

## DEGRADATION OF CELLULOSE IN COMPOST PRODUCED FROM FORESTRY INDUSTRY WASTE

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The main constituents of forestry industry waste are cellulose, lignin, hemicellulose and extractives, the latter being responsible for the fungicidal and insecticide action that protects the wood naturally. Cellulose decomposition was evaluated in three forest species marketed in Venezuelan Guayana, subjected to a composting process. Several mixtures of sawdust–manure were prepared varying the proportions of both, using the bark of Caribbean Pine (*Pinus caribaea*, coniferous), mora (*Mora gonggrijpii*) and the zapatero piedrero (*Peltogyne phoryhrocarpia*). A design of random complete blocks was used with five treatments and three repetitions and samples were taken during the process at days 0, 15, 30, 60, 90. pH, organic carbon, nitrogen, and initial and final cellulose were measured. Only with the pine bark was a small degradation percentage obtained in treatments with a high percentage of manure and low percentage of sawdust, which could be explained by the presence of polyphenols in the wood, inhibiting microbial attack and impeding their proliferation, thus preventing the development of the thermophilic phase, where the majority of the components of the wood are preferentially degraded.

Keywords: Degradation of cellulose; Composting process; Sawdust; Manure compost