

WHAT ARE SINGAPORE'S 'ROBO-PLANTS' AND ARE THEY THE FUTURE OF SUSTAINABLE AGRICULTURE?

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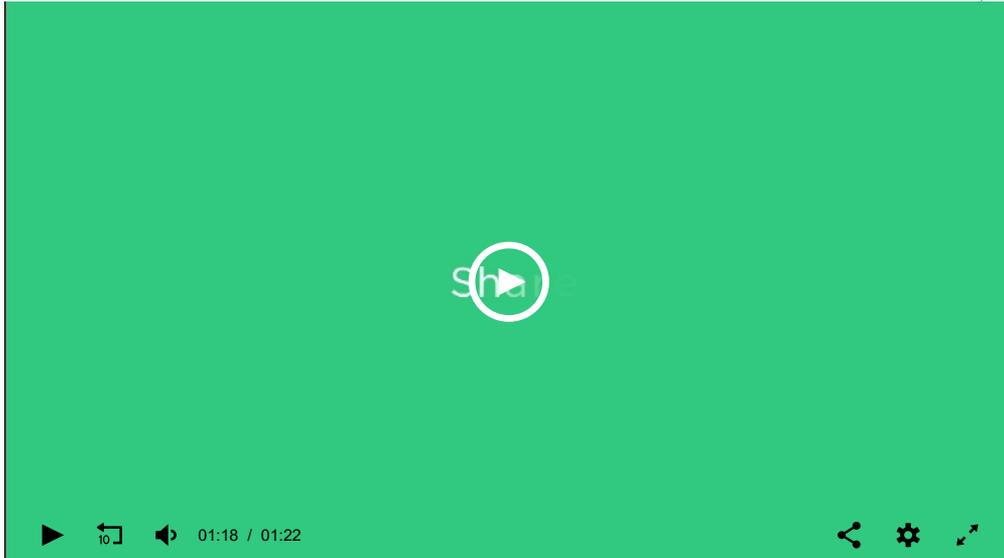
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The "robo-plants" are sending natural electric signals to scientists at Singapore's NTU - Copyright Canva

TEXT SIZE



Researchers in Singapore are engineering venus flytrap plants to help them learn more about diseased crops.

Nanyang Technological University (NTU) has created a setup for the "robo-plants" using the application of electrodes which are then controlled via mobile phone app. The flytraps naturally generate electricity which is conducted through hydrogel applied to the plants. It allows the scientists to be direct them through the weak **signals they produce** (<https://www.euronews.com/living/2021/02/01/scientists-have-taught-spinach-to-send-emails-and-it-could-warn-us-about-climate-change>).

The carnivorous plants are able to shut their mouths at the push of a button.

The study's implications for the **future of agriculture** (<https://www.euronews.com/living/2021/04/03/what-is-airbnb-farming-and-could-it-improve-the-wasteful-food-supply-chain>) are a source of great excitement to those working on the project.

RELATED • **How much does planting trees help to combat climate change?** (<https://www.euronews.com/2021/03/15/how-much-does-planting-trees-help-to-combat-climate-change>).

APPLYING TECH TO AGRICULTURE

NTU hopes the technology can be used in a more communications-focused way. The team wants to interpret signals emitted from **various plants** (<https://www.euronews.com/living/2021/04/07/the-underground-vegetable-farm-thriving-in-wartime-bunkers-below-london>) to detect things like distress from crop contamination.

"These signals will reflect the health status of the plants, so we hope to study the relationship of these signals and the environmental stresses and hopefully this will instruct agricultural practice," explains Luo Yifei, a researcher at **NTU**. (<https://www.euronews.com>)

They believe the same technology will be used to receive “very high quality signals from plants of all types of surface textures”.

It may one day prove to be a godsend to farmers around the world as they work to better monitor the wellbeing of **their crops** (<https://www.euronews.com/living/2020/12/18/why-planting-trees-in-cities-could-prevent-400-deaths-annually>).



Using new technologies to monitor crops is just one of the many ways future farmers will be able to keep up with growing demand - Canva

RELATED • **Meet the EU farmers using fewer pesticides to make agriculture greener** (<https://www.euronews.com/2021/03/16/50-less-pesticides-by-2030-the-european-green-transition-is-heating-up>).

HOW CROP INNOVATION BENEFITS US

Using electricity to detect problems in growing plants has the capability to assist other **precision agriculture** (<https://link.springer.com/article/10.1023/B:PRAG.0000040806.39604.aa>) methods in keeping out any problems facing our plant life.

Plant ecosystems play a pivotal role in keeping our food in ample supply.

Studies show that a “sustained improvement in agricultural productivity is central to socioeconomic development,” **according** (https://www.aaas.org/?_ga=2.64968687.1372263298.1617817559-981657326.1617817559) to the American Association for the Advancement of Science.

This is just one blend of **innovation and sustainability** (<https://www.euronews.com/living/2021/03/20/these-are-the-five-biggest-myths-around-sustainable-living>) that seeks to benefit all of us in the future. It could go hand in hand with other precision agriculture methods that serve to keep crops at their best quality.

But it's a waiting game.

The technology is not without its challenges. Scientists can stimulate the fly trap's jaws to close shut but are yet to develop the resources to reopen them - a process that takes 10 or more hours to happen naturally.

