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Salinity Response of Some Chickpea (Cicer arietinum L.) Genotypes in Germination and Seedling Growth of Periods

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Abstract : The research was conducted to determine effects of salt concentrations on emergence and seedling development of chickpea genotypes. Trials were performed during the year of 2013 on the laboratory and greenhouse of Agricultural Faculty, Selcuk University. Emergency trial was set up according to 'Randomized Plots Design' by two factors and four replications; greenhouse trial was also set up according to 'Randomized Plots Design' by two factors with three replications. The chickpea genotypes; CA119, CA132, CA149, CA150, CA215, CA222, CA235, CA261, Bozkır and Gokce were used as material for both of the trials. Effects of the five doses of salt concentrations (control, 30 mM, 60 mM, 90 mM and 120 mM) on the ratio of emergency, speed of emergency, average time for emergency, index of sensibility, length of shoot and root, fresh weight of shoot and root, dry weight of shoot and root, index of salt tolerance were evaluated. Responses of the chickpea genotypes for salt concentrations were found different. Comparing to the control, all of the investigated characteristics on the chickpea genotypes showed significant reduction by depending on the increasing salt level. According to the effects of salt application, the chickpea genotypes Gokce, CA215 and CA222 were the most tolerant in respect to plant dry weights while the chickpea genotypes CA149 and CA150 were the most sensitive.

Keywords : chickpea, emergence, salt tolerant, seedling development
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