

International
Bulletin:

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Genetically Engineered Trees

Genetically engineered (GE, or genetically modified) trees pose serious environmental risks and yet **research on genetically engineering trees continues**. A small number of companies have invested in GE tree development and there are a few key researchers working on GE tree projects at universities across the world.

GE eucalyptus is approved in Brazil but not yet planted

There are no GE trees planted commercially in Brazil. However, in 2021, **government regulators approved a GE herbicide-tolerant eucalyptus tree** (tolerant to the herbicide glyphosate) developed by the Brazilian pulp and paper company Suzano. Since then, Suzano has continued to seek approval from Brazilian regulators for other GE eucalyptus trees, including at least one insect-resistant tree.

The use of GE glyphosate-tolerant trees will likely result in increased **glyphosate** use on eucalyptus plantations that already negatively impact the environment as well as Indigenous peoples and many local communities including Quilombola (Afro-Brazilian peoples whose ancestors escaped slavery and formed their own autonomous communities).

In 2015, Suzano also got approval to plant a GE fast-growing eucalyptus tree, however, the company never released it, reportedly because other non-GE eucalyptus trees were just as, or more efficient.

Suzano is one of the world's largest pulp producers with approximately 1.6 million hectares of eucalyptus plantations in Brazil. Suzano is building a new factory in Brazil that will be the largest pulp plant in the world with a single production line. Suzano and its biotechnology subsidiary company FuturaGene hold over half of all permits ever granted for GE tree field tests in Brazil - all are for eucalyptus.

“Many and serious conflicts over access to land already exist, and living conditions of communities surrounded by Suzano’s operations have deteriorated to the point that communities are now struggling to guarantee their food sovereignty and are increasingly at risk of losing their territories.”

— [Open letter from Brazilian civil society groups to Brazilian regulators CTNBio, 2014](#)

Unregulated GE poplar trees planted in the United States

In 2023, the small U.S. venture capital company Living Carbon planted some GE poplar trees that they claim are fast-growing through “enhanced photosynthesis.” Living Carbon promotes these trees as a way to capture more carbon.

Living Carbon’s GE tree is not proven to work in real-world conditions nor over the long term and yet the company has raised millions from investors and is already selling carbon credits. In 2023, the company’s research was [published in a peer-reviewed journal](#), but its findings are based on a greenhouse trial that lasted for just four months.

According to Living Carbon, more than 8,900 GE poplars were planted from February to May 2023 at two sites in two US states. **These GE trees did not trigger a U.S. government environmental assessment** because these genetically modified organisms (GMOs) fall outside of the government’s increasingly narrow GMO regulation. This also means that there is no independent information about these GE trees. This lack of regulation raises the concern that more GE trees could be released in the future without any government oversight or public information.

GE American chestnuts could soon be approved for planting in the wild

US researchers at the State University of New York College of Environmental Science and Forestry (SUNY-ESF) are requesting approval to **plant a GE blight tolerant American chestnut tree (*Castanea dentata*) in the wild**. They are proposing to release this GE tree to replace or “restore” the American chestnut species that was decimated by a blight disease in the U.S and Canada.

The release of this GE tree would threaten the decades-long efforts of chestnut conservationists in Canada and the U.S. who are working to recover the wild American chestnut by supporting the reproduction of existing trees that exhibit higher blight tolerance, and breeding trees using non-GE methods.

The U.S. government is close to approving the release of the GE American chestnut (called “Darling 58” by the researchers). However, thousands of concerned individuals and organizations, including the Canadian Chestnut Council, wrote to the U.S. government opposing it. The U.S. researchers say they will also seek approval from the Canadian government but the status of this request is unknown.

The promise of “restoring” the American chestnut with the introduction of a genetically engineered tree comes with great risks. Forest ecosystems are highly complex and poorly understood. We do not know enough to assess how a GE tree will affect other trees, understory plants, insects, soils, fungi, wildlife, and human communities over time.

The Forest Stewardship Council reaffirms its GE tree ban

The Forest Stewardship Council (FSC) is the world’s leading certifier of forest products. The FSC **prohibits FSC-certified companies from commercially planting GE trees** or using them in certified operations or products (although FSC has allowed research and field testing of GE trees since 2011). However, FSC is under significant pressure by member companies such as Suzano, as well as some university researchers, to allow the commercial use of GE trees.

In 2023, the FSC board decided to cancel an FSC project that critics argue would have opened the door to FSC overturning its ban on GE trees. The project would have put FSC in a position to directly oversee field tests of some GE trees, functionally endorsing them and their risks.

The board decision followed months of sustained backlash from many FSC members and civil society groups around the world. **For now, companies such as Suzano cannot plant GE trees while keeping their FSC certification.**

Some governments are removing biosafety regulations for gene edited plants

Some national governments are removing regulations for some genetically engineered plants created by the new genetic engineering techniques of “gene editing” (genome editing) such as CRISPR. In some countries, this includes removing environmental safety regulations for gene edited trees. **These GE trees will not be subject to independent government risk assessments or risk management requirements.**

- In the United States, many gene edited trees and some other genetically engineered trees are exempt from regulation.
- In Japan, some new gene edited plants, including trees, are not covered by regulations.
- In the United Kingdom, new deregulation of gene edited plants could also apply to gene edited trees.
- The European Union is debating a European Commission proposal to remove regulation from most new GMOs including some gene edited trees.
- In Canada, many gene edited plants are now exempt from government environmental safety assessments but gene edited trees are still regulated because of pressure from environmental groups.

Around the world, the future of government risk assessments and risk management requirements for genetically engineered trees is uncertain.

RESOURCES

Danger: GE Trees, World Rainforest Movement (2023). A short booklet that introduces the risks of genetically engineered trees and the impacts of plantations. Available in English, Spanish, and Portuguese.

www.wrm.org.uy/publications/danger-ge-trees

The Global Status of Genetically Engineered Tree Development: A Growing Threat, Canadian Biotechnology Action Network & the International Campaign to STOP GE Trees (2022). A comprehensive report summarizing research into GE trees and the issues raised. Available in English, Spanish, and Portuguese.

www.stopgetrees.org/resources/global-status-report/

www.cban.ca/trees

For all references in this article visit

www.cban.ca/trees/bulletin2023

This bulletin is available in English, French, German, Spanish, Portuguese, Dutch, Swedish and Japanese at

www.stopgetrees.org/bulletin

Take Action

For updates and action alerts, subscribe to the newsletter of the International Campaign to STOP GE Trees. www.stopgetrees.org

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