OPERATION MANUAL FOR FABRICATION OF GREEN COMPOSITE FOOD TRAY

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Materials for Composite's Fabrication

Fibres, PLA and mixed fibres + PLA

Grounded mixed materials

Green Composite Food Tray Prototype

INTRODUCTION OF TECHNOLOGY

Green composites have received high consideration from researchers and industries to develop eco-friendly products by using natural fibres and biodegradable polymers, which possess outstanding degradable and sustainable properties. Environmentally responsible food packaging is a key need now a day. This is particularly true for single-use throw away packaging materials. The focus of this study is to develop green composite food tray by reinforcing coir and pineapple leaf fibres into poly lactic acid biopolymer which is a biomaterial solutions to meet this need. These compounding are a promising biomaterials for biodegradable food packaging industries. This product could be a solution to reduce solid waste dumps and plastics pollutions and successively reduced environmental loads.

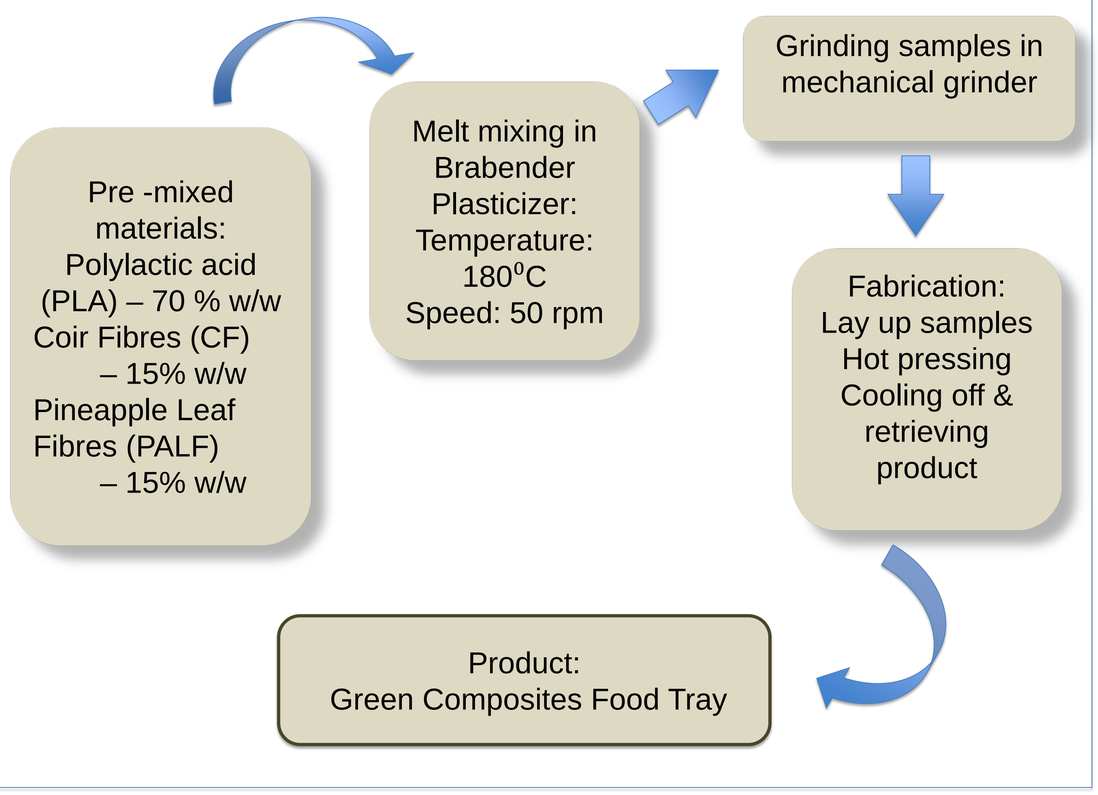
INVENTION

The approach of this green innovation is to produce low-cost degradable packaging materials (food tray) from renewable resources by using CF and PALF as load bearing component in composite structure.

This manual will serves as a reference to guide the users on:

- **fibres preparation for composites fabrication**
- **melt mixing procedures of materials in Brabender Plasticizer machine and grinding the composite materials.**
- **food tray fabrication in Hot Press machine.**

Flowchart of Experiment for Fabrication



ADVANTAGES

Green composite food tray has many advantages such as

- **Biodegradable**
- **Sustainable**
- **Eco- friendly**
- **Green innovation**

MARKET POTENTIAL

Consumer/End User

- Food Selling units: Super market/Groceries
- Home and Restaurants

Industry

- Food Packaging
- Home Appliances

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