

## UTILIZATION OF AGRICULTURAL WASTE AND WOOD INDUSTRY RESIDUES IN THE PRODUCTION OF NATURAL FIBER - REINFORCED COMPOSITE MATERIALS

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### ABSTRACT

*Composite materials, based on renewable and biodegradable natural fibers, derived from agricultural waste and wood industry residues, are increasingly utilized in a wide variety of applications. These products represent an ecological and inexpensive alternative to the traditional petroleum-based materials, as they significantly decrease the use of fossil fuels and reduce the greenhouse gas emissions. In addition, these materials have good mechanical properties and require lower consumption of energy for their production. On the other hand, wood-based industries and agriculture produce significant amounts of organic waste and residues which are still underutilized, as low value energy resources and organic waste is commonly disposed of by some of the traditional waste management techniques, such as landfilling, anaerobic digestion or composting. The use of organic agricultural and wood industry waste and residues in production of natural fiber-reinforced polymer composites (NFPCs) is an environmentally friendly, sustainable and economical alternative. This paper represents a review of the possibilities for application of organic waste and residues as reinforcements or additives in NFPCs on the basis of the existing scientific information in the respective field.*

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