

BIO SOFTENING OF ARECANUT WASTE ARECA HUSK, LEAF AND LEAF SHEATH FOR VALUE ADDED COMPOST

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ABSTRACT

One of the most versatile and remunerative techniques for handling biodegradable solid wastes is composting. The areca nut waste Composting was carried out using 8 kg of raw materials in a composting pit of 0.5m width, 0.50 m length and 1 m height. The areca nut waste substrates arranged layer by layer and inoculated with the microbial inoculums of ligno cellulolytic organism at the rate of 5 kg per ton of substrate. Arecanut waste inoculated *Phanerochaete chrysosporium*, *Pleurotus sajarcaju* without added any nutrients showed the decrease in percentage organic carbon and slightly increase in total nitrogen content. The C:N ratios in these treatments were decreased to a greater extent when compared to the control and other treatments. The initial C:N of untreated areca husk waste was 110-120, whereas C:N of the husk inoculated with different microorganisms was found to decrease significantly and it ranged from 29.94 to 77.94 in different treatments. The initial C:N of untreated areca leaf waste was 82-84 where as C:N of the Areca leaf inoculated with different microorganisms was found to decrease significantly and it ranged from 22.24 to 60.58 in different treatments. The initial C:N of untreated areca leaf sheath was 96-98 whereas C:N of the Areca leaf sheath inoculated with different microorganisms was found to decrease significantly and it ranged from 22.42 to 60.53 in different treatments.

KEYWORDS: Composting, Lignin, Organic Matter, Inoculums, Arecanut Waste, Biodegradation