

**RESPONSE OF BREEDING LINES OF SPRING AND WINTER WHEAT TO TOXIC EFFECTS OF  
ARTIFICIALLY CREATED ABIOTIC STRESS**

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The paper provides an assessment of the adaptive properties of breeding lines of spring and winter soft wheat obtained using stem rust resistance donors with alien genetic material *T. migushovae*, *Ae. triuncialis*, *T. kiharae* *Ae. speltoides*, *S. cereale* (GT 96/90), (119/4-06rw), (113/00i-4), which are the carriers of effective resistance genes to this disease. The research was carried out under laboratory conditions in the seedling phase against the background of artificially simulated abiotic stresses – chloride (treatment of seeds with sodium chloride (NaCl) and anaerobic (created by prolonged flooding of seeds in water). The revealed high toxic effect of stressors on both cultures manifested itself in a strong depression of growth processes. A higher harmfulness of anaerobic stress and the greatest vulnerability to toxicity of spring wheat were found. The reaction of the samples to each of the stress factors and the total effect of their impact, identified on the basis of the «I» index, were determined. The lines of spring wheat 37-16i, 33-16i, 32-16i and winter wheat lines 37-19w, 9-19w, 32-19w were characterized by the highest ability to resist the toxic effects of stressors. They are of interest for selection as sources of genes of high adaptability to abiotic stresses, as well as donors of group resistance to diseases. The presence of a complex of economically useful features, in which they are not inferior to standard varieties, as well as effective genes of resistance to stem rust, makes them attractive donors for improving the quality of soft wheat.

**Key words:** winter wheat, spring wheat, abiotic stress, adaptability, disease resistance.