Genetically engineered trees do not belong in our forests

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Two unmodified, open-pollinated chestnut burs, left, grow near several hand-pollinated, genetically modified samples, in bags at right, at the State University of New York's College of Environmental Science & Forestry Lafayette Road Experiment Station in

The COVID-19 pandemic has given us a rare interlude to evaluate the notion of business as usual. It has exposed mounting flaws and inequalities as a result of the collapse of an economic system that is stacked against us. There has been no respite, however, for the environment with Environmental Protection Agency rollbacks amid the pandemic, even though new viruses will likely continue to emerge and spread due to our destruction of forest ecosystems. Despite this, modern science continues to persevere with a new threat to native forests and wild ecosystems.

Trees, like genetically modified organism (GMO) crops are being engineered to have new traits such as faster growth, insect and disease resistance, herbicide tolerance and altered wood composition. Though none of these genetically engineered trees are legal yet, a blight-resistant American chestnut is being proposed for release in the U.S. and Canada.

The University of New England is partnering with SUNY College of Environmental Science & Forestry to develop the first ever genetically engineered forest tree. Researchers have genetically engineered an American chestnut tree to be resistant to the blight that has killed most of these trees in the wild. The tree is transgenic, meaning that it has been genetically engineered using genes from other species, mainly a gene from wheat, into a species that has never existed in nature before.

UNE is working with SUNY to speed breed genetically engineered tree seedlings that they intend to cross-breed with wild American chestnuts in natural forest ecosystems. Currently, UNE has a request pending with the U.S. Department of Agriculture for an outdoor field trial of these trees.

If legalized, this would be the first genetically engineered plant ever to be released into the wild with the intention of pollinating wild relatives. There are no long-term risk assessments of the genetically engineered American chestnut, and such assessments are not possible with trees that live hundreds of years. In fact, the oldest of these experimental trees is less than two decades old. This can hardly be used to claim blight tolerance and accurately assess the risks of these trees, their pollen or seeds to forests, wildlife or human health over the full life-span of the tree.

This unprecedented release would be an experiment with our forests, one that is irreversible with unpredictable impacts. Deregulation of the genetically engineered American chestnut would help the timber and paper industries by setting a precedent that would unleash the development of yet more genetically engineered trees for industrial plantations. This is where the vast majority of research into genetically engineered trees has been directed.

Nature is a complex web of life that has evolved over billions of years. The introduction of a new genetically engineered tree species, which has been backed by Monsanto, ArborGen, Duke Energy and other corporate interests, threatens the intricate functioning of forest ecosystems. The National Academy of Sciences warns that U.S. regulatory agencies do not have the capacity to assess the impacts of genetically engineered trees. Yet the USDA recently revised its biotechnology regulations to make future GMO approvals easier.

For too long our destruction of natural habitats has gone unchecked. The COVID-19 pandemic has brought to light the crises associated with our destructive tendencies and given us an opportunity to reimagine our world. It is an opportunity to recreate our relationship with nature, defend our environment and protect wild forests.

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