LIFE HACKS

Wood Alternative Made from Sustainable Kombucha Waste Won the 2021 Dyson Award

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21-year-old Gabe Tavas won the 2021 US James Dyson Award. His mission was successful and it was to create wood without having to cut down trees.

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This is what led to the creation of Pyrus: a petroleum-free and wood-like material which is sustainably produced using repurposed bacterial cellulose waste from kombucha.

This award runs in 28 countries and regions in the world. The applicants need to be or have been in the last four years enrolled for at least one semester in an undergraduate or graduate engineering/design-related course.

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What Was Tavas's Inspiration to Create this Wood Alternative?

Tavas's ambition is to create a global change comes from his "immigrant influence", he explains. His mom, now an immigration attorney, moved from Cuba to the US when she was a kid and his dad moved from the Philippines when he was only 17.

For Tavas, the interest in entrepreneurship started during his teen years when he felt a need to help solve the major issues in sustainability. Tavas who's born and raised in Chicago says he enjoyed spending time in nature at Saint Paul Woods in Morton Grove, Illinois.

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As someone who grew up in a city, he couldn't enjoy much nature there and know how stressful this can be. Forests are an escape for him and his favorite place to meditate and relax.

So, the thought of losing forests because of short-sightedness was hurtful and he wanted to change it.

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This is why he decided to work on a wood alternative. Pyrus is how we can help keep trees standing and they contribute to conditions for green energy.

How Is Pyrus Made?

Every wood piece has two ingredients. One is cellulose which provides the basic shape and framework. The other is lignin which acts as a glue for all the other elements.

Some companies that make kombucha use microorganisms that produce sheets of cellulose in the top of the liquid. Pyrus is made using these sheets that are blended to have an even consistency and then embedded into a gel.

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When the gel dries out, it becomes harder and it's put under a mechanical press to form a sheet of wood-like material.

This material can be cut, coated with resins, or sanded, just like a "real" tree. Although there are several companies making alternatives of wood, a lot of them use sawdust.

This means that there's again a need of cutting down the trees and it's also a potential health risk for people who're overexposed to it.

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On the other hand, Pyrus, which is made of kombucha waste, is eco-friendly and sustainably made. The goal of Pyrus is to replace the expensive and fancy wood products that cause deforestation.

In the past year, Tavas made 74 Pyrus wood samples in different textures and colors. It's also been tested on several equipment pieces usually found in woodworking shops and maker spaces with the help and guidance of professional woodworkers.

The $2,600 prize money will help Tavas expand his production facilities and enable 3D printing processes.

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Sources:

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