

IDENTIFICATION OF *SR31* AND *SR36* STEM RUST RESISTANCE GENES IN HUNGARIAN WHEAT CULTIVARS

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In Hungary, the occurrence of stem rust disease caused by *Puccinia graminis* f. sp. *tritici* is less frequent, but due to the severity of infection it can pose a great hazard for wheat production. The breeding and use of resistant cultivars offers an economical, safe, and effective approach to protect wheat from this disease. In this study, 65 Hungarian wheat cultivars registered from the year 2005 to 2020 were investigated using molecular markers to determine the presence or absence and frequency of the two important stem rust resistance genes *Sr31* and *Sr36*. These genes were originated from 1BL.1RS wheat-rye translocation and a wheat-*Triticum timopheevii* chromosomal introgression, respectively. Our results indicated that *Sr31* is more widespread (21.5%) than *Sr36* gene (9.2%) in Hungarian wheats. The two main Hungarian breeding programs, Martonvásár (37 cultivars) and Szeged (26 cultivars) showed a different rate in the exploitation of *Sr31* (27.0 and 15.4%, respectively), however *Sr36* was found only in Szeged cultivars (23.1%). These data may help breeders to incorporate effective *Sr* genes in their future wheat improvement programs.

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