The effect of D-genome chromosome substitutions on agronomic performance and end-use quality of ‘Presto’ triticale. (C01-budak151719-Poster)

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Abstract:

Hexaploid triticale (2n = 6x = 42, AABBRR) and wheat (2n = 6x = 42, AABBDD) differ in their R and D genomes. An unanswered question is whether introgressions of the D-genome chromatin could improve triticale. For example, in hexaploid wheat, the endosperm storage proteins, which determine bread-making quality, are controlled by genes on group 1 and 6 chromosomes. Absence of 1D and 6D in triticale reduces the number of storage protein loci by at least four and triticale's quality is low. Quality and perhaps other characteristics of hexaploid triticale could be improved by introducing D-genome chromosomes or their segments. In this study, our objetive was to determine optimal chromosomal make-up (the best D or R composition) for agronomic performance and end-use quality characteristics of Presto triticale. Replicated field trials have shown significant differences among the D-genome substitution lines of Presto in terms of grain yield, heading date, plant height, and grain volume weight.

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