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BIOLOGY OF PESTS OF GLOSSARY (GLYCYRRHIZA GLABRA L.)

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Abstract: This article provides information on the main pests of licorice (Glycyrrhiza glabra L.), their biological characteristics and the damage they cause to the plant. The stages of development of pests, their distribution factors, as well as biological and agrotechnical control measures against them are analyzed. The results of the study are important for maintaining high yields and ensuring ecological balance in licorice cultivation.

Keywords: licorice, pest, biology, control measures, agrotechnics, insects.

Introduction

Licorice (Glycyrrhiza glabra L.) is a perennial plant belonging to the Fabaceae family, widely used in the pharmaceutical, food and chemical industries. The root of the plant is rich in biologically active substances such as glycyrrhizic acid and flavonoids. In recent years, the area of cultivation of licorice as a medicinal raw material has been expanding.

However, for the effective growth of the plant and the production of high-quality raw materials, it is of great importance to study the biology of pests and their development conditions in depth. Pests damage the roots, stems, leaves and seeds, slow down the growth process of the plant, and in some cases destroy the entire crop area. Therefore, determining their biology and distribution characteristics is an important scientific and practical task.

Main part

1. Biological characteristics of sweetgum. Sweetgum is a heat-loving, drought-resistant plant, which grows mainly in the regions of Uzbekistan, Turkmenistan, Kazakhstan and Iran. The rhizome is strongly developed, penetrates to a depth of 3–5 meters. The leaves are complex, the flower is purple, the fruit is in the form of a pod. The plant lives in natural conditions for 5–6 years. The main valuable part of this plant is its underground roots, which are rich in medicinal substances. Soil fertility, irrigation standards and agrotechnical measures are of great importance in the cultivation of sweetgum in a cultural state.

2. Main pests and their biology The main insects that damage sweetgum plants are:

Sweetgum root beetle (Melolontha melolontha L.) - the larvae of which gnaw the roots, disrupting the plant's nutrition process. They live in the soil for 2–3 years.

Licorice aphids (Aphis glycyrhizae) — suck the plant sap, causing the leaves to harden and turn yellow. Aphids form colonies and multiply rapidly.

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Thrips (Thrips tabaci L.) — damage leaf and bud tissues, reducing the plant's photosynthesis process.

Plant nematodes (Meloidogyne spp.) — form nodules on the roots, limiting the plant's nutrition.

The biology of these pests is directly dependent on climate, soil moisture, and plant density. Their development cycle is accelerated in warm and humid conditions, and their activity decreases in cold seasons.

Pest control measures

Agrotechnical, biological and chemical methods are used to combat pests in sweet potato plantations:

Agrotechnical methods: deep plowing in the fall, crop rotation, cleaning root residues, mechanical destruction of the layer where pest larvae live.

Biological methods: the use of entomophagous insects (ladybugs, parasitoids), as well as the application of beneficial microorganisms to the soil.

Chemical methods: only when necessary, it is recommended to use environmentally friendly insecticides (for example, “Fitoverm”, “Aktara”).

An integrated approach to pest control increases plant productivity and improves the quality of medicinal substances.

Conclusion

The sweet potato plant is of great economic and medical importance as a medicinal raw material. A thorough study of the biology of its main pests helps to increase the effectiveness of their control and control measures. The introduction of integrated pest control measures ensures the sustainable development of sweet potato plantations.

In the future, it is advisable to focus scientific research on identifying the ecological characteristics and natural enemies of pests.

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