World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:9, No:09, 2015

The Influence of Organic Waste on Vegetable Nutritional Components and Healthy Livelihood, Minna, Niger State, Nigeria

Authors : A. Abdulkadir, A. A. Okhimamhe, Y. M. Bello, H. Ibrahim, D. H. Makun, M. T. Usman

Abstract : Household waste form a larger proportion of waste generated across the state, accumulation of organic waste is an apparent problem and the existing dump sites could be overstressed. Niger state has abundant arable land and water resources thus should be one of the highest producers of agricultural crops in the country. However, the major challenge to agricultural sector today is the loss of soil nutrient coupled with high cost of fertilizer. These have continued to increase the use of fertilizer and decomposed solid waste for enhancing agricultural yield, which have varying effects on the soil as well a threat to human livelihood. Consequently, vegetable yield samples from poultry droppings decomposed household waste manure, NPK treatments and control from each replication were subjected to proximate analysis to determine the nutritional and anti-nutritional component as well as heavy metal concentration. Data collected was analyzed using SPSS software and Randomized complete Block Design means were compared. The result shows that the treatments do not devoid the concentrations of any nutritional components while the anti-nutritional analysis proved that NPK had higher oxalate content than control and organic treats. The concentration of lead and cadmium are within safe permissible level while the mercury level exceeded the FAO/WHO maximum permissible limit for the entire treatments depicts the need for urgent intervention to minimize mercury levels in soil and manure in order to mitigate its toxic effect. Thus, eco-agriculture should be widely accepted and promoted by the stakeholders for soil amendment, higher yield, strategies for sustainable environmental protection, food security, poverty eradication, attainment of sustainable development and healthy livelihood.

Keywords : anti-nutritional, healthy livelihood, nutritional waste, organic waste
Conference Title : ICGEM 2015 : International Conference on Geography and Environmental Management
Conference Location : Rome, Italy
Conference Dates : September 17-18, 2015