The mechanisms of adaptation performance of the tribe *Triticeae* L. representatives were studied according to biochemical markers. It is shown that drought-tolerant tribe representatives are at the subcellular level characterized by presence of alleles of Dreb 1 genes of drought resistance, Glu-D1 of glutenin, Gli-1B1, Gli-6D2, Gli-6D3, Gli-6B2 of gliadin, and high protein...
content in grain (14.2–18.0%). Plants with low drought resistance exhibit heightened superoxide dismutase, peroxidase and catalase activity in leaves. It is established that the criteria of frost and winter hardiness of plants are: accumulation of high total sugar content in the tillering node (26–38 mg/g) as cryoprotectants and energy sources, and economical consumption of them during the autumn-winter period. Exogenously, high levels of plant organism’s adaptability to various stress conditions in winter are expressed as high photoperiodic sensitivity manifesting as weak differentiation of growth points in the fall and late spring vegetation restoration. Adaptive changes at the subcellular level are consistent with drought resistance indices (high leaf index, glossy cover, lingering green color of the leaf, presence of awns, significant growth in dry weight in dry conditions).

**Key words:** *Triticum aestivum* L., *Secale cereale* L., *Triticum trispecies* Shulind, biochemical markers.

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{spoiler title=References}


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