

A GMO pothos that can clean the air, plus farm bill losses, and holiday wishes



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#### COMING UP THIS WEEK:

A GMO Houseplant  
Who's Been Nice?  
Midwest & Climate Change  
Sustainable Wins & Losses  
Happy Holidays

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## A GMO, Air-Cleaning Houseplant

The horticulture industry has always reminded consumers that they are not buying genetically-engineered plants on the greenhouse benches. But that could change.

Researchers at the University of Washington say they've **genetically engineered a pothos ivy** so that it can remove the air pollutants benzene and chloroform. Both of these compounds are common in households and have been linked to cancer, but they're too small to be filtered out by HEPA filters.

In their research, they found that unmodified pothos did not affect the concentration of either pollutant. But the modified plants placed in a tube with the pollutants dramatically reduced the concentrations. Chloroform decreased 82% after three days and was almost gone after day six. Benzene levels dropped a little slower, but by day eight, the concentration had decreased 75%. Next up, they're looking at how they can break down formaldehyde, another common air pollutant in homes.

However, the researchers say that if such a plant were to be placed in a traditional home, you'd need some kind of airflow system in order for the plant to affect the entire room.

Developments such as this are an interesting addition to the genetic engineering debate. To date, much of the push against genetic modifications has also been conflated with how the technology is being used. While GE corn and soybeans enable a farmer to spray herbicides over a crop, here's a technology where a gene is being used to reduce an existing pollutant.

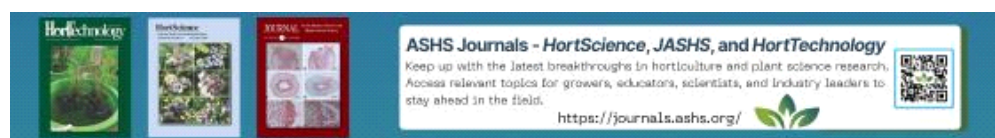


## Who's Been Nice?

It is the season of giving, and I'm glad to see a lot of businesses remembering that.

Westerlay Orchids in Santa Barbara, California, arranged a donation of all the proceeds from their retail orchid sales at their Carpinteria nursery December 10-15. They were able to send a total of \$21,030.19 to FOOD Share, a Ventura County food bank that will be instrumental in helping those who lost their homes in the November fires.

Did your business do something to give back this season? Let me know. I'd love to share your good deeds.

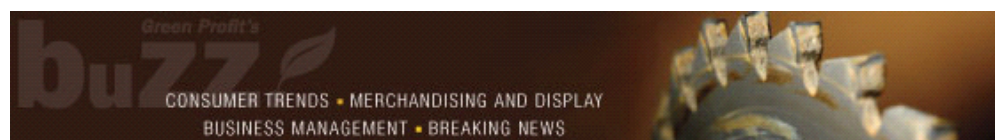


## Cornell Says Midwest is Vulnerable

How have changes in climate impacted the growing season? According to a new study from Cornell University, the Midwest is proving to be vulnerable to climate change.

The middle lands of the U.S., while fertile, also rely heavily on rainfall, rather than irrigation. The study looked at agriculture and climate data in every U.S. state, evaluating which regions have experienced changes and which are most vulnerable to those changes. The Midwest was identified as the area of largest concern, with several years of damaging summer conditions that caused major drops in productivity. Areas with more irrigation have been better able to withstand climate shocks.

You can read more on the study [HERE](#).



## Sustainable Wins & Losses

In the last issue, I talked about some of the things in the new Farm Bill, one important one being that the Rural Energy for America Program (REAP) was funded, and you can still apply for grants for renewable energy and energy efficiency improvements.

You should also take a look at the National Sustainable Agriculture Coalition's (NSAC) reports on the bill for an overview on how the bill affects sustainable agriculture. A few highlights:

The Organic Agriculture Research and Extension Initiative received \$395 million, bringing the program to permanent, baseline funding, which NSAC says is a huge win.

The Farmers Market and Local Food Promotion Program and Value-Added Producer Grants were rolled into one new program called Local Agriculture Market Program (LAMP). This received \$50 million per year in mandatory, permanent funds.

A new office was created and funded to deal with urban agriculture, called the "Office of Urban Agriculture and Innovative Forms of Production."

The Farm to School Grant Program did not receive any mandatory funding.

While the Conservation Stewardship Program (CSP) remained in the bill, long-term funding will be cut FY 2024-2029.

You can view the five-part 2018 Farm Bill Drilldown blog series at <http://sustainableagriculture.net/blog/>.

## Happy Holidays

As I get ready to take a few well-earned days off here, I'm looking forward to a few things. Cookies (always). The turn towards longer days. Enjoying the green and red theme for a bit longer—I love having poinsettias in the house. And more leisure time to enjoy winter.

And while I won't be in Severance, Colorado, for Christmas, I'm still a bit happier knowing they'll be able to [throw snowballs legally](#) this year.

Wishing everyone a happy holiday season!

*Until next time,*



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