GROWTH AND PHYTOCHEMICAL CONTENTS OF TAMBUNAN GINGER (*Zingiber officinale*) INFLUENCED BY DIFFERENT GROWING MEDIUMS AT VEGETATIVE GROWTH STAGE

ISZAN FAKHRIE AMER BIN ROSLIZAN

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DECLARATION

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It is entirely my own work and has not been submitted to any other University or higher education institution, or for any other academic award in this University. Where use has been made of the work of other people it has been fully acknowledged and fully referenced.

Candidate's signature : ..... Date : 25th February, 2022

Name : Iszan Fakhrie Amer bin Roslizan

Student I.D. No : 2019328997

ABSTRACT

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Currently, people recognize the ginger benefit for health, especially for the human health system. With high demand, it makes ginger production an important sector that needs to be supported to produce high quality. Therefore, a good and cost-effective planting medium can be used in planting ginger to increase its production. Each growing medium has its characters in terms of nutritional content, water holding capacity, aeration, and others which can give different effects on plant growth and phytochemical contents. This resulting confusion for the farmer to choose the best growing medium to increase their productivity and yield quality. Therefore, this experiment aimed to compare which growing medium will provide the best result for vegetative growth and phytochemical contents of Tambunan Ginger. This experiment was done in Universiti Teknologi MARA (UiTM) Kampus Arau greenhouse. The chosen growing mediums were standard practice by farmer soil mixture which contain 50% topsoil, 35% sand, and 15% cow manure; Pertubuhan Peladang Kawasan (PPK) soil mixture which contain 100% biochar; and vermicompost soil mixture which contain 40% biochar, 30% topsoil, 20% vermicompost, and 10% sand. The data was measured by using Statistical Package for Social Sciences (SPSS) to find significant differences within the growing medium. The result shows that the vermicompost soil mixture exhibited the best response toward ginger growth and phytochemical contents. The number of leaves and number of tillers was increased with the vermicompost soil mixture. As for total phenolic content, the PPK soil mixture gave the highest result as compared to other treatments. In conclusion, the vermicompost soil mixture shows the most positive response in terms of growth parameters and phytochemical contents of Tambunan ginger.

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