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IMPACT OF PGPR AND INORGANIC FERTILIZATION ON GROWTH AND PRODUCTIVITY OF SWEET ANANAS MELON

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ABSTRACT

This study was carried out at experimental station in Faculty of Agriculture, Moshtohor, Benha University, Egypt during 2011 and 2012 seasons to improve the morphological and physiological characteristics and yield of sweet ananas melon towards maximizing its growth and productivity using plant growth promoting rhizobacteria (PGPR) in combination with inorganic fertilization and to reduce the using of chemical fertilization for vegetables production.

Obtained results could be summarized as the following: the dual treatments of bio and inorganic fertilization gave higher parameters of vegetative growth, photosynthetic pigments content, total fruits yield/ plant and nutritional status compared with the solely fertilization ones. The best results of vegetative growth , photosynthetic pigments content total fruiting/ plant and chemical composition of leaves and fruits were obtained with the application of biofertilizer + full chemical fertilization dose followed by PGPR + 3/4 chemical fertilization without any significant differences. PGPR treatments reduced dose of chemical fertilization and decrease the environmental pollution caused by repeated application of inorganic fertilizers. The role of phytohormones like substances produced PGPR in increasing no. of pistilate flowers/ plant in order to yield was investigated.

KEYWORDS: PGPR, Inorganic Fertilization, Sweet Ananas Melon, Vegetative Growth, Fruits Yield and PGPR