

Immunological properties of foreign varieties spring wheat to *Puccinia recondita f.sp. tritici* under conditions of the southern Kazakhstan

Shapalov Sh. K.¹, Kurmanbayeva M.S²., Tileubayeva Zh. S.³, Nazarbekova S. T²., Sarbayev A.T.³, Bazargaliyeva A.A⁴., Admanova G.B⁴., Kaliyeva A.K⁴., Naukenova A.S⁵., Alpamysova G.B⁵., Dospayeva A⁵., Taubayeva A⁵.

Kazakh National Agricultural University¹, Al Farabi Kazakh National University², , Kazakh Research Institute of Agriculture and crop production³, K.Zhubanov Aktobe Regional State University⁴, M.Ayezov South Kazakhstan State University⁵

The varieties of a spring wheat of a foreign origin received from CIMMYT were the main material for the researches. For immunological research of stability there was created an artificial infectious background with spore use of a brown rust. Intensity of the striked plants of the studied varieties of a brown rust were estimated on 5 ball scale. For carrying out a comparative assessment of intensity of defeat of plants there was used the modified Cobbs scale.

The Kazakhstan varieties in days of an epiphytoty are strongly struck by a brown rust. Varieties of a spring wheat of a foreign origin in most cases differ in resistance to fungus diseases. As a result of immunological research there were revealed resistance sources of the introductional varieties of a spring wheat to a brown leaf rust. By reaction type, all studied varieties were divided into 4 groups. Steady varieties of Aguilal, Atlas-1, Otb-6 DW, Serie 82 did not have symptoms of an illness. Coloring of a leaf blad remained unchanged, and varieties of Arrehan, Potam, Bohouth 11 , Icasyr-1 had very small uredopustules with necrotic spots and extent of affect was 5-10%.

In the varieties of Mexipak , Nesma, Florance Aurour of Safra, Salamoni development of a brown rust was observed in a phase of the beginning of heading and it proceeded to a grain maturing stage. In spring, the infected varieties had single pustule and at the end of the vegetative period large uredopustules entirely covering the leaf blade were noted.