



कृषि एवं किसान
कल्याण मंत्रालय
MINISTRY OF
AGRICULTURE AND
FARMERS WELFARE



NATIONAL BANK FOR
AGRICULTURE AND RURAL
DEVELOPMENT

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AGRISURE GREENATHON

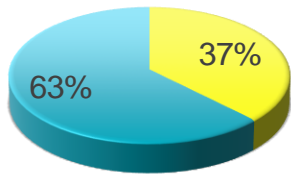
Team Name : **Soil Savvy**

Team Leader Name : Ms. JANANI R

Problem Statement : TRACK – 2

Over accumulation of Agro wastes like Rice husk and Corn stalks in FPO farming yards and high demand of thin eco-friendly packaging alternatives .

Idea



■ agro waste ■ plastic waste

- * Approximately, 24 million tons of rise husk produced in India per annum.
- * According to the statistics, 4824 Thousand tones of packaging material producing in India per annum.
- * Nearly, 40% of plastic wastes obtained from packaging material.
- * To prevent these squanders packaging material can be made from mycelium using substrate as a agro-waste (rise husk & corn stalks)

Opportunities

- * Converting of squander agro such as rice husk into the profitable usage material.
- * Turning agro-waste into a biodegradable packaging material with fungal mycelium effectively manages agricultural waste while reducing reliance on plastics.
- * Deduction of raw material insufficient into sufficient material at minimal cost to profitable material.

Features

1. Eco-Transformation:

Turns rice husk into a material that naturally decomposes, easing environmental strain.

2. Green Innovation:

Harnesses agricultural by-products to create sustainable packaging, reducing waste.

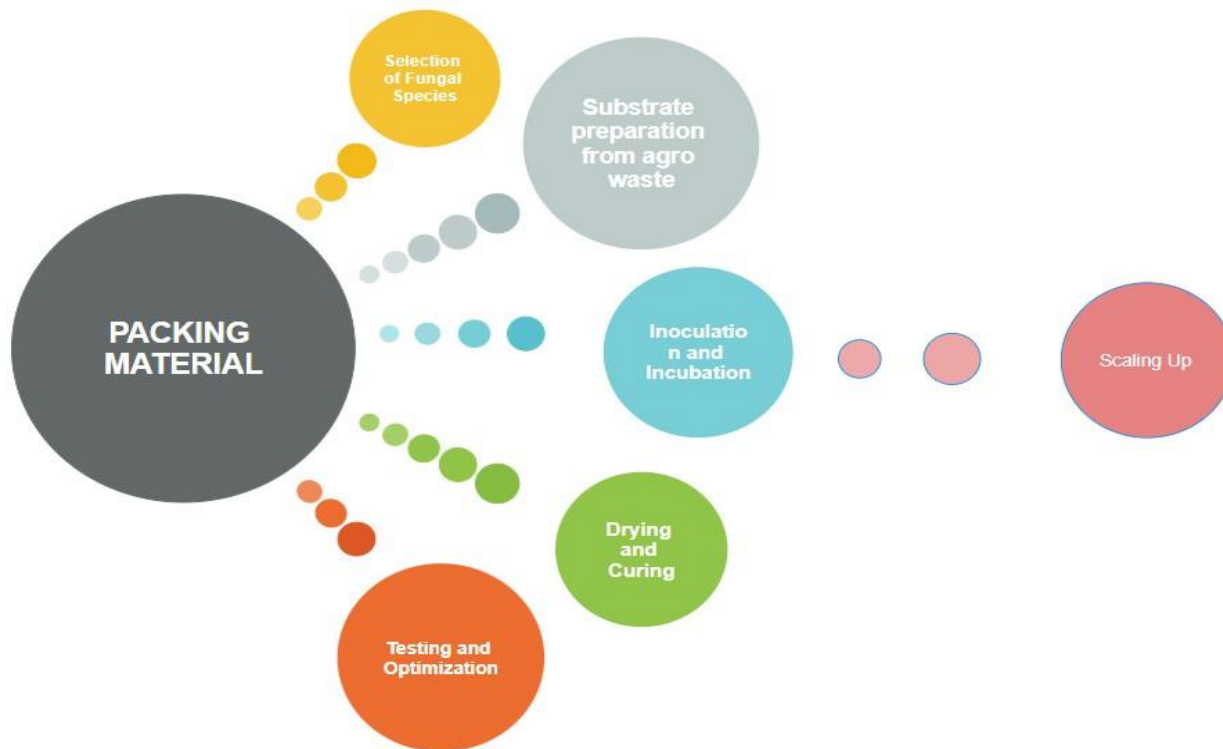
3. Plastic Alternative:

Provides an earth-friendly substitute to traditional plastic options.

