VERMICOMPOST TEA AS AN ALTERNATIVE NUTRIENT SOLUTION IN A NON-CIRCULATING HYDROPONIC SYSTEM

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ABSTRACT

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Due to the lack of information regarding the appropriate vermicompost tea to water dilution ratio for use in hydroponics as well as the economic aspect of applying vermicompost tea as nutrient solution, this study aimed to investigate the potential of different concentrations of vermicompost tea (VCT) as a nutrient solution in non-circulating hydroponics system. The data were analyzed using Randomized Complete Block Design (RCBD), and the means were compared using Least Significant Difference (LSD). The results of the study demonstrated that the height, number of leaves, leaf width, root length, fresh weight, and yield of green mustard had been negatively affected by any of the three concentrations of VCT (5%, 10%, and 15%). This might be due to the nutrient imbalance and the possible occurrence of pathogenic microorganisms in the tea. In terms of economic viability, VCT treatments had an adverse effect on the ROI of green mustard and had not significantly produced a remarkable yield, resulting in them being economically unviable. Further investigation is recommended to determine the standard duration required to brew cattle manure-based vermicompost tea, and the time frame during which this tea can only be used before turning anaerobic and producing toxic

microorganisms. Determination of macro and micronutrients in the VCT is also recommended as it was not done in this study.

Keywords: Vermicompost tea; non-circulating hydroponic system; green mustard

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