

**P-91 (142)****IMPORTANCE OF CHEMICAL SOURCES IN SALT-INDUCED SALINITY ON PLANT**

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Salinity is the top environmental stress that restrains plant cultivation and production in many parts of the worlds. Many plant growth and quality factors are negatively affected by soil or water salinity. In many parts of the world agriculture particularly in Iran, supplied irrigation water has increasing high EC values far suitable for agricultural practices. In present study, the effects of salinity induced by different chemical salts through nutrient solution were evaluated on growth and productivity of pepper plants under hydroponic and greenhouse conditions. Pepper seedlings after 4-leave stage were transferred to hydroponic medium consisted of 70:30 cocopeat to perlite ratio and received different levels of electrical conductivity (EC) of Hoagland nutrient solution. The following ECs of 1.8 (as control and the Hoagland general EC), 5 and 8 were applied. Various chemical salts were used to induce the two electrical conductivity, including: NaCl, KCl, K<sub>2</sub>SO<sub>4</sub> and KNO<sub>3</sub>-Ca (NO<sub>3</sub>)<sub>2</sub>. The results showed that pepper growth was adversely affected by the two EC of 5 and 8 exerted by different chemical salts. In EC of 5, NaCl had the most negative effects on growth parameters of plant height, chlorophyll index, number of leaves and lateral shoots, leaf area and nutrient profile of leaves. Potassium chloride had exerted the least growth restriction. However, when a mixture of KNO<sub>3</sub> and CaNO<sub>3</sub> were used to reach the EC of 5, many plant growth parameters were improved compared to control plants (Hoagland solution). In EC of 8, all treatments reduced plant growth parameters compared to control, and the extent of growth reduction was significantly stronger in NaCl and KCl compared to other treatments. Application of KNO<sub>3</sub>-Ca (NO<sub>3</sub>)<sub>2</sub> to reach EC of 8 resulted in better plant growth after control. In contrast to EC 5, K<sub>2</sub>SO<sub>4</sub> in EC 8 recorded higher growth compared to KCl. The results indicate that salinity tolerance of plants including pepper is a complex issue and depends at least to the composition of various salts and their ratio in root medium.

**Keywords:** *Capsicum annuum*, Electrical conductivity, Environment, Plant growth