

## Mora tree (*Maclura tintorea*) leaves as a component in polymer composites

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Costa Rica has new environmental regulations and is looking for new products and processes that will be compatible with the environment.

Mora tree is a wild tree of the family Moracea and can be located on the Pacific coast of Costa Rica and has several interesting aspects for research: you can get a natural dye and it also plays effectively as a medicinal plant used for various purposes including their use to reduce toothache.

Given the many properties of this tree it is used as a component in composite polymeric materials, and the influence of this plant as a degrading agent being studied.

The characterization of the mora leaves was carried through the determination of the extracts content and physical and mechanical analysis of the matrix and composites materials. Some parameters were evaluated such as density, strength stress resistance, flexion resistance and impact energy. Also the influence of the average percent and length of fiber were studied to find the conditions to give better properties to the material.

The interaction between the fiber and matrix was studied by SEM, of the surface fracture of the samples obtained from the strength mechanical test. The characterization results of the mora fiber showed a potential condition of this fiber to be used in polymer composites and the good degradation of composite material was obtained. Also, considering the acceptable performance of the stress strength resistance of the mora/polyester resin composites and their good appearance, they could be used in biodegradable products. The use of Mora leaves to obtain the new materials would be an important alternative to make new products and diminish the environment impact of polymer wastes.

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