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Municipalities are facing a growing problem of how to safely dispose of their wastes. Municipal solid waste (MSW) is waste from households, commercial centres, institutions (school, offices). Composting is used to reduce huge pile of biodegradable MSW and convert it into value added product like manure and biogas. Inorganic fertilizer such as NPK also exerts strong influence on plant growth, development and yield. Two year experiments were conducted in the Teaching and Research Farm of Department of Crop Science, Faculty of Agriculture, University of Nigeria, Nsukka to determine the response of maize to MSW compost and NPK fertilizer application. A 4 x 4 factorial experiment in Randomized Complete Block Design (RCBD) with three replications was used for the study.

The two factors were MSW (0, 1.0, 1.5 and 2.0 t/ha) and NPK(20:10:10) (0, 100, 200 and 300 kg/ha). The following data were collected: leaf area, Plant height, stem girth, number of leaves, days to first tasseling, plant fresh weight, plant dry weight, ear weight, ear height, ear circumference, cob weight, 100 grain weight, grain yield and harvest index. Data collected were subjected to analysis of variance (ANOVA). The means were separated using Fisher's least significant difference (F-LSD). Plant height, leaf area, number of leaves and stem girth increased with increase in NPK and MSW rates while days to tasseling and silking was reduced. The 100 grain weight, grain yield per hectare and harvest index were significantly increased with increase in MSW and NPK rates. Proximate composition followed the same trend apart from carbohydrate content which decreased with increase in application rates of MSW and NPK. Application of either 2000 kg/ha MSW or 300 kg/ha NPK gave the highest yield of maize in 2011 and 2012. Complementary application of MSW and NPK was significantly higher than sole application. Combination of 2.0 t/ha MSW with 300 kg/ha NPK had significantly higher effect than other treatment combination in both years and were found satisfactory for achieving high yields in maize. It is recommended that further research should be carried out to determine the optimum rates required for maize production since performance increased up to the highest rates of MSW and NPK fertilizer

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