

Nutrient retention capacity of rice husk biocharcoal in co-composted poultry manure

ABSTRACT

A waste by-product of local rice mill namely rice husk biocharcoal (RHC) was investigated for its effects in minimising nutrient losses and retaining nutrients during composting of poultry manure. Treated poultry manure was co-composted with RHC at two rates (10% and 5%) and determined for their composting nutrient content, leaching rates through laboratory column leaching test and the leached composts were viewed under SEM/EDX. RHC was quantified to minimise nitrogen loss during composting where 10% and 9% of N was retained in compost treated with RHC 10% and RHC 5% correspondingly as compared to control. Meanwhile laboratory leaching tests and SEM micrograph on RHC-compost at both rates have proven that RHC does physically trapped and chemically sorb organic and inorganic molecules such as C, N, P, K, NO₃ Ca and P and retained them against leaching losses.

Keyword: By-product; Composting; Biocharcoal; Leaching losses