

**ASSESSMENT OF DIFFERENT PROPAGATION METHODS AND TRELLIS  
SYSTEMS ON THE GROWTH AND YIELD OF  
WATER SPINACH (*Ipomoea aquatica*)**

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**Abstract**

*Ipomoea aquatica* is a nutritious rich leafy vegetable. It is a potential crop in alleviating malnutrition in vulnerable rural people. An experiment was carried out to assess the effects of propagation methods and supporting with trellis on the commercial production of *Ipomoea aquatica*. The experiment was conducted at the Integrated Farm and Training Center, Faculty of Agriculture, University of Jaffna, Kanakarayankulam, located in the dry zone of Sri Lanka. Two propagation methods were tested with three trellis systems. The propagation methods are direct seeding (P<sub>1</sub>) and stem cuttings (P<sub>2</sub>), and the trellis systems are control (T<sub>1</sub>), basket-shaped (T<sub>2</sub>) and cylindrical shape (T<sub>3</sub>). A randomized complete block design (RCBD) with three replicates was used to carry out the experiment. ANOVA was done using the SAS 9.1 package at  $\alpha=0.05$  and the mean separation was done using the Duncan multiple range test. Growth parameters measured are plant height, number of leaves, and number of branches at 1, 2, and 3 weeks after transplanting. Different propagation methods have significantly ( $p<0.05$ ) affected plant growth and yield parameters. Considering growth parameters (plant height, number of leaves, number of branches) and yield parameters (total yield, dry matter) cutting was significantly performed well among propagation methods. Under the trellis system, considering all growth parameters (plant height, number of leaves and number of branches), and yield parameters (yield 9.50 t/ha and dry matter 1.11 g) the basket-shaped trellis system performed well among other trellis systems. The interaction was non-significant. The farmers could be advised to cultivate *I. aquatica* using the cutting as the propagation method with basket-shaped trellis made from locally available materials.

**Keywords:** Dry zone, *Ipomoea aquatica*, Propagation method, Trellis system

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