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EFFECT OF DIFFERENT SOURCES OF ORGANIC AND BIOFERTILIZERS ON CANTALOUPE (*CUCUMIS MELO* *VAR CANTALOUPENSIS*) UNDER RAS SUDR CONDITIONS

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ABSTRACT

Two field experiments were carried out under saline conditions of Ras Suder Research Station, Desert Research Center in South Sinai Governorate, during autumn growing seasons of 2008 and 2009 to study the effect of different sources of organic and biofertilizers as well as their interactions on growth and yield of cantaloupe (*Cucumis melo var cantaloupensis*) cv. (6004 F1 hybrid Galia type). Sixteen treatments were tested: four organic fertilizing *i.e.* control (without addition), farmyard manure (FYM) 20 t/fed., town refuse 6 t/fed. and Nile compost 4 t/fed.. Also, four biofertilizer *i.e.* control (without bio-fertilizers), *Azotobacter spp.*, *Azospirillum spp.*, (*azotobacter spp*+ *Azospirillum spp.*). The field experiments were laid-out in a split plot design with three replications. The most important results obtained from this investigation showed that organic fertilizing of cantaloupe plants with FYM at the rate of 20 t/fed. significantly increased growth, yield and its components and chemical composition followed by town refuse 6 t/fed. or Nile compost 4 t/fed. as compared with control treatment (without organic manure) in both seasons.

Inoculation cantaloupe plants with (*Azotobacter*+ *Azospirillum*) significantly surpassed other treatments (*Azotobacter* or *Azospirillum* alone) and produced the highest values of all studied growth, yield and its components and chemical composition in both seasons.

Interaction between FYM+ (*Azotobacter*+ *Azospirillum*) significantly surpassed other treatments and produced the highest values of all studied growth, yield and its components in both seasons.

It can be recommended that organic fertilizing cantaloupe plants with 20 ton FYM /fed. and inoculation with (*Azotobacter*+ *Azospirillum*) in order to increase cantaloupe yield over the control treatment and reduce the environment pollution and production costs under calcareous soil, South Sinai conditions Governorate, Egypt.

Key words: biofertilization, calcareous soil, Cantaloupe, organic fertilization, growth, yield and chemical composition.