USDA MOVING TOWARD LESS OVERSIGHT, REGULATION REGARDING NEW GE TREES

in

- Genetically Engineered Trees [1]

SUMMARY: "Without regulatory oversight or public consultation, the USDA allows for the commercial production of a new GE pine variety. Yet opponents warn that the implications of introducing this GE product are unknown, and unknowable, without long-term studies."

Without regulatory oversight or public consultation, the U.S. Department of Agriculture has given the go-ahead to a biotech company to start introducing a genetically engineered (GE) pine tree that it has developed.

The green light came in the form of a letter dated Aug. 28 and signed by Michael Firko, director of the Biotechnology Regulatory Services under the USDA. This letter — and the green light it gives to ArborGen Inc. — was made public by Dr. Doug Gurian-Sherman, a biologist with the Center for Food Safety.

Noting that this may be the biggest environmental regulatory shift in the United States since the early 1990s, Gurian-Sherman asserts that the USDA “is deliberately thumbing its nose at the public by refusing to enact the regulations it has been authorized to use.”

“As recently as January 13, GE Loblolly pine, a native tree important in ecosystems throughout the southeast, was given a free pass—even though its possible impacts on the environment and the many species that depend on the tree is still largely unknown,” Gurian-Sherman writes.

ArborGen Inc. had sent a letter to the USDA’s Biotechnology Regulatory Services on Sept. 14, 2012, “to confirm that a loblolly pine with increased wood density developed without the use of any plant pest components is not subject to” Animal and Plant Health Inspection Service (APHIS) regulations.

Indeed, the letter states that the company’s GE loblolly pine (Pinus taeda) would not be considered a “regulated article” because “no plant pests are being used in developing these new varieties, the recipient organism itself is not a plant pest, and there is no reason to believe that any components used to develop these new varieties would make loblolly pine become a plant pest.”

The GE trees are being developed with a biolistic method of genetic transformation, using genes that increase wood density from the Monterey pine native to California. The marker gene was isolated from E. coli, a fully classified organism and not considered a plant pest.

The ArborGen letter also explains that increasing wood density is “a valuable economic trait for the pulp and paper industry, the solid wood products industry, as well as bioenergy applications.”

Yet not everyone shares the ArborGen’s enthusiasm about the prospects of this new tree variety. Plantations of eucalyptus, poplar, oil palm and pine trees around the world have a legacy of extending deforestation, destroying natural ecosystems, and violating human rights in local indigenous communities.

Anne Petermann, coordinator for the Campaign to STOP GE Trees, tells MintPress that the USDA’s move to allow ArborGen to plant the GE loblolly pine without either government or public oversight “is a disaster waiting to happen.”

“The pollen and seeds from these trees will inevitably and irreversibly contaminate native loblolly pines with traits the risks and impacts of which are unknown and unknowable without long-term

study over the entire lifespan of the tree, and probably not even then."

Green solution or environmental risk?

A November 2013 report from the Center for Food Safety, a Washington, D.C.-based environmental nonprofit, states: "[GE trees] are promoted as the new green solution with claims that they will save native forests, protect wildlife and biodiversity, mitigate climate change, and more. But behind these false promises is a very different reality."

"Instead," the report continues, "trees are being genetically engineered for a range of purposes aimed to accelerate large-scale, industrial monoculture tree plantations and increase profits for biotechnology companies as well as paper, biofuel, lumber, and energy industries."

Petermann warns that ArborGen has made a blanket determination that GE plants and trees do not inherently pose any risk.

"This is a patently ridiculous assertion when you consider that GE trees, for example, can live for many decades, can spread their pollen and seeds for up to hundreds of miles, and can irreversibly contaminate or invade wild forests," Petermann said.

Firko's letter responding to ArborGen, confirms that the GE loblolly pine is not a regulated article under the Plant Protection Act. Yet it also "strongly encourages" ArborGen to follow the guidance on producing and using forest trees established by the Institute of Forest Biotechnology, a nonprofit organization that addresses the sustainability of forest biotechnology on a global scale, which has composed recommendations for GE trees worldwide. The group's responsible use principles state:

Biotech trees should benefit people, the environment, or both;

Risks and benefits of biotech trees must be assessed;

Transparency is vital and stakeholders must be engaged;

Social equity and indigenous rights are important and must be respected;

Biotech tree use must follow regulations in the country of their application.

