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EFFECT OF COMPOST AND INORGANIC FERTILIZERS ON SESAME PLANT YIELD AND SOME SANDY SOIL PROPERTIES AT EL- BEHERA GOVERNORATE, EGYPT.

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ABSTRACT

A Field experiment was conducted at a private farm, in El Nagah Village soil, El-Behera Governorate during two successive seasons 2014 and 2015. The aim of this work is to study the effect of applying compost (0, 3 and 6 ton / fed.) with potassium (25 and 50 Kg/fed. as K₂O) and nitrogen [20.6% N as (NH₄)₂SO₄] with rates 40 and 60 Kg/fed. on sesame plant yield (*Sesamum indicum* L - variety Giza 32) and seed quality as well as seed contents of oil and protein beside its effect on some soil properties under sprinkler irrigation system. On other hand of study aim, it is vital to determine the optimal of N and K application rates to improve sesame production and keep environment clean as a well as improve soil properties.

The experiment was conducted in split-split plot designs with three replicates. The obtained data showed that plant height, weight of capsules per plant, weight of seeds per plant, seed yield as well as oil and protein percentage of seeds, also sesame (N,P&K) concentrations which increased significantly with increasing applying compost up to 6 ton/fed. as well as 40Kg nitrogen /fed. with 25 Kg potassium /fed. On other hand data revealed clear improvement in most soil properties such as decrease in soil pH, bulk density and calcium carbonate percentage with increasing application rates of compost, while soil organic matter percentage and soil nutritive elements (N,P,K and Zn) were increased..

Key Words: Compost and Inorganic fertilizers, Sesame.