

Microbial decomposition of post-harvest sugarcane residue

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Abstract

A laboratory in situ composting study was conducted as a possible alternative method for the current practice of open air burning of post-harvest sugarcane residue by sugarcane farmers. **In situ composting of the sugarcane residue by the indigenous bacteria and fungi was accelerated using molasses as an initial substrate. A one-time application of molasses boosted the soil microbial population, which started to decompose the ligno-cellulosic fractions of the residue.** The study showed significant differences in several parameters among the control and molasses applied treatments, namely, visual decomposition of residue, bacterial and fungal population, soil pH, cellulose content, cellulase activity, and soil organic matter. Further study is needed to refine the process for the future application of this technology as a possible alternative to the current practice of open air burning of sugarcane residue by farmers.

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