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Project Title

Bioleather: A flexible package material as replacement to plastic.

Objective

To reduce use of plastic in packaging industry.

Method

To make SCOBY from kombucha, tea leaves or tea bags are added to boiled water and allowed to steep for five to ten minutes. The leaves or bags are then removed, and sugar is dissolved in the brew while it is still hot. The sweetened tea is cooled to ambient temperature, and the SCOBY, plus a small portion of previously-fermented kombucha, is added as a starter culture previously-fermented kombucha, also called starter liquid.

The SCOBY will steadily grow to cover the surface area of the fermenting kombucha and take the shape of the container that it is brewed in. Further it is dried either by sun drying or fan drying for few hours. After which bee wax mixed with coconut oil is applied to bioleather to form a flexible, elastic material.

Outcome

- 1) This project can give the world a better packaging material with producing absolutely no harmful by products and unwanted waste.
- 2) This can help the packaging industry to get a better packaging material by replacing plastic and paper.
- 3) It can also reduce the cost of package.
- 4) The bioleather can be moulded, stitched, glued and also dyed this would give a premium and appealing appearance to the product package.

Conclusion:- The experiment that is planned to perform is expected to give properties of bioleather such as tear strength, puncture resistance and flexibility which are affected by

parameters such as sucrose concentration, cycle time, thickness and post treatment. It is not only a greener alternative but also a cost efficient process to replace the use of leather made from animal hide and also various polymers. This can be produced on large scale as well as small scale giving large economical benefits.

Implementation

- 1) Can be used in packaging industry.
- 2) Can be used as a replacement to plastic and paper bags.
- 3) Can be used in textile and fashion industry also because of its premium texture and because of its stitching and dye quality.

