**Identification of Effective Organic Fertilizer Management Practice to Enhance the Vegetative Growth of Tissue Cultured Banana (*Musa sepientum*) in Wet Zone**

**JR Shalinda1\*, KA Renuka2, AD Ampitiyawatta1**

*1Department of Export Agriculture, Faculty of Agricultural Sciences, Sabaragamuwa University of*

*Sri Lanka, Belihuloya,* *Sri Lanka*

*2Fruit Research and Development Institute, Horana, Sri Lanka*

\*[*ravindushalinda1996@gmail.com*](mailto:ravindushalinda1996@gmail.com)

As a fruit, banana (*Musa sepientum*) has a high demand due to its economic and nutritional value. High-quality planting material, proper nutrition, and cultural practices increase banana productivity. A specific fertilizer mixture including inorganic and organic fertilizers has been recommended by the Department of Agriculture as 55kg/ha of Urea, 50kg/ha of Triple Super Phosphate (TSP) and 95kg/ha of Murate of Potash (MOP) before establishing the plants and 110kg/ha of Urea, 100kg/ha of Triple Super Phosphate (TSP) and 190kg/ha of Murate of Potash (MOP) once every two months after the establishment. However, there is no organic fertilizer recommendation. Therefore, this study was conducted to identify the effective organic fertilizer management practice which can enhance the early vegetative growth of tissue-cultured “Seeni” banana plants (*Musaceae sepientum*) in the wet zone of Sri Lanka. The study was carried out at the Fruit Research and Development Institute, Horana, located in the wet zone. One-month-old tissue-cultured “seeni” banana plants were established as Randomized Complete Block Design (RCBD) with three replicates per treatment. Six treatment combinations were used as follows, Treatment 1: No fertilizer, Treatment 2: Department of Agriculture (DOA) recommendation, Treatment 3: Compost application (3 kg/plant), Treatment 4: Poultry manure application (2 kg/plant), Treatment 5: Compost application (3 kg/plant) + Vegetable Cowpea intercropping and Treatment 6: Poultry manure application (2 kg/plant) + Vegetable Cowpea intercropping. Plant height(cm) and the number of leaves (count) were measured in two-week intervals. According to the results, there was an effect from the organic fertilizers on the vegetative growth of Seeni banana plants in the wet zone. Stem height was significantly higher in Poultry manure (2 kg/plant) + Vegetable Cowpea intercropping treatment with other treatments, being the most effective organic fertilizer management practice to enhance the early vegetativegrowth of tissue-cultured Banana (*Musa sepientum*) in the wet zone of Sri Lanka.

**Keywords:** *organic fertilizer, tissue-cultured banana, vegetative**growth, wet zone*