

Resistance of spring bread wheat varieties to stem rust in Western Siberia

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Breeders pay great attention to the search for sources of resistance among collection samples and breeding lines to involve them in the breeding when creating varieties resistant to leaf pathogens. In recent years, the State Register of the Russian Federation has included more and more varieties resistant to stem rust. A deep analysis of the genealogy of varieties shows that they have from 30 to 90 genotypes, among which >30% are resistant to fungal pathogens. Varieties Tarskaya 12 and Ishimskaya 14 were created directly with the participation of the collection samples Aranka and Augustina, respectively, in Omsk Agricultural Research Center. Most varieties resistant to stem rust were created by crossing resistant breeding lines Omskaya 37, 38, 42, 44, Uralosibirskaya, Omskaya krepst, etc. Together with scientists from the Institute of Cytology and Genetics using alloplasmic introgression wheat lines with the cytoplasm of cultivated barley *Hordeum vulgare*, varieties Sigma and Uralosibirskaya 2 were created, which have a high level of resistance to stem rust. In 2022 resistant varieties occupied more than 40% of the sown areas of bread spring wheat in the Omsk region.

The main publications of authors on the subject of the abstract:

Resource potential of bread spring wheat varieties for the conditions of Western Siberia and the Omsk region (analytical review)/ I.A. Belan, L.P. Rosseeva, N.P. Blokhina [and others] // Agrarian science of the Euro-North-East. 2021. DOI 10.30766/2072-9081.2021.22.4.449-465.

Early maturing variety of spring bread wheat Tarskaya 12 for the northern regions of the Omsk region / Yu.P. Grigoriev, I. A. Belan, L.P. Rosseeva, I.V. Pakhotina // Agrarian Russia, 2020. DOI 10.30906/1999-5636-2020-3-3-7.

Take-home message:

Большинство сортов, устойчивых к стеблевой ржавчине, созданы путем скрещиваний селекционных линий и коллекционных образцов. Сорта Сигма и Уралосибирская 2 созданы благодаря использованию аллоплазматических линий пшеницы, несущих цитоплазму ячменя.