

## Glow-in-the-dark potatoes? In quest to develop healthier spuds, Israeli scientists genetically engineer plants that signal when stressed

Plant stress can be caused by drought, extreme temperature and high levels of light. (Not that dissimilar to humans who get testy when they're thirsty, hot or sunburned.) If farmers could get early warning signs of plant stress, they could take measures to protect their produce, such as more water, shade and cooling.

That's the goal proposed by [new research published](#) in Plant Physiology by Matanel Hipsch of the Hebrew University of Jerusalem's department of plant sciences.

Hipsch, under the direction of [Dr. Shilo Rosenwasser](#), connected molecular biosensors to potatoes to monitor them for real-time stress signals.

Why focus on the humble potato? It's a major food crop that comprises 40 percent of Israel's exports and is crucial for worldwide food security. Potatoes provide essential nutrients including dietary fiber, vitamins, minerals, protein and antioxidants.

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The Hebrew University team used genetic engineering to introduce a new gene to the potato. That gene was coded to a fluorescent protein, essentially creating potatoes that glow when they're feeling under the weather.

The researchers were then able to monitor the light emitted from the biosensors and determine the initial phase of plant stress responses.

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