

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



By

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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 T₁ (Control) - the recommended amount of inorganic fertilizer by Department of Agriculture (RDOA), T₂ - potting media (sandy soil: compost: coir dust 2:1:1) + 1/2 amount of RDOA, T₃ - potting media + 1/2 amount of RDOA + 500 L/ha of Mature Coconut water, T₄ - potting media + 1/2 amount of RDOA + 600 L/ha of MCW, and T₅ - 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 T₅. 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.

TABLE OF CONTENT

DECLARATION	
DEDICATION	
ACKNOWLEDGEMENT	
ABSTRACT	i
TABLE OF CONTENT	ii
LIST OF FIGURES	v
LIST OF TABLES	vi
ABBREVIATIONS AND SYMBOLS	vii
CHAPTER 01	1
1.0 INTRODUCTION	1
1.1 Background of the study	1
1.2 Objectives of study	3
CHAPTER 02	4
2.0 LITERATURE REVIEW	4
2.1 Leafy vegetables	4
2.2 Amaranthus (<i>Amaranthus spp.</i> L)	4
2.2.1 Taxonomy of Amaranthus	6
2.2.2 Morphology of Amaranthus	6
2.2.3 Ecology of Amaranthus	7
2.2.4 Origin and the History of Amaranthus	8
2.2.5 Nutritional composition of Amaranthus	9
2.2.6 Uses of Amaranthus	11
2.2.7 Harvesting of Amaranthus	13
2.3 Coconut water	13
2.3.1 Uses of coconut water	16
2.4 Fertilizers	17
2.4.1 Inorganic fertilizers	18
2.4.2 Organic fertilizers	18
2.4.3 Effect of organic fertilizers on leafy vegetables	19
2.5 Compost	19

2.5.1 Roles of compost for crop productivity and soil improvement	20
2.6 Coconut coir or coir dust	21
2.6.1 Agricultural benefits of coconut coir or coir dust.....	22
CHAPTER 03	23
3.0 MATERIALS AND METHODS	23
3.1 Experimental location.....	23
3.2 Climate and soil.....	23
3.3 Variety	23
3.4 Experiment	23
3.4.1 Experimental design	24
3.4.2 Treatments	25
3.5 Germination percentage.....	25
3.6 Agronomic practices.....	26
3.6.1 Nursery preparation	26
3.6.2 Pot preparation.....	26
3.6.3 Transplanting of seedlings.....	27
3.7 Cultural practices.....	27
3.7.1 Fertilizer application.....	27
3.7.2 Coconut water application	28
3.7.3 Irrigation	28
3.7.4 Weeding.....	28
3.8 Parameters	28
3.8.1 Growth parameters.....	28
3.8.2 Yield parameters	29
3.9 Analysis of data	29
CHAPTER 04	30
4.0 RESULTS AND DISCUSSION	30
4.1 Growth parameters	30
4.1.1 Plant height (cm).....	30
4.1.2 Number of leaves per plant.....	31
4.1.3 Leaf length (cm).....	32

4.1.4 Leaf width (cm)	33
4.1.5 Leaf Area Index (cm ²)	34
4.2 Yield parameters.....	36
4.2.1 Fresh and dry weight of the plant (g).....	36
CHAPTER 05	37
5.0 CONCLUSION	37
REFERENCES.....	38