EFFECT OF BIOFERTILIZATION AND AMINO ACIDS APPLICATION ON MINIMIZING N AND P MINERAL FERTILIZATION LEVELS FOR STRAWBERRY PLANTS

By

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B.Sc. Agric. Sc., (Horticulture), Ain Shams University, 2004

M.Sc. Agric. Sc., (Vegetable Crops), Ain Shams University, 2010

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ABSTRACT

Heba Hanafy Mohamed Mohamed: Effect of Biofertilization and Amino Acids Application on Minimizing N and P Mineral Fertilization Levels for Strawberry Plants. Unpublished Ph.D. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 201٥.

This study was carried out during the two successive seasons of 2010/2011 and 2011/2012 at Ismailia Governorate, Egypt. The aim of the study was to investigate the effect of minimizing N and P mineral fertilization levels and using biofertilizer application and amino acids on yield and fruit quality of strawberry plants. Fresh transplants were used in a split split design with three replicates was adopted. The main plots were assigned to the mineral NP fertilization levels, i.e., 100%، 75% and 50%, while the sub - plots were for biofertilizer application i.e., with biofertilizers (*Bacillus megaterium var phosphaticum* and *Azotobacter chroococcum*) and without biofertilizer. The sub- sub – plots were for amino acids foliar spray, i.e., with or without amino acids. Results indicated that the highest values of crown diameter, chlorophyll, N, P, TSS and ascorbic acid contents were obtained from using 100% of the recommended NP level of mineral fertilizers plus biofertilizers and amino acids at 1.5 g/l in the two growing seasons. Data also concluded that using 75% of the recommended NP level of mineral fertilizers had higher significant increments in early, total yield, chlorophyll content, N, and ascorbic acid in the two tested seasons. Moreover, Festival c.v plants treated with biofertilizers and amino acids gave the highest values in early and total yield in both seasons. Data showed that fertilizing the plants with mineral fertilizers (NP) at 50% of the recommended dose gave the lowest nitrate content of fruits in the two tested seasons.

Key words: Strawberry, mineral fertilization, biofertilizer, amino acid, yield, quality.

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