object phenology;

the phenology and condition of the crop to be damaged;

Ecology holat.

Conclusion

These first three conditions are described in long-term and phenological prognosis. The latter situation is reflected in the forecast of damage caused by individual species. The practical significance of the damage level forecast lies in determining the feasibility of implementing protective measures. In the emerging technology for the implementation of protective measures, complete prevention of crop death is predicted. On this basis, methods for planning and organizing protection of plants from harmful objects are developed. On the basis of the results of the obtained monitoring, countermeasures will be monitored in advance.

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