Bread-Making Quality of *Triticale* with *Glu-D1 5+10* Introduced into *1R*

I. Burešová and P. Martinek

Agricultural Research Institute Kroměříž, Ltd., 767 01 Kroměříž, Czech Republic, e-mail: buresova@vukrom.cz

Abstract: Bread-making quality of triticale (× *Triticosecale* Wittmack) lines is assessed using HMW glutenin subunits *Glu-D1 5+10*, which were transferred from wheat chromosome 1D to chromosome 1R. Two groups of sample lines derived from variety Presto were examined: (a) group of sample lines with simple translocation 1R.1D$_{5+10}$-2 on long arm of 1R and (b) group of sample lines derived from Presto with double "Valdy" translocation (1R.1D$_{5+10}$-2/WR4), where both arms of chromosome 1R carry segments of chromosome 1D. The translocations were developed by Prof. A. J. Lukaszewski from the Univrsity of California (USA) and have been described in literature. The lines with *Glu-D1*, whose presence was verified using DNA markers, were selected from the original samples. Multiplied materials were tested for bread-making quality in 2002–2004. Variety Presto (without translocation) and wheat varieties of various bread-making quality (E–C groups) were used as check samples. The quality of samples was evaluated in accordance with standards approved for wheat. The increased number of translocations negatively correlated with grain yield and specific weight and positively correlated with protein content, Zeleny index, machinability (non stickiness), and loaf volume. The samples were ranked according to bread-making quality as follows: wheat with E, A, B quality, triticale with double translocation, triticale with simple translocation, and wheat of C quality. There is still a problem with high amylase enzyme activity and related low values of Hagberg falling number (mean value of 62s without significant differences). Higher bread-making quality can be influenced by appropriate combination with donors of low alpha-amylase activity.