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Determination of the Salt Tolerance of Some Barley Genotypes and the Characteristics Affecting Tolerance

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Abstract: The salt (NaCl) tolerance of 8 barley genotypes was investigated. Plants were grown hyroponically in Hoagland solution at 5 different NaCl concentrations. Germination percentage, shoot and root length, shoot and root dry weight, salt tolerance percentage, and K and Na concentrations in the shoots and roots were evaluated. Salt tolerance percentage, which is calculated from the germination percentage and dry weight production, was the most reliable criterion. On the other hand, with some exceptions, high K concentration and K/Na ratios were other potential criteria. Erginel-90 and WBELT-10 showed high levels of tolerance; and Obruk-86, Anadolu-86, Kıral-97 and Karatay-94 showed medium levels. Tokak-157/37 and Hamidiye-85 were the most susceptible genotypes to NaCl.

Key Words: Barley (Hordeum vulgare L.), salinity, NaCl, tolerance

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