

Relative Performance of Decomposing Micro-organisms for Composting of Coffee Farm Wastes

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SUMMARY

The trial on relative performance of decomposing micro-organisms for composting of coffee farm wastes was conducted during 2002-03 at Central Coffee Research Institute in Randomized Block Design with three replications and six composting treatments. The result of the experiment on composting revealed that C:N ratio was considerably narrowed in all the treatments receiving decomposing microbial cultures compared to un-inoculated heaps indicating role of micro-organisms in reducing composting duration. Among the inoculated treatments, faster reduction of C:N ratio in all the stages of composting was noticed in treatment receiving multimedia culture containing *Phanerocheate chrysosporium*, *Trichoderma viride* *Pleurotus sajarcaju* and *Aspergillus awamori* (from initial 31.2:1 to 11.8:1 at 90 DAI) followed by treatment receiving *Phanerocheate chrysosporium* ((from initial 31.2:1 to 12.2:1 at 90 DAI). Out turn ratio was also higher in inoculated treatments (65.2 to 66.8%) compared to control (61.5%). Further, enhanced decomposition in inoculated heaps resulted in significantly higher nitrogen, phosphorus and potassium content compared to un-inoculated control heaps. Total N,P,K content among the inoculated treatments ranged from 1.7 to 1.9%, 0.15 to 0.19%, 2.8 to 3.05% respectively at 90 days after initiation (DAI). Addition of enriching microbial cultures viz., Azatobacter, Phosphorus solubilizers after 90 DAI have further improved the nitrogen and phosphorus status of compost. The population of beneficial bacteria, fungi and actinomycetes in the compost were improved due to inoculation of decomposing microbial cultures.