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Effects of Liquid Fertilizers on Growth Performances of *Ipomoea aquatica* in Coir-Based Growing Media

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Abstract

In the process of crop management, fertilization must be practiced in an appropriate way to maintain the sustainability. Hence, the right type of fertilizer and the correct mode of application is crucial. The source and the physical nature of the fertilizer is having a significant effect on the performance of plants. In that context, liquid fertilizers are generally a convenient and effective way to enhance the nutrients availability. Hence, the present study was conducted to evaluate the effect of several liquid fertilizers on the growth performance of the popular leafy vegetable *Ipomoea aquatica*. Plants were established in coir grow blocks and treated with five different commonly known and available liquid fertilizers namely, Albert's solution (T1), Compost tea (T2), Vermiwash (T3), Sanstha liquid fertilizer (T4) and *Gliricidia* leaf extract (T5) once a week by applying a constant volume of 100 mL. The experiment was arranged in a randomized complete block design (RCBD) inside a semi protected plant house. The growth parameters of the plants (plant height, number of leaves, leaf area, fresh weight, and dry weight) were recorded up to 60 days. One-way Analysis of Variance (ANOVA) was used for statistical comparisons. According to the results all the parameters denoted significant differences among the treatments ($P<0.05$), except for chlorophyll content. However, T1 denoted the highest mean values for the vegetative parameters including, plant height, number of leaves, leaf area, fresh weight, and dry weight while T3 (Vermiwash) reported the second highest values for the respective parameters. Regarding the chlorophyll content the highest mean value was recorded by T2 (Compost tea) followed by T5 (*Gliricidia* leaf extract). The results of the present study indicated that liquid fertilizers can be used effectively for the production of *I. aquatica* in coir-based media. It suggested Albert's solution and vermiwash as high potential liquid fertilizers while vermiwash can be recognized as a nutrient supplement for organic production of *Ipomoea aquatica* in coir-based media.

Keywords: Compost tea, *Ipomoea aquatica*, Liquid fertilizer, Vermiwash