



THE ROLE OF TRADITIONAL METHODS IN PROTECTING PLANT PRODUCTS FOR FOOD SAFETY

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Abstract: This work analyzes the role and importance of traditional methods in protecting plant products to ensure food security. Traditional protection methods are considered as environmentally friendly and cost-effective approaches based on folk experiences. Their effectiveness when integrated with modern agricultural technologies and their contribution to ensuring sustainability in agriculture are revealed. Additionally, the positive impact of these methods on food safety, their role in reducing pesticide use, and their importance in environmental protection are described on a scientific basis.

Keywords: Species composition, pests, food, damage, population, agricultural plants, cicada species, polyphages, oligophages.

Introduction. Today, ensuring food security on a global scale is one of the most pressing problems facing humanity. Population growth, climate change, limited land resources, and issues in modern agricultural systems are negatively affecting food production. In such conditions, protecting plant products from pests, diseases, and other adverse factors becomes even more important.

Although chemical agents widely used in plant protection provide high efficiency in the short term, they can harm the environment, human health, and biodiversity in the long term. Therefore, attention is shifting towards environmentally safe, sustainable, and traditional protective measures. Traditional methods are implemented through folk practices, natural remedies, and agrotechnical measures passed down through generations.

This work analyzes the effectiveness of traditional methods for protecting plant products, their contribution to food security, and their compatibility with modern agricultural technologies. The main goal of the research is to scientifically illuminate the relevance of traditional approaches aimed at producing environmentally friendly and safe food products.

The primary objective of ensuring food security is to prevent the catastrophic consequences of plant pests in agricultural production.

Our current main goal is to present general plant health issues, including the current state of plant health and food safety.

Materials and research methods: The material for this work was based on 20 years of research on sucking pests of cultivated plants in Uzbekistan. Generally accepted entomological methods and specialized techniques were used.

Research results: As we know, the concept of food security is considered an element of national security of the state. It refers to a situation in which all people always have physical and economic access to sufficient and safe food for an active and healthy life.

Food security is the main goal of the state's agricultural and economic policy and includes the following elements: physical availability of sufficient, safe, and nutritious food

products; economic accessibility of necessary quantity and quality of food products for all social groups of the population; sufficient base and economic independence of the national food system (food independence); reliability, i.e., the ability of the national food system to minimize the impact of seasonal, weather, and other changes on food provision to the population of all regions of the country; stability, i.e., the national food system is developing in a mode of expanded reproduction.

In our country, great attention is currently being paid to the role of harmful organisms in the ecosystem and their practical significance for humans.

In order to strengthen food security, an integrated plant protection system is being created and continuously implemented. Integrated pest control plays an important role in ensuring food security.

The danger of using pesticides lies in the fact that regular use of large doses of persistent, highly toxic pesticides leads to environmental pollution, which causes diseases and death of beneficial insects, birds, fish, and other animals, as well as direct poisoning of people through pesticides or products in which they can accumulate. Highly specific, promising pesticides include sex attractants, repellents, chemosterilants, and others.

This ecosystem approach combines various control methods to grow healthy plants with minimal or no use of pesticides.

Pests are a constant threat to plants.

It is known that pest-related losses of the world's most important agricultural crops range from 20 to 80 percent.

The impact of harmful organisms affects the quality of plant products, which is characterized by a combination of nutritional properties and the ability to preserve them after harvesting. The loss of these qualities makes the product unfit for consumption and sale.

From the perspective of food security, it is important to minimize losses caused by pests.

The main elements of integrated plant protection include a system for monitoring harmful organisms (phytosanitary monitoring), the use of resistant varieties, biorational pesticides, biological products, and natural mechanisms for regulating the population of harmful organisms.

It should be noted that in recent years, there has been great interest worldwide in this economically important group of insects. In many regions of Uzbekistan, intensive work is being carried out to study the fauna of sucking insects, especially polyphages and oligophages.

In the 1970s, the practical development of biological control methods began, which included the use of natural enemies of harmful organisms. This method proved to be environmentally safe. Effective integrated plant protection involves combining biological methods with other approaches in a comprehensive system of protective measures. Plant pest control should be rational, economical, effective, and prevent environmental and food contamination. It should ensure the application of the safest pest control system for agricultural crops based on a selective approach.

CONCLUSION In conclusion, traditional methods of protecting plant products are not only a product of historical experience and folk wisdom but also one of the effective approaches that meets today's environmental and food safety requirements. Traditional methods are implemented through natural remedies, biological control methods, and agrotechnical measures appropriate to local conditions. They are considered safer, more

environmentally friendly, and more economically advantageous compared to chemical pesticides.

By combining these methods with the achievements of modern science, it is possible to increase their effectiveness, widely promote and apply them in practice, develop sustainable agriculture, and provide the population with safe and high-quality food products.

Therefore, the role of traditional methods in plant protection is increasing, and strengthening scientific research and practical programs in this area is of crucial importance.

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