Variation in cellulose, hemicellulose and lignin content during degradation of *Saccharum officinarum* L. litter

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Biodegradation has always been an important phenomenon in the functioning of every ecosystem. The present study was undertaken to assess the variations in cellulose, hemicellulose and lignin content of *Saccharum officinarum* L. cultivated around Sonagir area, Datia district, Madhya Pradesh, India during degradation. It was observed that a large number of fungal genera had colonized over leaf litter during its biodegradation. When the same was analysed for loss in dry weight of litter in terms of cellulose, hemicellulose and lignin content per gram of dry weight, it was found that there was significant reduction in the cellulose, hemicellulose and lignin content. When the samples were analysed, it was found that initially, there was 0.603, 0.382 and 0.412 g/g dry weight in terms of cellulose, hemicellulose and lignin content respectively. At the end of the study, i.e. after 300 days of incubation in 2 × 2 × 2 ft pits, it reduced to 0.026, 0.012 and 0.008 mg/g of dry weight, i.e. 98.6%, 96.8% and 92.4% respectively.

Keywords: Cellulose, degradation, hemicellulose, lignin, litter, *Saccharum officinarum*.