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THE PROMOTIVE EFFECT OF BLUE GREEN ALGAE (BGA) ON DATE PALM (*PHOENIX DACTYLIFERA* L.) PLANTLETS DURING ACCLIMATIZATION STAGE

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ABSTRACT

The commercial scale of date palm plantlets propagated by tissue culture technique is facing critical problems during acclimatization stage ; low survival rate together with slow growth rate. Blue-green algae (BGA) are considered to be one of the microorganisms (biofertilizers) which have efficient potential to enhance the plant vegetative growth by producing growth regulators such as gibberellin and auxin, vitamins, amino acids, polypeptides, antibacterial and antifungal that improve plant growth. The purpose of this research is to investigate the influence of blue green algae (BGA) ; *Nostoc muscorum* and *Anabaena oryzae* either individually or as a mixture under different levels of mineral fertilizer NPK (19:19:19) ; 0.25, 0.50 and 0.75 g/L as a soil drench on growth and chemical composition of six month old date palm plantlets (*Phoenix dactylifera*) cv. *Malacabe* during acclimatization stage, in addition to control treatment (No cyanobacteria). Experimental results indicated that all biofertilizers treatments (*Anabaena oryzae* or , *Nostoc muscorum*) either individually or as a mixture under different levels of NPK mineral fertilizer significantly increased ; plant height , number of leaves and leaf width in both seasons with the superiority of the combination between a mixture of blue green algae (BGA) (*Anabaena oryzae* + *Nostoc muscorum*) at 100 cm for each /pots + mineral fertilizer (NPK) at 0.75 g/L . A similar trend was also gained concerning the content of indoles ,chlorophyll a ,b, carotenoids and N, P, K in the leaves .

So, it could be recommended to use fresh extract mixture of *Anabaena oryzae* and *Nostoc muscorum* at 100 cm for each/pots with irrigation water + mineral fertilizer (NPK) 19:19:19 solution at 0.75 g/L as a soil drench every month to obtain best vegetative growth and Chemical composition of date palm c.v malacabe plantlets during acclimatization stage .

Key words:- Acclimatization ,Biofertilizers,Blue green algae (BGA), Date palm,NPK mineral fertilizer.