

Effect of iron and potassium sulfate fertilizer levels on growth parameters and yield of cowpea (*Vigna unguiculata*) in Ahvaz condition

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Abstract In order to study of iron and potassium sulphate on some growth and yield characteristics of cowpea (*Vigna unguiculata*), an experiment was carried out in 2014 in field of Elbaji village of Ahvaz. Experimental design was split plot within randomized complete block with four replications. The factors were iron fertilizer levels (0, 1 and 2 kg/ha-1) and potassium sulphate (0, 50, 100 and 150 kg/ha-1) in main and subplot, respectively. In this experiment, morphologic and physiologic traits were measured. The effects of iron fertilizer and potassium sulphate were significant on all traits. The interaction effects of iron and potassium sulphate, was statistically significant on weight of 100 seeds, seeds in pod and length pod. Among Fe fertilizer levels, 2 kg/ha-1 have higher grain (1776.58 kg/ha-1). Fe fertilizer for 2 kg/ha-1, have been to 9.35 and 24.79% yield increase compared to 11 and 16 days irrigation. Application of potassium sulphate increased leaf area index (LAI), crop growth rate (CGR), relative growth rate (RGR) and net accumulation rate (NAR). Grain yield of cowpea compared to control with application of 150 kg/ha-1 K, increased up to 12.17%.

Keywords : Keywords: Cowpea, Fe fertilizer, Potassium sulphate, Seed yield.

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