

Enriched Mechanically Accelerated Compost on the Growth of Tissue-Cultured Banana Seedlings

Jocelyn P. Pedroso and Elderico Tabal
College of Agriculture
Western Mindanao State University

Abstract

The experiment on Enriched Mechanically Accelerated Compost (EMAC) obtained from household and agricultural wastes (vegetables and fruits) of Zamboanga City was evaluated singly or in combination with other organic sources on tissue-cultured banana seedlings (lakatan variety) under greenhouse condition. The objective was to utilize the wastes by converting it to ecofriendly organic fertilizer mainly to reduce cost. The biodegradable garbage was processed and composted by the Local Government Unit (LGU) using a Material Recovery Facility (MRF) and was enriched with various microorganisms (EM) added with Carbonized Rice Hull (CRH). Complete Randomized Design (CRD) was employed with eight treatments replicated three times. The following were the treatments: T1-untreated (Control), T2-100% EMAC, T3-50% EMAC+50% chicken dung, T4-100% chicken dung, T5-50% EMAC+50% vermicast, T6-100% vermicast, T7-50% EMAC+50% commercial organic fertilizer (COF) and T8-100% COF. Results revealed that 50 days after re-bagging of lakatan seedlings, the application of 100% EMAC (T2) and 50% EMAC+50% chicken dung (T3) had comparable performance in affecting height and length of leaves of the banana seedlings followed by the rest of the treatments. Seedlings with no fertilizer (untreated) and with Commercial organic fertilizer (COF) application showed lower height and shorter length of leaves. Similar trend follows on the stem diameter and leaf area. In terms of the width of leaves, T2 remained to have higher mean but a combination of 50% chicken dung with EMAC showed to be significantly lower than T2. The number of leaves formed, however, was not significantly affected by the application of EMAC in comparison to other treatments, but significantly different than that of commercial fertilizer (T8) and the control (T1). Based on these findings, the application of EMAC as bio fertilizer can be further evaluated in the field utilizing vegetables, cereals and industrial crops due to its high organic