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Effect of Paclobutrazol and potassium on growth of Date Palm *Phoenix dactylifera* L. seedlings

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Abstract

A field trial was lead at the Centre of Date Palm Researches, Basrah University, to investigate the effect of Paclobutrazol (PBZ) at 0, 100 and 200 mg. L^{-1} and Potassium Sulfate (K_2SO_4) at 0, 2.5 and 5 g. L^{-1} on growth characteristics of *Phoenix dactylifera* L. plants grown from seeds in a factorial experiment designed with R.C.B.D. Most growth parameters recorded were affected by the application of Paclobutrazol and/ or potassium sulfate. Results showed a significant decrease in the number of leaves, leaf length, leaf width, leaf area, and shoot height when applying PBZ. In contrast, shoot dry weight, root length, and root dry weight were increased. Whereas the application of Potassium significantly improved all the previous parameters. On the other hand, total chlorophyll content, dry matter, total soluble carbohydrates, protein content, potassium content in leaves and C/N ratio in leaves showed a significant increase in PBZ and K_2SO_4 treatments. The interaction between the two factors in this trial was found significantly effective in some growth parameters.

Keywords: Paclobutrazol, PBZ, Potassium fertilizer, K_2SO_4, Date palm seedling.