

EFFECT OF SOLE AND AMENDED PLANT RESIDUES ON SOIL NUTRIENT CONTENT AND YIELD OF OKRA

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ABSTRACT

The aim of the study is to investigate the soil fertility improvement potential of plant residues (agrowastes). The relative effect of food ash, ground cocoa husk, rice bran, spent grain, sawdust and NPK fertilizer on soil nutrient and organic matter contents and yield of okra (*Abelmoschus esculentus* (L) Moench) was studied in four consecutive field experiments conducted at Akure, southwest Nigeria. The 22 treatments consisted of the control, NPK (15-15-15) fertilizer, and the five residues applied sole or amended with each of goat, pig and poultry manure. Application of sole and amended plant residues at 6t/ha increased soil organic matter, N,P,K, Ca and Mg contents and pod weight of Okra significantly. The mean pod weight recorded for the control, 400kg/ha NPK fertilizer, wood ash, cocoa husk, rice bran, spent grain and sawdust were 17.2, 449.3, 145.2, 180.2, 170.4, 260.7 and 137.3 kg/ha respectively. Amendment of the residues with animal manure led to increase in soil nutrient content and yield

Keywords: manure, nutrient, okra, plant residue, soil.