

Bioluminescent petunias: Light-up mushroom genes are secret ingredient in green glowing genetically modified plants — and they are now on sale

Consumers in the United States [can now pre-order](#) a genetically engineered plant for their home or garden that glows continuously. At a base cost of US\$29.00, residents of the 48 contiguous states can get a petunia (*Petunia hybrida*) with flowers that look white during the day; but, in the dark, the plant glows a faint green. Biotechnology firm Light Bio in Sun Valley, Idaho, will begin shipping a batch of 50,000 firefly petunias in April.

Researchers contacted by *Nature* seem enamoured by them. This is a “groundbreaking event” — to have made a plant that can bioluminesce brightly enough to be seen with the naked eye and sold to plant lovers, says Diego Orzáez, a plant biologist at the Institute of Plant Molecular and Cellular Biology in Valencia, Spain. “Being a European, I have envy that consumers in the United States can have their hands on these plants.”

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The firefly petunia glows brightly and doesn’t need special food thanks to a group of genes from the bioluminescent mushroom *Neonothopanus nambi*. The fungus feeds its light-emitting reaction with the molecule caffeic acid, which terrestrial plants also happen to make. By inserting the mushroom genes into the petunia, researchers made it possible for the plant to produce enzymes that can convert caffeic acid into the light-emitting molecule luciferin and then recycle it back into caffeic acid — enabling sustained bioluminescence.

[**This is an excerpt. Read the original post here**](#)