بسمه تعالی

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Valorization of food waste and poultry manure through co-composting amending saw dust, biochar and mineral salts for value-added compost production

Ravindran B, Karmegam N, Awasthi MK, Chang SW, Selvi PK, Balachandar R, Chinnappan S, Azelee NI, Munuswamy-Ramanujam G. Valorization of food waste and poultry manure through co-composting amending saw dust, biochar and mineral salts for value-added compost production. Bioresource Technology. 2022 Feb 1;346:126442. **(https://doi.org/10.1016/j.biortech.2021.126442)**

چکیده (۱۴۴ کلمه):

The present study proposes a system for co-composting food waste and poultry manure amended with rice husk biochar at different doses (0, 3, 5, 10%, w/w), saw dust, and salts. The effect of rice husk biochar on the characteristics of final compost was evaluated through stabilization indices such as electrical conductivity, bulk density, total porosity, gaseous emissions and nitrogen conservation. Results indicated that when compared to control, the biochar amendment extended the thermophilic stage of the composting, accelerated the biodegradation and mineralization of substrate mixture and helped in the maturation of the end product. Carbon dioxide, methane and ammonia emissions were reduced and the nitrogen conservation was achieved at a greater level in the 10% (w/w) biochar amended treatments. This study implies that the biochar and salts addition for co-composting food waste and poultry manure is beneficial to enhance the property of the compost.