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Feasibillity of utilizing cellulolytic fungi to upgrade nutritional value of Sugarcane tops, Bagasses, Banana leaves, Gini grass, and Rice straw was studied. The fungi species used for thee fermentation were, *Pleurotus djmor, Lentinus sajor-caju, Volvariella esculenta* and *Triciderma viridi*. The finely ground above materials were steam sterilized and inoculated with freshly grown cultures of above fungi. The cultures were incubated at 30 ºC for 30 days.

The microorganisms grew well in all substrates tested. The nitrogen contents of the cellulosic materials in creased significantly during fermentation. The content of nitrogen in sugarcane tops fermented by *Pleurotus djmor, Volvariella esculenta, Lentinus sajor-caju, Agaricus bisporus* and *Triciderma viridi* had increased by 200%, 230%, 200%, 150% and 100% respectively. Sugarcane bagasse fermented by *Pleurotus djmor Agaricus bisporus, Lentinus sajor-caju, Volvariella esculenta, Triciderma viridi* had gone up by 230%, 200%, 100%, 150% and 100% respectively. Other fermented materials also showed high increase in their nitrogen contents after fermentations. Therefore, it was concluded that the nutritional value of these materials could be improved y microbial fermentation.