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Effect of Rootstock and Humic Acid Spray on Lemon (*Citrus lemon*L.) Seedlings Tolerance to Irrigation Water Salinity

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Abstract: This study was carried out in a private nursery at Baquba City, Diyala Province for the period from 24/2/2013 to 13/12/2014 to study the effect of humic acid spray on lemon (*Citrus lemon* L.) seedlings tolerance to irrigation with saline water. Two-Years old Lemon seedlings budded on two citrus rootstocks (Sour orange, and Swingle Citrumello) irrigated with three levels of saline water (0.7, 3.0 and 4.5 ds.m^{-1}), and sprayed with two concentrations of humic acid (0 and 1%). The study Results revealed that the irrigation with the highest level of saline water (4.5 ds.m^{-1}) caused a significant increase in leaves proline and carbohydrates content, chlorine, sodium content and a significant decrease in chlorophyll content, while the application of humic acid at 1% resulted in a significant increase in leaves carbohydrate and chlorophyll content, and decrease in leaves proline, chlorine and sodium content. Seedlings budded on swingle citrumello have the superiority over that budded on sour orange in leaves carbohydrate content.

Key words: Irrigation water salinity, Humic Acid, Citrus lemon, Sour orange, Swingle Citrumello