

Germination and growth characteristics of the *nud* knockout and *win1* knockout barley lines under salt stress

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The genes *NUD* and *WIN1* play a regulatory role in cuticle organization in barley. A knockout (KO) of each gene may alter plant mechanisms of adaptation to adverse environmental conditions. Our aim was to evaluate early stages of development of the *NUD* or *WIN1* barley KO lines under salt stress (50, 100, 200 $\mu\text{mol/l}$). Approximately 30 physiological parameters were evaluated, combined into groups: (1) viability, (2) salt tolerance, and (3) mutability of barley seed progeny. Seed germination and seedling survival were similar for all barley lines. In terms of growth characteristics, *nud* KO lines were inferior to *win1* and wild-type (WT) lines, while the root lengths of all *win1* KO lines were maximum. According to the majority of growth characteristics, the lines *nud* 01-4 and *nud* 05-4 were the tolerant to salinity. At the same time, a stimulating effect was observed in these lines at the minimum dose (50 $\mu\text{mol/l}$). The WT line turned out to be the most sensitive to salt stress.

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The main publications of authors on the subject of the abstract:

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