

#INNOVATION

Genetically Engineered Houseplant

The future of air filtration is going green – literally



For those of us with seasonal depression or anxiety, houseplants can offer immense comfort. In fact, adding loads of leafy things to your home has been shown to boost mood and relieve anxiety. In short, they help us (metaphorically) breathe a bit easier. But now, a specially designed plant can literally clear the air.

A Paris-based start-up called Neoplants aims to harness the natural air-filtering properties of plants and turn them up to 11. By genetically engineering both a pothos (Epipremnum aureum) plant and its associated root microbiome, the team behind Neoplants created an organism they claim is capable of doing the air-purifying work of up to 30 plants. The company's first high-tech houseplant, called Neo Pl, recently hit the market.

Neoplants decided to tinker with flora because they wanted a way to purify air without using electricity - this was mainly for sustainability purposes, ensuring that their product wouldn't require power from fossil fuels and could recycle pollutants permanently.

Coincidentally, public interest in air quality has peaked in recent years. "One of the side effects of the pandemic is that people are much more aware of what's in the air they breathe," says Patrick Torbey, a molecular biologist and chief technical officer of Neoplants.

Not to mention, worsening wildfires sparked by climate change-fueled drought and rising temperatures have made indoor air quality a priority for the millions of people affected globally.

Now, by providing green, electricity-free air filtration, Neoplants hopes to rid your home of both pollutants and stress.

Here's the background - Volatile organic compounds (also known as VOCs) are highly reactive chemicals that are commonly found in things like paints, cleaning supplies, building materials, and pesticides. As a result, they tend to be abundant in indoor air. Unfortunately, they're not particularly good for human health - VOCs are known to cause headaches, eye and throat irritation, and in some extreme cases, even liver damage or cancer.

The trouble is, most VOCs are very tiny molecules, which makes them extremely difficult to remove from indoor air with a mechanical filter. Even the molecules large enough to



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