

Utilization of Mango (*Mangifera Indica*) Seeds as an Organic Liquid Fertilizer in Bok-Choy (*Brassica Rapa*)

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Abstract : The present study experimented with the utilization of mango (*Mangifera indica*) seeds as a fertilizer in the hydroponic farming of Bok Choy. The seeds were dried, mixed with EM Bokashi, and fermented for 14 days. The solution was then diluted into several ratios or concentrations: 25%: 1 part mango seed solution, 3 parts water; 50%: 2 parts mango seed solution, 2 parts water; 75%: 3 parts mango seed solution, 1 part water. 5 cups of soil with Bok Choy seeds were each planted in different containers for different concentrations of fertilizer. The fermentation of the nutrient solution lasted exactly 14 days and was directly brought to the lab for nutrient analysis and testing. In the data presented by the researchers in a span of 14 days, the study assessed varied mango seed fertilizer concentrations on Bok Choy growth. Despite an acidic pH (4.19) and moderate electrical conductivity, the 75% concentration yielded the highest growth (2.1cm) over 14 days, followed by 50%, 0, and 25%. Leaf count was consistently highest at 75%, and the leaf color remained #8CAA50 across concentrations. This emphasizes the importance of precise fertilizer application, with the 75% concentration showing optimal growth, the highest leaf count, and prevention of leaf withering until Day 14. Overall, these findings contribute to understanding bok choy's adaptability and responses to different nutrient conditions.

Keywords : dilution ratios, organic liquid fertilizer, hydroponic farming, growth assessment

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