



## STUDY OF DISEASES AND PEST EFFECTS ON WHEAT VARIETIES

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<b>Received</b>	August 28 <sup>th</sup> 2021	This article examines the susceptibility of 25 wheat varieties of local selection and imported in the southernmost region of Uzbekistan to disease, pest infestation and plant stem susceptibility based on field observations in different soil conditions in two parts of the region. According to the results of appropriate observation and analysis, we can see in the studied varieties that some varieties are prone to insects, tall varieties to bed bugs, some varieties to diseases. These indicators can of course be assessed by the genetic characteristics of the varieties.
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Based on the biological characteristics of the varieties, in the selection of varieties suitable for the climatic conditions of each region, along with environmental factors of these varieties, their degree of disease and pest infestation is also important in obtaining high yields from these crops.

According to the data, more than 23.9% of the world's wheat crop is destroyed by pests (5.0% of insects and pests, 9.1% of diseases, 9.3% of weeds).

Surkhandarya region of the southern part of the Republic of Uzbekistan has very favorable weather conditions for the reproduction of insects and diseases that damage all types of crops. The climate is very dry. Above +32150 C), characterized by a lack of cold days.

According to sources, currently there are more than 150 species of pests of grain crops, more than 90 species of diseases, more than 100 species of weeds in the country. Although the use of modern harmonized intensive technology in this area has led to an increase in productivity, various pests and diseases are developing, and part of the crop is being lost.

Changes in crop structure certainly have an impact on the imbalance in the agrobiocenosis. In recent years, in almost all grain fields, pests of autumn grain crops such as grain stalk flea, grain sap, slime, stalk weevil, harmful weeds, root rot from diseases, yellow spot, septoria, flour dew, yellow and brown rust diseases affect the yield of crops to varying degrees.

The pests and diseases mentioned above affect autumn grain crops differently at different stages of plant development. For example, according to research conducted by scientists of the Gallaorol Scientific Experimental Station of the Institute of Cereals and Legumes, the yield per hectare is 20.3% for 1, 26.9% for 2 and 38.6 for 3. %, yields decreased by 6.9%, 14.3% and 22.5% in the same proportions during the ripening period, and by 1.3%, 3.0% and 6.0%, respectively, during the milk ripening period.

Therefore, in order to study the effects of these pests on cereals, scientific research was conducted in the southern region of Surkhandarya region. The research was carried out in 2001-2022 in the pasture bald soils of Termez district and in the light gray soils of Jarkurgan district in collaboration with selection scientists CRDR (Center for Research in Drought Regions).

Observations were made on a total of 25 wheat varieties of soft and hard wheat, ten domestic and 15 imported, as the object of study. The agro-technical measures used in the experimental field did not differ from the agro-technical measures applied on the farm. Also, no chemical or biological control measures against insects, pests and diseases were carried out in the experimental field.

Among the varieties planted in Termez district, Yangiovul, Chillaki, Sanzar-8, Ghayrat varieties were more affected by harmful weeds than other varieties. Also, in the Dostlik variety, Swedish mosquitoes, Gallaorol-50/99, Ghayrat and Andijan-2 varieties were found to be infested.

Yangiovul variety with septoriosis was observed in 15%, Kahrabo variety in durum wheat up to 5%, N-289 variety in gilmintosporiosis up to 25%, and yellow spot up to 5%. Up to 25-30% of stems were observed due to the growth in the agro-fund, which is considered high for local two-season and low-nutrient potential Dustlik, Sanzar-8, Ghayrat varieties.

Among the varieties planted in Jarkurgan district, Gayrat, Aral-96, Elektrolekon-400 and Yangiovlul varieties were infested with plant lice by up to 15%, Aral-96 and Yangiovlul varieties by up to 5% by Swedish mosquitoes. Up to 20% of cases of septoria were observed in Electrolecon-400 and local White Sword varieties.

Also, in the experimental field, all varieties, except Polovchanka and Makuz-3 varieties of durum wheat, were affected by flour dew disease to varying degrees from 3% to 30%. This can be explained by the fact that the experimental area is located close to the headwaters of the Surkhandarya River, and the relative humidity in these areas is slightly higher than in other areas. In the years of the experiment, no symptoms of yellow and brown rust were observed in all varieties.

The results of the analysis show that local two-season wheat varieties are more susceptible to insects and diseases than pure autumn varieties.

In our country, there is a quantitative criterion (IMM) that determines the economic damage of pests, according to which 1-3 harmful weevils or 7-8 larvae per 1 sq.m. during the germination of wheat, 1 sq.m. It is recommended to use chemical control measures when 5-6 caterpillars and 7-8 larvae are detected in.

In addition, 20-40 beetles per 1 sq.m., 50 larvae per 100 stalks, 50 larvae per 100 stalks during the ripening period, 15-20 larvae of thrips per stalk during this period, up to 30% when grain lice are covered and grain beetles are detected, it is advisable to apply chemical control measures. Of course, on farms it is recommended to use environmentally friendly, highly effective chemicals to protect crops from diseases and pests.

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