EVALUATION OF PLANT NUTRIENT SOURCE DERIVED FROM COCONUT HUSK

A dissertation submitted to the

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

In partial fulfillment of the requirements for the award of

Bachelor of Science in Palm & Latex Technology & Value Addition

by

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Palm & Latex Technology and Value Addition Degree Programme

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2016

ABSTRACT

Coconut is a perennial crop, which has a high demand for potassium (K). As coconut gives yield throughout the year it removes soil K by a large amount. K fertilizers have been observed to be more expensive. Inorganic K sources cannot be recommended for organic cultivation. Therefore, unavailability of organic K sources for coconut cultivation has been an issue. The objective of this experiment was to evaluate the tender coconut husk as a supplementary K source, which can be used together with commonly used organic manure for coconut cultivation.

A field experiment was conducted in a young coconut plantation on Madampe soil series. Treatments were no fertilizer (T1), young palm mixture (T2), completely burnt coconut husk + poultry manure (T3), sulphate of potash + poultry manure (T4). Soil samples were collected after two weeks of treatment application and were analyzed for exchangeable Potassium (K), exchangeable calcium (Ca), exchangeable magnesium (Mg), and available phosphorus (P). The results indicated that among the treatments, T3, the processed tender coconut husk added as a supplement of K source together with poultry manure, showed significantly ($P<0.05$) higher K (529.62 mg kg^{-1}), Ca (377.93 mg kg^{-1}) and Mg (94.88 mg kg^{-1}) contents in two weeks after treatment application compared to other treatments. Even though, the pH of burnt tender coconut husk had pH of 10.07 ± 0.38 it did not significantly ($P>0.05$) change the bulk soil pH.

This indicates that burnt tender coconut husk can be used as a supplementary K source with poultry manure for young coconut palms. However, long term observations and measurements are needed to further confirm these results.

Key Words: ***Nutrient supplement, Potassium source, Organic cultivation***