Susan McCord, executive director of the Institute of Forest Biotechnology, says the organization came together because no standard regulation exists for countries around the world — each country has its own regulations.

"E. coli is one of the plant genes already existing in nature," McCord told MintPress. "These plant genes are already out there. There's nothing intrinsically damaging about them."

There are hundreds of field trials with dozens of GE tree species around the world, according to the Center for Food Safety. Yet ArborGen's GE loblolly pine is the first GE forest tree to be approved for commercial production anywhere outside of China.

McCord emphasized the importance of containing field trials so that pollen or particles don't escape. The results of these trials must then be analyzed to determine whether the item meets safety criteria to reach deregulated status.

"We look at forest health," she said. "We need to have as much diversity as we can. The rate of invasive species, disease and climate change, we need a way to move forward in a methodical method. To do nothing will lose the diversity."

Very little is known

Loblolly pine grows naturally from southern New Jersey to central Florida and west through the Gulf States to eastern Texas, according to the U.S. Forest Service. It also thrives in

parts of Oklahoma, Arkansas and Tennessee. With .75 million acres harvested each year, it is the leading commercial timber species in the southeast. The pine is a key habitat for deer,

rabbit, squirrels, wild turkey and northern bobwhite, as well as more than 20 species of

songbirds which depend on it. Old-growth loblolly pine provides nesting habitat for the endangered red-cockaded woodpecker.

Little is known about how the introduction of ArborGen's GE loblolly pine will impact either the native species where it grows naturally or other species surrounding the GE loblolly pine plantations. As Petermann explains, the USDA is moving toward less investigation into these impacts and less regulation.

"Far from the major overhaul needed in the oversight and regulation of GMOs in the U.S. including GE trees, the USDA's APHIS, at the prodding of industry, is moving toward less regulation," Campaign to STOP GE Trees' Petermann said. "Not that there has ever been a real effort by the U.S. government to truly assess the risks of GMOs, including GE trees."

Petermann notes that rather than addressing this problem, the APHIS Strategic Plan for 2015-2019 states: "After rigorous scientific review, APHIS' regulatory determination that a GE organism does not pose a plant pest risk is a significant step in allowing new and innovative GE products to enter commerce."

"Very little is known about the complex interactions in forest ecosystems," she said. "How trees modified with completely unnatural traits will impact these intricate ecosystems is totally unknown. Scientists don't even know what questions to ask in a risk assessment, much less be able to answer them."

However, more than 25 years of scientific studies have demonstrated that genetically modified organisms (GMOs), engineered by whatever method, have not caused any harm to living creatures or the environment, according to Cathy O. Quinn, a communications and public affairs manager with ArborGen in South Carolina.

"The methods we used do not use plant pest components that have previously been used in the transfer of genes," Quinn said to MintPress. "Several companies have and are currently using this process in their development of products."

Meanwhile, Quinn said that there continues to be a growing need for more wood products.

"We are studying all those traits that our customers are asking for, including faster growth, greater density and disease resistance," she said.

Still, opponents argue that the USDA is ultimately being negligent by failing to provide the regulation and oversight the agency is mandated to undertake. Dr. Rachel Smolker, co-director of Biofuelwatch, says the goal of regulation is to prevent potential harms stemming from the use of GMOs or GE products.

"Their [USDA] regulatory process was set up when techniques for introducing alien genes largely depended on using certain bacteria and viruses that can invade cells and 'carry' the genes to insert them," Smolker told MintPress. "Those bacteria and viruses are potential plant pests and the regulatory structure was around preventing pests."

The USDA should be regulating products that are developed with new techniques, Smolker continued, "but they are hiding behind this claim that those are outside their scope because they do not involve 'pests.'"

"In general, USDA has been eager to deregulate GMOs willy nilly and this has provided them a new loophole."

Echoing McCord and Petermann's concerns about pollen, Smolker added, "In the end we just do not know what the impacts will be. For one thing, genes behave in unpredictable ways, and sometimes their effects change over time, especially possible in long-lived organisms like trees."

These trees are designed to have more dense wood, but Smolker warns that almost nothing is known about the implications of this genetic modification.

"We don't know what that will mean as far as their impact on fungi and soils and biodiversity," Smolker said. "Loblolly pine is a common species and contamination seems pretty much inevitable, and once it occurs, will be irreversible."

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