

Agricultural Journals

Czech Journal of GENETICS AND PLANT BREEDING

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Czech J. Genet. Plant Breed.

Ertugrul F., Akan K., Aydin Y., Senturk Akfirat F., Altinkut Uncuoglu A.:

An EST-SSR marker, *bu099658*, and its potential use in breeding for yellow rust resistance in wheat

Czech J. Genet. Plant Breed., 50 (2014): 11-18

EST-SSR markers, derived from the A and B genomes of wheat were used to identify molecular markers associated with yellow rust resistance. For this purpose, bulk segregant analysis was performed using 114 EST-SSR primer pairs. They were screened on the parent genotypes and resistant/susceptible DNA pools from the cross between Izgi2001

(susceptible female parent) at the seedling and adult plant stage. An EST-SSR marker, *bu099658*, generated the 206 bp DNA fragment that was present in the resistant parent and resistant bulk, but it was not present in the susceptible parent and the susceptible bulk. To investigate its association with Yr genes, 20 individuals of NILs were also amplified with BU099658 and the 206 bp marker fragment was obtained only in $Yr1/6 \times$ Avocet S. Additionally, *bu099658* was screened on 65 genotypes which possessed different Yr genes/gene combination(s) and Yr1. The results indicate a close linkage of *bu099658* with the Yr1 gene.

Keywords:

Bulk Segregant Analysis (BSA); Marker-Assisted Selection (MAS); *Puccinia striiformis* f.sp. *tritici*; *Triticum aestivum* L.; Yr1

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