ICP-MS ANALYSIS OF WHEAT BREAD CARRYING THE GPC-B1 GENE OF TRITICUM TURGIDUM SSP. DICOCOIDES

S. Yu. Pokhylko 1,2, V. V. Schwartau 3, L. M. Mykhalska 3, O. M. Dugan 2, B. V. Morgun 1,3

1 Institute of Cell Biology and Genetic Engineering of the National Academy of Sciences of Ukraine, Kyiv
2 National Technical University of Ukraine “Ihor Sikorsky Kyiv Polytechnic Institute”, Kyiv
3 Institute of Plant Physiology and Genetics of the National Academy of Sciences of Ukraine, Kyiv

The aim of work was the analysis of effect of the gene Gpc-B1, introgressed from wild spelt...
Triticum turgidum ssp. dicoccoides, on the presence of biologically important elements in wheat winter bread hybrid families of generations F4 and F5. The accumulation of metals in ripe and unripe grains was measured on a mass spectrometer with inductively coupled plasma ICP-MS Agilent 7700x. It was found that the expressing gene significantly increased the content of trace elements Fe, Mn, Zn and Cu in ripe wheat kernels on average by 50‒70%, while the increase of Mg, Ca defined by an average of 20‒40%. Minerals enrichment confirmed during grain development and ripening provided not only biofortification for the future harvest, but also potentially enhanced the resistance of plants to diseases and formation of seedlings with more efficient use of nitrogen.

**Key words:** *Triticum turgidum*, biofortification, wheat bread, gene Gpc-B1.

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