

Genetic composition of wheat leaf rust population in Western Siberia in 2022

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Virulence survey of leaf rust population is a preliminary and necessary procedure before identifying effective wheat genes. Infectious material was collected on the fields of the Western Siberia in 2022. The infection types of pathogen on wheat was assessed using the Mason E.B. and Jackson H.S. scale (1926) on seedlings. Most of the isolates were virulent on wheat lines with genes *Lr1*, *Lr14a*, *Lr14b*, *Lr15* and were avirulent on lines with *Lr9*, *Lr47*. Some genes differentiated regional populations of the fungus, these are the following: *Lr24* and *Lr45* (ineffective only in the Novosibirsk region), *Lr11* (ineffective against isolates from the Tomsk and Omsk regions). According to the literature data, the gene *Lr9* lost effectiveness in the region, but no virulent isolates were found in the screening samples. Virulent isolates to the line with *Lr19* were found, but the gene was effective in the region earlier. In relation to *Lr19*, there is a change in the genetic structure of the leaf rust population in the region in 2022. The line with the gene *Lr45* was affected by only single isolate from the Novosibirsk region.

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

Skolotneva E.S. et.al. Effectiveness of leaf rust resistance genes against *puccinia triticina* populations in Western Siberia during 2008-2017// *Journal of Plant Diseases and Protection* (2018) T.125.№6: 549-555. doi:10.1007/s41348-018-0191-3

Сколотнева Е.С. и др. Расовый состав новосибирской популяции *puccinia graminis* f. sp. *tritici*// *Микология и фитопатология* (2020) 54№1: 49-58. doi:10.31857/S0026364820010092