

- symptomatic for oxidative stress and mineral nutrition in maize (*Zea mays* L.) grown under salinity. *J. Plant Physiol.* 164: 728-736.
- Hussein, M.M., L.K. Balbaa, and M.S. Gaballah. 2007. Salicylic acid and salinity effects on growth of maize plants. *Research Journal of Agriculture and Biological Sciences*, 3(4): 321-328.
- Lichtenthaler H.K. 1987. Chlorophylls and carotenoids: Pigments of photosynthetic biomembranes. *Methods in Enzymology.* 148: 350-382.
- Saeidnejad ,A.H., H. Mardani and M. Naghibolghora .2012. Protective effects of salicylic acid on physiological parameters and antioxidants response in maize seedlings under salinity stress. *J. Appl. Environ. Biol. Sci.*2(8): 364- 373.
- Tantawy,S.T.A.2011. Amelioration of salinity effect in *Zea mays* (single cross 124) by cyanobacterial extracellular products. *Journal of Food, Agriculture & Environment.*9(2):714-717.

### **EFFECT OF SALICYLIC ACID IN *Zea mays* L. PHOTOSYNTHETIC PIGMENTS UNDER SALT STRESS.**

**Zakaria Hassan Hamid al-Obeidi\***

**Ismail Khalil Ibrahim al-Samarrai\*\***

\* Dept. Biology Science - College of Science – Univ. of Diyala .

\*\*Dept. of Soil Sciences and Water Resources - College of Agriculture – Univ. of Baghdad .

#### **ABSTRACT**

To study the effect of different levels of salicylic acid in *Zea mays* L. photosynthetic pigments under salt stress , a factorial experiment based on a Randomized Complete Block Design with three replicates was used . Treatments consisted of three salinity levels (0.5, 5.0 and 9.5 dS m<sup>-1</sup>) and five salicylic acid concentrations ( 0,250,500,1000 and 1500) μM.L<sup>-1</sup> SA . Chlorophyll a, chlorophyll b and Carotene concentration in leaves were measured . The results showed that salt stress caused a significant decrease in photosynthetic pigments concentrations (chlorophyll a, chlorophyll b, and carotene) . Foliar application of salicylic acid caused a significant increase in chlorophyll a, chlorophyll b and carotene concentrations , especially under salt stress.

**Keywords:** salt stress, salicylic acid ,maize, photosynthetic pigments.