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INFLEUNCES OF POTASIUM FOLIAR FERTILIZATION AND IRRIGATION BY DILUTED SEAWATER ON GROWTH AND SOME CHEMICAL CONISTITUENTS OF COTTON PLANTS

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ABSTRACT In a pot experiment in the greenhouse of the National Research Centre, Dokki, Cairo, Egypt aimed to evaluate the influences of K foliar fertilization (one or two sprayings in the rate of 200 ppm more than the distilled water as a control) and irrigation by diluted seawater (with EC 3.91 and 7.82 dS/m more than the fresh water 0.30 dS/m as a control) on growth and some chemical constituents of cotton plants. Contentious decreases were detected in plant height, area of green leaves, number of bolls, stem, bolls and top fresh and dry weights exerted by the increasing in salt concentration in the diluted sea water. However, the response of number, fresh and dry weight of green leaves to both salt levels was approximately equal. Significant effects were shown in area of green leaves, fresh and dry weight of bolls and top dry and fresh weight / plant. The increments in number, fresh and dry weight of bolls, top fresh and dry weights increased by one spraying of K fertilizer and depressions were induced as a result of application K fertilizer twice. The differences in plant height, number of leaves and stem and leaves fresh as well as dry weight not great enough to reach the level of significance. In plants irrigated by fresh water (0.38dS/m) area of green leaves increased by 8.46 and 46.25 %, fresh weight increased by 25.55 % and decreased by 22.54 % and bolls dry weight by 22.54 and 49.62 % when plants received one or two sprayings from potassium chloride, respectively. Effect of salinity and potassium spraying on some chemical constituents were included.

Keywords: Cotton-*Gossypium barbadence L*-Salinity-Diluted seawater- Potassium chloride-Growth-Chemical constituents.