

**GROWTH PERFORMANCE OF PECHAY (*Brassica Chinensis*) IN
THE FABRICATED GROWING MEDIA FOR HYDROPONIC
SYSTEM USING DIFFERENT COMBINATIONS OF
DRIED BANANA LEAVES AND COCONUT COIR**

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ABSTRACT

ORBITA, FERNANDO JR. M., Davao del Sur State College (DSSC) Institute of Computing, Engineering and Technology, Mati, Digos City. May 2024. **"GROWTH PERFORMANCE OF PECHAY (*Brassica Chinensis*) IN THE FABRICATED GROWING MEDIA FOR HYDROPONIC SYSTEM USING DIFFERENT COMBINATIONS OF DRIED BANANA LEAVES AND COCONUT COIR"**. Undergraduate Thesis.

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Hydroponics is a practice that involves plant propagation in a nutrient-filled solution rather than soil, it is an agricultural approach for producing more with less. Growing media is important for seed germination, seedling development, and seedling growth. However, production cost is rather expensive due to the higher cost of commercially available growing media. This study entitled, "Growth Performance of Pechay (*Brassica Chinensis*) in the Fabricated Growing Media for Hydroponic System Using Different Combinations of Dried Banana Leaves and Coconut Coir" was conducted utilizing banana leaves and coco coir as a potential growing media for Pechay in a hydroponic system. The study was carried-out using a Completely Randomized design (CRD) with four (4) treatments replicated three (3) times. T₁ (control-hydroponic foam), T₂ (25% coco coir and 75%

banana leaves), T₃ (50% coco coir and 50% banana leaves), and T₄ (75% coco coir and 25% banana leaves). The data gathered were evaluated with One-Way Analysis of Variance at the level of 5%, and the least significant difference (LSD) test was additionally utilized to determine the difference between treatments. The results revealed that there was a significant difference in terms of bulk density with a P-value of 0.0000, and in terms of yield of T₂ in the yield of T₁ and T₃ with a P-value of 0.0191. It also revealed that the treatments had no significant difference in terms of water holding capacity, length of roots, plant height, and number of leaves with a P-value of 0.2681, 0.2075, 0.0948, and 0.0692 respectively. The results of the cost per unit production showed that the prices of the fabricated growing media were much lower than the hydroponic foam. Supported by the result of the benefit/cost ratio, it was revealed that utilizing T₃ as a growing media for Pechay could be beneficial since it has a higher BCR than Treatment 1. This concluded that the fabricated growing media with a balanced concentration of banana leaves and coco coir could be on par with the commercialized hydroponic foam.

Keywords: Pechay, hydroponics, fabricated growing media, coco coir, banana leaves