Utilization of near isogenic lines of gliadin loci of common wheat for comparison of three existing A-PAGE methods of gliadin analysis

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Gliadins are alcohol-soluble seed storage proteins with high level of intervarietal polymorphism, which is generally evaluated by methods of acid electrophoresis in acryl amide gel (A-PAGE). Expression of the most gliadin bands controlled by six loci, located on homoeologous group 1 (*Gli-1*) and 6 (*Gli-2*) chromosomes. In a number of works it was shown their influence on bread-making quality of wheat as well as it was found out their links with particular agronomic important traits. Very extensively gliadins used for investigation of intervarietal polymorphism and for varieties identification. Currently there are known a few A-PAGE methods for gliadins separation. The A-PAGE method proposed by Zillman and Bushuk (1979) based on separation of proteins in Al-lactic buffer system without addition of urea in gel. For this method the international catalogue of gliadin alleles was developed by Metakovsky (1991). This method was applied for investigations in a number of laboratories worldwide. At the Eastern European countries and particular in countries of former Soviet Union much more extensively is used A-PAGE method based on separation of gliadins in glycine-acetate buffer system in gel containing up to 8M of urea, for which another catalogue of alleles was developed (Sobko, Poperelya 1986; Poperelya, 1996). The third method proposed by Brzezinski and based on separation of gliadins in buffer system of formic acid for which the catalogue was not developed. In order to construct the matching system for the allele identification obtained by utilization of different A-PAGE methods we use the set of near isogenic lines of gliadin loci developed by Kopus (1994) on background of cv.Bezostaya 1. Those lines carry alleles the most common for world winter bread wheat gene pool. Our data will be very helpful for comparison of results on gliadin analysis obtained by different methods and performed in different

laboratories as well as will make the basis for development the catalogue of gliadin allele for A-PAGE method based on formic buffer system.