



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Salt Tolerance of Pepper Cultivars during Germination and Seedling Growth

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Abstract: This study was conducted to evaluate the effect of salinity on the germination and emergence of pepper cultivars, and to investigate the potential for genetic salt tolerance during germination and seedling growth. Thus, seeds of 11 pepper cultivars were germinated using 0, 85, 170, and 215 mM NaCl solutions for 14 days. Germination percentage decreased with increased NaCl concentration. All cultivars germinated in all salinities, with the exception of Kandil Dolma in 215 mM NaCl. The greatest germination percentage at 215 mM of NaCl was 71% for 11-B-14. NaCl salinity at different concentrations adversely affected germination rates of the 11 pepper cultivars. The highest and the lowest germination rates at 215 mM NaCl were obtained for 11-B-14 cultivar (2.42) and Kandil Dolma (0.00), respectively. Greenhouse studies determined that no emergence of pepper cultivars was observed under the high-level salt-stress conditions (170 and 215 mM). At 85 mM NaCl, Çorbacı Acı Sivri had the highest emergence percentage (90%), while Kapia had the lowest (9%). Salt stress significantly decreased shoot height, root length, and fresh and dry weight of pepper cultivars. In the presence of salt stress, the greatest shoot height (3.40 cm) and root length (11.81 cm) was obtained with 11-B-14, while the greatest fresh weight (72.30 mg) and dry weight (6.75 mg) was obtained from Demre. Based on the results of the experiment, Demre, İlica 250, 11-B-14, Bağcı Çarliston, Mini Acı Sivri, Yalova Çarliston, and Yağlık 28 can be useful as genetic resources for the development of pepper cultivars with improved germination under salt stress.

Key Words: Pepper, seed germination, *Capsicum annuum* L., seedling, salt stress

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