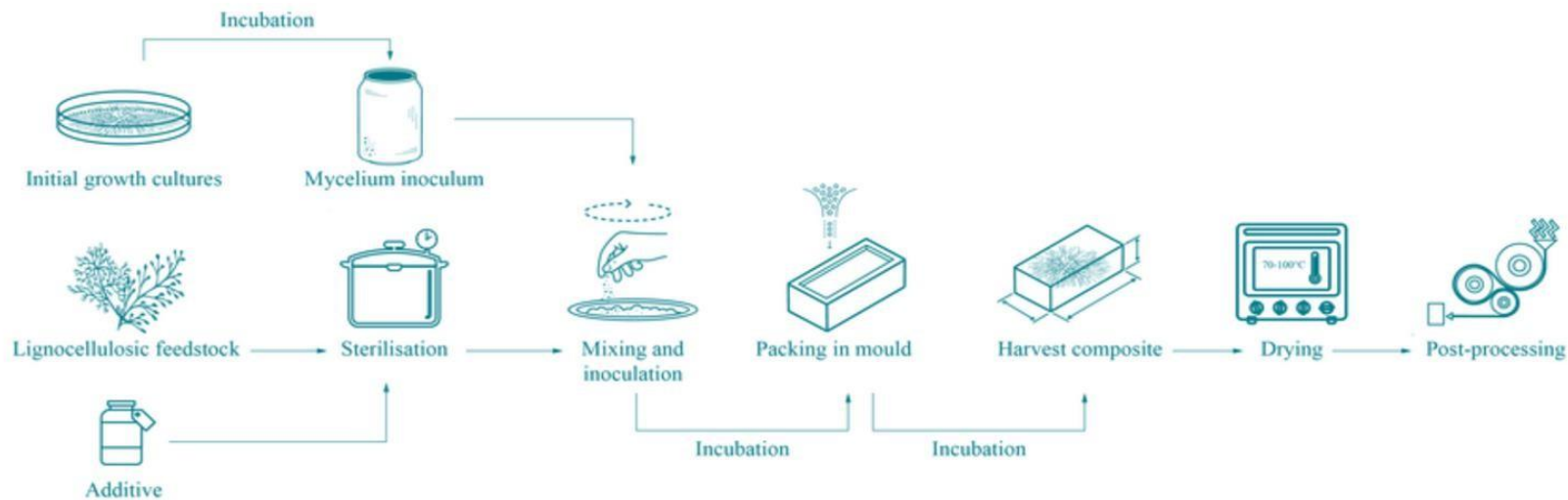
4. Strong & Sustainable:

Delivers a robust packaging solution with an eco-conscious edge.

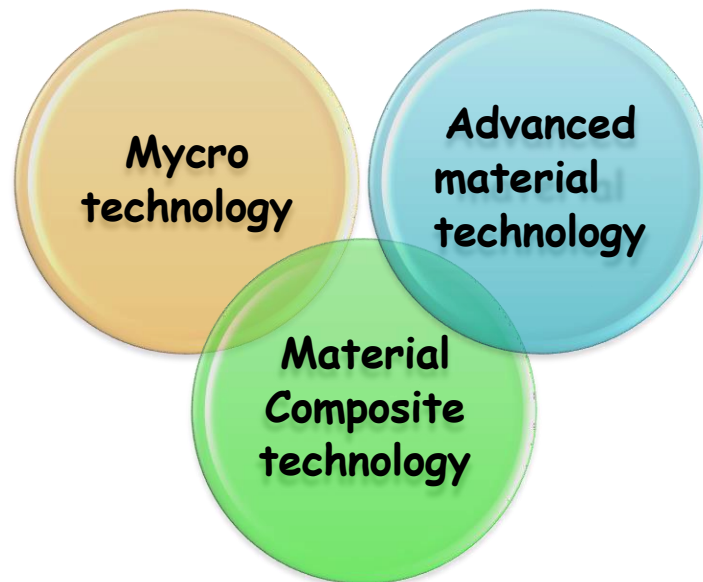
Flow chart



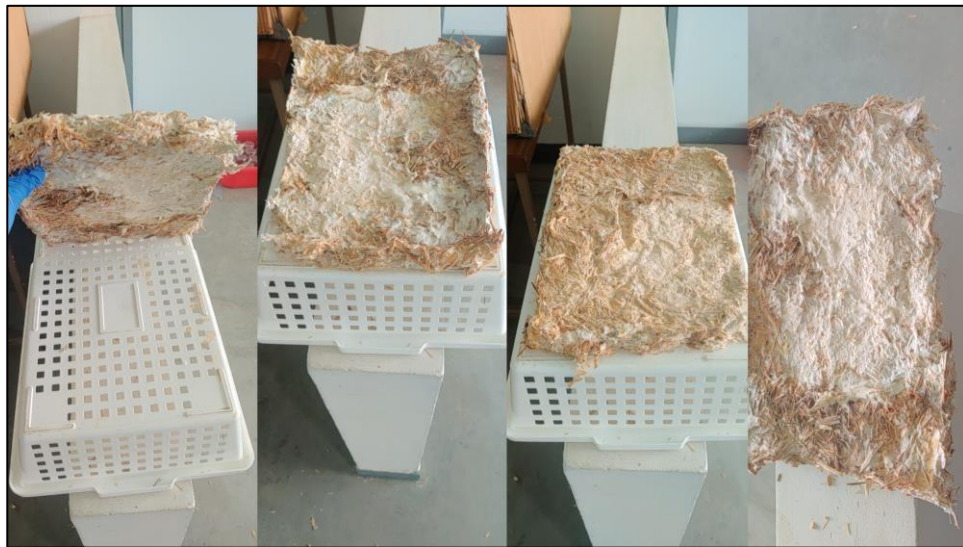
Architecture diagram



Technologies



Prototype



Basic prototype of mycelium based packaging material

Prototype Performance report

- While having a slightly lower tensile and flexural strength than plastics, eco-friendly mycelium packaging created from agricultural waste offers considerable environmental benefits and good heat insulation.
- It can be a good replacement in applications that need for protective packaging because of its robust mechanical properties.
- Enhancing manufacturing durability and scalability will remain the focus of innovation in this field.

Future Developments

- We are optimizing the existing methodology to convert 3-dimensional packaging material (Thick) into 2-dimensional packaging material (Thin).
- To enhance the efficiency of secondary packaging material to mitigate the non-degradable packaging material.

Demo Video

click here:

V i d e o l i n k

Copy and paste:

<https://drive.google.com/file/d/1oeB5GGBFfPaLBwq36hSJ80UsE7j7bRUs/view?usp=sharing>

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*thank
you!*