

Phenotypic and genotypic evaluation of bread wheat line with introgression from *T. timopheevii* into 2B chromosome

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The gene pool of bread wheat wild relatives is used to transfer genes for resistance to biotic and abiotic stresses. It can serve also as a source of genes for improving the wheat grain quality. Functional alleles of *Gpc-B1* gene (chromosome 6BS) of the wild tetraploid *T. dicoccoides* were introduced into commercial cultivars of tetra- and hexaploid wheats, resulting in the development of new high-protein and high-yielding genotypes. Earlier, we studied the line 821 of bread wheat with introgressions from *T. timopheevii* into the short arms of chromosome 2A, 2B and long arm of chromosome 5A. The aim of this work was to obtain a line of bread wheat with a single introgression on 2B chromosome from *T. timopheevii* and its assessment in terms of grain quality parameters and yield components. The transfer of the desired chromosome into the genetic background of Saratovskaya 29 (S29) cultivar was done using the backcrossing to the corresponding monosomic line of this cultivar. Chromosome substitution correctness was monitored using cytological analysis of hybrids, as well as using the microsatellite markers. In preliminary studies, in greenhouse conditions, the S29 (821 2B) line increased the amount of gluten in grain by more than ten percent compared to the control cultivar. Yield components were evaluated in the line and control under normal and restricted water supply in greenhouse conditions, as well as under natural field growing. Gluten content in grain and milling grain parameters were determined. Additionally, the field grain material was evaluated for the physical properties of dough on alveograph. The line retains a high gluten content and physical property of the dough corresponding to the strong-flour parent S29. Breeders can use the line as a material for improvement of grain quality in newly created wheat cultivars.

Acknowledgements: This study was supported by RSF (No. 16-16-00011-II).