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MAIN DISEASES OF SOYBEAN VARIETIES IN ANDIJAN REGION AND MEASURES AGAINST THEM

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-----ABSTRACT-----

The article mainly describes the experimental results based on the study of the growth and development of the soybean plant in the conditions of Andijan region. During the experiment, the main diseases of soybean varieties were studied, their origin, development, level of disease incidence and measures to combat them were presented.

KEYWORDS: *soybean, variety, fungal diseases, biological protection, disease development.*-----

INTRODUCTION

There are several climatic regions in our republic each region has its own soil and climate conditions. That is why it is important to select varieties suitable for each climate region and to study the bioecology of the main diseases that occur in the soybean plant in order to grow an abundant and high-quality crop from the soybean plant. Soybeans, like all other agricultural plants, are infected by various groups of microorganisms (fungi, bacteria, viruses). Diseases caused by fungi are the most harmful of them .

RESEARCH OBJECT AND METHODOLOGY

In order to study the main diseases of soybean varieties and to develop effective measures against them, scientific research work was carried out in the Andijan region of our republic, including at the scientific experiment station of the Andijan district, in the farms for the cultivation of grains located in the Jalakuduq district. During the experiment, phenological observations, field and laboratory analyzes are carried out on the basis of phytopathological and mycological methods.

RESEARCH RESULTS

In order to ensure the annual stability of soybean cultivation and increase its quality and productivity, the main criterion is to identify the main diseases of soybeans grown in the conditions of Andijan region, to identify their pathogens, to study their bioecology, and to recommend effective control measures, in turn, to introduce them into production. Soybean varieties determine their adaptability characteristics as a result of external environmental influences, development phases and yield results [3]. It should be noted that the soil climate of Andijan region is a moderate climate for the cultivation of soybean varieties, and it is considered highly ecologically adaptable and fertile for the cultivation of legumes.

Soil and climatic conditions play an important role in the development of soybeans, and the development of soybeans should be suitable for this region. In the scientific research stations of Andijan district and Jalakuduq district, various diseases of 3 different varieties of soybeans were studied. The diseases caused by the main microorganisms of Tumaris Mman 3, Baraka, Victoria varieties of soybeans, which were allowed to be planted in our region and registered in the state register, were studied as a result of our scientific research. In the experimental fields, it was observed that the soybean plant was infected with diseases caused by the main fungal species, such as powdery mildew, fusarium, root rot, spotting. No tendency to lodging was observed between soybean varieties.

CONTROL MEASURES AGAINST MAIN DISEASES OF SOYBEAN PLANTS

As we mentioned earlier, fusarium wilt, various spots, root rot, and the appearance of various molds are the main diseases of soybeans. One of the tasks before us is to protect crops from diseases. Based on the elimination of the



development of pathogens with modern fungicides, it is considered to determine the effective drugs against the main diseases of grain crops and their application doses.

The list of pesticides and agrochemicals approved for use in agriculture of the Republic of Uzbekistan (2020) includes a total of 181 drugs, none of which is indicated for use in soybean crops.

So, in order to solve the task of using fungicides in order to end the outbreak of diseases, it was necessary to select fungicides to work with them from now on. Based on the goal, a laboratory experiment using the method of paper disks was chosen to solve this task [5].

were placed on the surface of the nutrient solution in which the pathogen was planted. The cups were placed in a thermostat with a temperature of 24 °C for 2 days. It was concluded that it is possible to stop the growth of the phytopathogen depending on the degree of emergence of the zone of growth retardation.

In scientific work, fungicides widely used in agriculture: Bayleton 25% s.p., Topsin-M 70% s.p., Bayzafon s.p., k.e., Segra, 80% were used against rot and spots, water as a control applied.

As a result of the experiment, it can be said that Bayleton 25% sp. was the most effective fungicide, followed by Bayzafon s.p., Topsin-M 70% s.p., Torso 22.5% k.e. took place, the lowest result was Segra 80% s.p. showed fungicide.

Based on the obtained results, the original drugs in further work: Bayleton 25% s.p., Bayzafon s.p., Topsin-M 70% s.p., Torso 22.5% k.e. is used.

A small-scale field experiment was conducted to investigate the effect of fungicides on parasitic species (*Ramularia* sp., *Cercospora personata*, *Ascochyta phaseolorum*) that cause spotting and cannot be isolated and cultivated under laboratory conditions.

Along with determining the species composition of disease-causing agents, combating diseases was one of the tasks. To determine the effectiveness of fungicides in the fight against spotting, one-time fungicides against the disease: Bayleton 25% s.p., Bayzafon s.p., Topsin-M 70% s.p., Torso 22.5% k.e., Segra 80% s.p. applied.

Among the tested drugs, the best results were obtained when the plants were sprayed with Bayleton 0.06%, aqueous suspension, among the remaining drugs, the lowest level of damage was observed when treated with Bayzafon s.p., followed by Topsin-M 70% s.p., Torso 22.5% k.e. and Segra took place.

On the 28th day after treatment with Bayleton, the damage of plants was 20-23%, Bayzafon s.p. 30-32%, Topsin-M, Torso, Segra - 45-57%. The proportion of diseased plants in the control was 95-100%. Analyzing the yield data, it can be seen that the highest yield was obtained in bushes treated with Bayleton and Bayzafon s.p. During the growing season, it was observed that the yield of the treated plants was almost twice as much as that of the control.

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