EFFECT OF MATURE COCONUT WATER IN CONJUNCTION WITH ORGANIC FERTILIZERS ON GROWTH AND YIELD OF AMARANTHUS (*Amaranthus spp.* L)

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ABSTRACT

This research was conducted to evaluate the effect of mature coconut water in conjunction with organic and inorganic fertilizers on the growth and yield of Amaranthus (*Amaranthus spp.* L). The experiment was carried out from March 2024 to June 2024 at the Faculty of Technology, Eastern University, Sri Lanka. The study was designed according to the CRD with five treatments and five replicates. The treatments are T_1 (Control) - the recommended amount of inorganic fertilizer by Department of Agriculture (RDOA), T_2 - potting media (sandy soil: compost: coir dust 2:1:1) + 1/2 amount of RDOA, T_3 - potting media + 1/2 amount of RDOA + 500 L/ha of Mature Coconut water, T_4 - potting media + 1/2 amount of RDOA + 600 L/ha of MCW, and T_5 - potting media + 1/2 amount of RDOA + 750 L/ha of mature coconut water. All other agronomic practices were followed based on DOA recommendations. Plant height, number of leaves per plant, leaf length, leaf width, and leaf area index were measured weekly. Fresh and air-dry weights of the plants were measured at the time of harvesting. Analysis of variance was performed to determine significant differences among treatments. Overall, the highest average values for plant height, number of leaves per plant, leaf length, leaf width, leaf area index, and both fresh and air-dry weights were observed in treatment T_5. Conversely, the lowest average values for these parameters were observed in the control treatment. Results suggested that mature coconut water and organic fertilizers combined with inorganic fertilizer enhance the growth and yield of Amaranthus in sandy regosl. The usage of mature coconut water and organic fertilizer combined with inorganic fertilizer in leafy vegetable cultivation would be a way to minimize the fertilizer requirements and cost of production. According to the results of the study, potting media + 1/2 amount of RDOA + 750 L/ha of mature coconut water would be a suitable application rate for amaranth cultivation.

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