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VARIABILITY OF QUANTITATIVE TRAITS OF CORN HYBRIDS AND INBRED LINES UNDER DROUGHT AND SALINITY

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The variability of the quantitative characters studied at the initial stages of plant development under stressful conditions in hybrids mostly depended on the factor "genotype" (η^2 =73.44% *** - 88.92% *** (salinity) and 51 % ** - 82.9% ** (drought). The hybrids were characterized by higher values of dependence from the "genotype" factor than inbred lines. Lines A285, P346 and hybrids (with maternal genotypes - combinations of lines A285, N6, W23) proved to be the most resistant. The variability of the characters "seedling length" (LP), "root length" (LR) at the stage of immature embryos depended significantly from the factor "genotype" (inbred lines were characterized by higher values than the hybrid combinations). In hybrids the significant dependence of the variability of productivity traits on the "genotype" factor (η^2 =39.7%*** - 60.94% ***) were found out and the highest values of these traits were recorded in hybrid combinations with maternal genotypes A285xRf7 and A285xW23. Inbred lines were characterized by the highest value of the dependence of the character "diameter of the pollen grain" from the factor "genotype" (η^2 = 39.84% ***), but hybrids had the highest value of the dependence from the factor "abiotic stress" (η^2 = 27.7% ***). The complex evaluation (at diploid and haploid level) of the variability of quantitative characters at different stages of ontogenesis (under osmotic and saline stresses) allowed the highlighting of lines (A285, P346) and hybrids (maternal genotypes A285xN6, A285xW23) with increased resistance. These genotypes can be used in selection schemes to obtain heterotic and productive hybrids. It should be noted that lines L1866, L276, W23, N6, P165, Rf7 can be used as parental genotypes in hybrid combinations with stress resistance.

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