

Anti-GMO salvo: Activists target transgenic trees that could protect endangered forests

Activists are opening up a new front in their campaign against genetic modification. The latest target is genetically-modified trees, which scientists believe could bring huge sustainability benefits as the increased development needs of a growing global population puts pressure on already dwindling forests.

But that's not how campaigners see it. Last week, the anti-GMO publication *Earth Island Journal* [accused](#) the University of Florida of censoring environmentalists who are critical of the technology after school officials cancelled their on-campus presentation about the supposed dangers of genetically modified trees.

The story behind the accusation is murky. The university says activists misrepresented themselves in setting up the talk and then tried to break into the building illegally after they were notified that their presentation had been canceled. Police were called and the group was escorted off the premises.

The Florida School of Forest Resources and Conservation is one of the leading academic institutions researching transgenic trees. In 2011, it partnered with South Carolina-based GE tree company ArborGen in winning a three-year, \$6.3 million grant from the Department of Energy to develop GE loblolly pines for liquid biofuel production.

Scientists have been developing genetically modified trees since the 1980s, but none has yet been approved for commercial use. Proponents say the technology offers a wide array of applications—from improving efficiency and sustainability in wood and paper industries to saving endangered forests from disease or pests.

Biotech watchdog groups claim GM trees could have disastrous effects on global ecology. “[Commercial] tree plantations are not forests,” writes the Sierra Club on its blog, because they are not grown to support the complicated structure of organisms that natural forests have evolved to do for millions of years.

“Genetically engineered trees pose an enormous risk to...forests,” says the Global Justice Ecology Project, which was behind the proposed Gainesville event. Working with ultra radical Earth First! they have rolled out an anti-GMO roadshow, Campaign to Stop GE Trees, and make presentations around the country. They claim that genetically modified trees “run the risk” of contaminating natural forests and “altering ecosystems...for centuries to come.”

Genetically engineered trees are looked upon as a next generation biotechnology innovation with direct consumer and environmental benefits. That sets them up as a target for campaigners who caricature GM technology as corporate money machines playing god with risky technologies. Last year, five global activist organizations, launched a multi-year offensive calling for an indefinite ban on GM tree development.

“The forestry industry is involved in developing GM trees for use in its industrial plantations, in order to achieve trees that can grow faster, have reduced lignin content for production of paper or agrofuels, are

insect or herbicide resistant, or can grow in colder temperatures,” a coalition spokesperson [stated](#). “This research is aimed at increasing their own profits while exacerbating the already known and very serious impacts of large scale tree plantations on local communities and biodiversity.”

In fact, much of the research focuses on rescuing threatened habitats. The University of Florida’s researcher partner, ArborGen—a South Carolina based company which uses the tagline, “more wood, less land,” has developed a eucalyptus variety that can withstand [freezing temperatures](#). The company spliced a fast-growing, high-fiber eucalyptus variety with a freeze-tolerant plant gene. The tree can survive in temperatures as low as 15 degrees Fahrenheit and could dramatically improve paper and pulp production.

FuturaGene, an Israeli biotech company, [has been field-testing](#) a GM eucalyptus tree in Brazil that grows faster and more massive than conventionally bred varieties. Using a gene from a fast-growing weed, the biotech company engineered a tree that can grow 16 feet a year with as much as 30 percent more biomass than conventionally bred varieties.

Stanley Hirsch, chief executive of FuturaGene, says its eucalyptus would increase productivity and lower costs. The gene-altering technique, Hirsch says, “is an industrial ‘game changer’ and integral to the United Nation’s vision of a future ‘global green economy.’” If the Brazilian government approves the GM eucalyptus for commercial production, the trees would be used for paper products, pellets for power stations, and as a source of biofuel for cars.

Genetic modification could also be used to [rescue endangered species](#), such as the American chestnut, which has all but disappeared because of a disease caused by an invasive fungus. Scientists with the [Forest Health Initiative](#), a North Carolina based collaborative effort involving government agencies, NGOs and private industry to explore genetic modification as a way to save endangered forests, are trying to develop a GM chestnut. The version would have a [strong resistance based on genes from Asian chestnuts](#). Because such ‘cisgenic’ trees contain only chestnut genes, researchers hope that the trees won’t provoke strong public objection. The U.S. Department of Agriculture has overseen field tests of several varieties of GM chestnuts in Georgia, Virginia and New York.

Scientists are also researching how to save Florida’s citrus trees devastated by a bacterial disease called ‘citrus greening.’ Developing a [disease-resistant](#) citrus tree through genetic modification could save the industry.

Activists dismiss these innovations across the board. *Earth Island Journal*, a relentless critic of GMOs, [says](#) that technology is unpredictable and could lead to an ecological disaster. GM trees, they say, would be at a greater risk of cross-pollinating native species. They claim the GM eucalyptus trees might turn invasive, alter local soil chemistry or disrupt the ecology of natural forests.

But the scientific consensus is that the new technology, when carefully developed and tested, offers unique benefits at very little risk. [Steven Strauss](#), Oregon State University forest biotechnologist, says that opposition to GM trees is mostly ideological. Reserves for forest industries already co-exist with reserves for maintaining natural habitats. Strauss suggests that reasonable precautionary measures are

appropriate.

GM trees should be cultivated at a “reasonable scale” for at least five to ten years, he says. “If it turns out to be difficult, you probably are in a good position to actually cut it down and destroy it.”

Additional resources:

- [“Poplars modified for ethanol production still fight bugs,”](#) Great Lakes Echo
- [“Genetically modified American chestnuts—the next Golden Rice?”](#) Institute for Agriculture and Trade Policy
- [“Organizations Push for Global Ban on Genetically Modified Trees,”](#) World Watch