

EFFECT OF DIFFERENT SALT CONCENTRATIONS ON THE RESISTANCE OF MAIZE CULTIVARS

1. Some Morphological and Yield Characteristics in Early Growth

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ABSTRACT

Nine different maize cultivars Lr Armigo, Pollen, C-955, Frassino, Güneş-626, Goldeliza, Apache, LG-55 and Flash were grown in water culture (Hydroponics) salinized with 25, 50, 75 and 100 mMol NaCl and tested for salt tolerance during germination, emergence and early growing stage. Germination rate, coleoptile length and root length and plant height, number of leaves and stem diameter in addition to the leaf, stem and root dry matter yields were the investigated characteristics.

There were significant variations among the cultivars in terms of salt resistance (or tolerance). Flash and Güneş-626 were the most resistant cultivars surviving even under 100 mMol salt concentrations. 25 mMol salt concentration was not harmful for any genotype, whereas 100 mMol salinity was highly detrimental, also lethal for some cultivars (Apache, LG-55). However, it should be pointed out that some cultivars such as Lr Armigo, Pollen, Flash and Güneş-626 had satisfactory growth rhythm in above mentioned high salt concentrations.

Key words: Maize cultivars, salinity, hydroponics.