

**IMPROVING THE FRUIT YIELD AND QUALITY OF
CUCUMBER BY GRAFTING ONTO DIFFERENT
ROOTSTOCKS UNDER SALINE CONDITIONS**

By

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ABSTRACT

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The experiments was carried out to investigate the possibility of utilizing grafting technique on different rootstocks for ameliorating the negative effects of high salinity of irrigation water on vegetative growth, yield, fruits quality and chemical composition of cucumber plants in two successive seasons of 2014/2015 and 2015/2016 at Elbrolos Farm, Kafr Elsheikh Governorate. The effect of grafting on cucumber plants was studied using parameters of plant growth, flowering, fruit yield and quality, beside nutrient contents of cucumber plant (F1hybrid Eshrak as scion) grafted on five different rootstocks such as Shintoza, Ferro, pumpkin, winter squash and bottle gourd. The results showed that grafted cucumber plants on Shintoza led to significant improvement in stem length, number of branches, number of leaves, leaf area, fruit fresh weight, number of fruits and total yield. The fruits obtained of Shintoza had higher values of T.S.S, firmness, crispness, taste and chewing followed by grafted cucumber plants on cv. Ferro. However, grafting had no significant effect on potassium content of fruit in both seasons. The highest total yield of fruit was obtained by grafting cucumber plants on Shintoza rootstock followed by grafting cucumber plants on cv. Ferro. The increase in total yield due to using the two rootstocks was about 130 % and 73 %, respectively in the first season and 160% and 147 %, respectively in the second season as compared with ungrafted cucumber plants.

Keywords: *Cucumis sativus*, salt stress, grafting, rootstocks

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