

# Singaporean scientists develop novel way to turn durian waste into superior antibacterial bandages



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**In a bid to address food waste in Singapore, local scientists have developed an essential medical use for discarded durian husks.**

**More sustainable durian:** Nanyang Technological University (NTU) scientists developed a process that turns husks from the popular Southeast Asian fruit into antibacterial gel bandages, [Reuters](#) reported.

- The fruit's husks are sliced and dehydrated at a low temperature in a process called [lyophilization](#).
- Cellulose powder extracted from the freeze-dried husks is then mixed with glycerol. When the mixture turns into a soft hydrogel, it is then cut into bandage strips.
- The organic antimicrobial hydrogel bandages can keep affected areas cooler and moister, healing wounds faster than conventional bandages.
- Because conventional bandages source their antimicrobial properties from costly metals, the hydrogel bandages are also cheaper to make.

**Environmental threat:** Durian husks, which get incinerated in Singapore, heavily contribute to environmental waste due to the sheer amount of durian the city-state consumes per year.

- "In Singapore, we consume about 12 million durians a year, so besides the flesh, we can't do much about the husk and the seeds and this cause (sic) environmental pollution," NTU's Food Science and Technology Program Director William Chen explained.
- According to Chen, the process can also be applied to other food wastes. By turning leftovers such as soya beans and spent grains into organic hydrogel, food waste in Singapore can be significantly reduced.
- Chen, who aims to [improve future food production systems](#), has been looking into ways to [upcycle food by-products](#).

- In 2019, he led [NTU scientists](#) in developing a process that turns the gum found in durian seeds into a natural food stabilizer with probiotics.