

## COMPOSTING OF FOOD WASTE AND ITS PRODUCT PERFORMANCE ON *Ipomoea aquatica*

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### ABSTRACT

Food wastage is a serious problem reported currently, and their disposal at landfills caused environmental problems such as leachate and odour. Apart from being disposed, FW is biodegradable, and hence it can be treated through composting. Composting involves the activity of microbes to convert the FW into compost which can be used as organic fertiliser. While most of the previous studies focused on one type of composting method, the comparison between two methods to determine the efficient one in producing good quality compost is scarce. Hence, this study aimed to compare the physicochemical parameters of FW in conventional and spinning barrel composting method. Physicochemical parameters (temperature, pH, moisture content except for C/N ratio) were measured every three days interval throughout 30 composting days and analysed using SPSS. For the results, only moisture content differed significantly between both methods in which spinning barrel reach an optimum range of 54.61% in the end. The FW compost from both composting methods was then combined for application on *I. aquatica*. Four fertilisation treatments; control, NPK fertiliser, FW compost and combination of NPK fertiliser + FW compost were used to measure and compare the growth of *I. aquatica* in determining the best fertilisation treatment by looking at growth parameters (height, number of leaves and leaf width). The growth parameters were measured weekly for five weeks, and data were analysed using SASS. It was found that the best fertilisation treatment was the combination of NPK fertiliser + FW compost that recorded a better growth of *I. aquatica* (significant tallest height, the highest number of leaves and largest leaf width) most probably due to the synergetic effect of nutrients released from both fertilisers. To conclude, apart from reducing the FW disposed at landfills, composting also produce a valuable end product known as compost which can be used in combined with NPK fertiliser to promote the planting of *I. aquatica*.

**Keywords:** food waste composting, physicochemical parameters, compost, *I. aquatica*

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