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Nothing beats the creamy, bittersweet goodness of durian. Its luscious and decadent yellowish flesh aside, do you know that their thick, thorny husks are also beneficial to mankind?



Credit – NTU Singapore

ADVERTISING

In an attempt to combat food wastage and to promote sustainable living in Singapore, a team of food scientists from **Nanyang Technological University (NTU)** developed organic hydrogel patches created using durian husks and glycerol—two waste products that are discarded in large quantities—turning waste into valuable biomedical resources.

By extracting high-quality cellulose from the husks and combining it with glycerol, a waste by-product from the biodiesel and soap industry, the team created a soft gel sheet that can be cut into bandages of various shapes and sizes.



Credit – NTU Singapore

Organic molecules produced from baker's yeast are then added to the sheets, making the hydrogel bandages deadly to bacteria, giving it its antibacterial effect.

Unlike conventional hydrogel patches which are made from synthetic materials alongside the addition of metallic compounds to give them their antimicrobial properties, these organic hydrogel bandages are not only less costly, but are also expected to have a smaller environmental footprint since they are non-toxic and biodegradable.



Credit – NTU Singapore

With wounds linking to chronic diseases becoming more of a common health burden and bacterial infections a serious risk to medical complications, the development of the new organic hydrogel bandages will not only help in reducing the chances of infection and scarring, but it also enhances the speedy recovery of the wounds since they also hydrate the surface.

Although the production of these organic hydrogel badges has yet to be commercialised, researchers are now in talks with industry partners to scale up its production. The good news is, if everything goes according to plan, we can expect to be using the hydrogel in two years time, without a hefty price tag and the smell that comes with it!