

Reaction of Nine Candidate Wheat Lines/Mutants against Leaf Rust: Lodging and Aphid Population under Field Condition

Authors : Muhammad Mohsan, Mehboob Ur-Rahman, Sana Zulfiqar, Shumila Ashfaq

Abstract : Brown Rust (*Puccinia triticina*), also known as leaf rust, pose a serious threat to wheat cultivation in the world. Nine candidate wheat lines/mutants were subjected to rust inoculation, lodging and aphid population in vivo conditions. Four lines/mutants (E-284, E-505, 2008-6 MR and 2008-14MR) were found resistant to leaf rust attack. Two lines (PGMB 15-29 and 2011-1 MR) displayed moderately resistant reactions against the disease. Three lines/mutants were depicted as susceptible to leaf rust. The lowest population of aphids, i.e., 16.67, was observed on 2008-14MR. Three lines/mutants (NN1-47, NN1-89 and PGMB 15-29) were found under zero level of lodging. The presence and absence of different leaf rust-resistant genes like Lr13, Lr34, Lr46 and Lr67 were assessed with the help of molecular markers. All the wheat lines/mutants were found loaded with leaf rust-resistant genes such as Lr13 and Lr 34, while Lr46 and Lr67 were found in 66% of wheat lines/mutants. The resistant source can be exploited in the breeding program to develop rust, aphid and lodging with race-nonspecific resistant wheat variety.

Keywords : wheat, leaf rust, lodging, aphid

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