

FERTIGATION AND ITS EVALUATION IN NEWLY  
RECLAIMED SOILS

BY

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FERTIGATION AND ITS EVALUATION IN NEWLY  
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BY

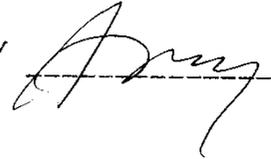
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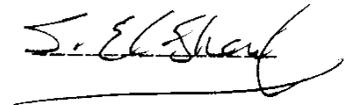
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ABSTRACT

Two successive years completely randomized field experiments were conducted in a drip irrigated newly reclaimed sandy areas at two agricultural companies (Ramsis and the Egyptian Agricultural Companies), Belbies desert. Ten years old oranges trees were chosen as the indicator plants.

Obtained results could be summarized in the following:

1. Although the uniformity of irrigation at both locations of study was  $> 85\%$ , the differences between the discharges of the dripper and consequently the amounts of fertilizers received by the trees adversely affect growth, yield, nutrients uptake and both water and fertilizers use efficiency by trees. Care of the irrigation system for raising the uniformity of irrigation to be over  $90\%$  is a must. This will lead to an uniform fertigation.
2. Applying K fertilizers through the trickle irrigation system was more efficient than broadcasting the fertilizers under the drippers. Although applied units of  $K_2O$  in the fertigation treatment were  $2/3$  those in the broadcasting one, significant increase in the relative uptake of K, fruit yield, both water and  $K_2O$  use efficiency were obtained by fertigated trees.

3. Both sources of K ( $K_2SO_4$  dissolved in  $HNO_3$  or Kristal-a) could be applied to citrus trees through trickle irrigation system. Insignificant differences in growth, yield, water and fertilizer use efficiency by trees were obtained between both K sources. Economical aspects have to be put into consideration.
4. Introducing the 3rd dripper to citrus trees (~ 10 years old) i.e. increasing both amounts of applied water and fertilizers added to trees through fertigation by 50% resulted in considerable increase in growth parameters, content of N, P and K in the leaves and their relative uptake, fruit yield, both water and fertilizers use efficiency by the trees.

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