Journal of Applied Biosciences 86:7918– 7927

ISSN 1997–5902

Effect of composting of palm oil mill wastes and cow dung or poultry manure on *Amaranthus hybridus* growth and yield

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Original submitted in on 1st December 2014. Published online at www.m.elewa.org on 28th February 2015 http://dx.doi.org/10.4314/jab.v86i1.1

SUMMARY

Objective: To evaluate the effect of shelter and different type of manure on degradation of palm oil mills wastes during composting and on growth and yield of African spinach (*Amaranthus hybridus*) grown on acrisol .

Methodology and results: Palm oil mills wastes were composted, with poultry manure or cow dung with and without shelter. The experimental trials used the split-split plot design with composting method as a principal factor, the types of manure and rates of compost as secondary factors. The composting of these wastes with manure under shelter improved their decomposition significantly. The compost made with poultry manure under shelter gave the highest plant growth and yield. The compost application rate of 20t/ha was not enough to increase plant growth but increased its yield (20.1t/ha versus 17.9t/ha).

Conclusion and application of findings: Palm oils mills waste can be composted and used to grow *Amaranthus hybridus*. However, it is better to compost these wastes with poultry manure than cow dung under shelter. In addition, farmers need to apply at least 20t/ha to have high yields.

KEY WORDS: acrisol; African spinach; Guinean climate; manure; shelter,