



EFFECT OF FOLIAR SPRAYING WITH SOME AMINO ACIDS AND FERTILIZER LEVELS ON GROWING OF MORINGA SEEDLING

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ABSTRACT

This investigation was performed during two successive seasons (2012/2013 and 2013/2014) at the nursery of Horticulture Research Institute, Agriculture Research Center, Giza, Egypt to assess the significance of applying different types of amino acids (Arginine, Cysteine and Threonine) at different levels (25, 50 and 75 ppm) and with chemical fertilization of a commercial preparation Kristalon at different levels (2, 4 and 6 g/L) on the vegetative growth and development of the newly established *Moringa oleifera* plants during the early growth stages. The results indicated that the prevalence of supplying plants with cysteine at 75 ppm led to increases in plant height, Number of leaves/plant, stem diameter, dry weight of roots and total carbohydrates content in leaves. Meanwhile, using arginine at 50 ppm expanded plant height, dry weight of stem and roots and total carbohydrates content in leaves. Whereas, supplying plant with cysteine at 50 ppm showed an increment in root diameter only. However, the least beneficial effect of the different amino acids used was observed due to using threonine, which increased only number of leaves/plant at 25 ppm. Kristalon treatments succeeded also to improve plant traits in the two seasons. All kristalon treatments significantly increased plant height and number of leaves/plant. Moreover, applying kristalon at either 4 or 6 g/L proved their mastery in raising dry weight of stem, root diameter and total carbohydrates content in leaves. At 2g/L, kristalon treatment succeeded to increasing dry weight of roots. From the results, it could be recommended to supply *Moringa oleifera*, L. plants with the amino acid Cysteine at 75 ppm with the addition of kristalon at either 4 or 6 g/L for improving growth and development of the newly established Moringa plants at the early growth stages.

Key words: Amino acids, *Moringa oleifera*, Fertilizer levels, Kristalon