

Suicide-Seed Sequel: EU's "Transcontainer" Turns Terminator into Zombie

ETC Group today releases "Terminator: The Sequel," a Communiqué reporting on new research related to "suicide seeds" and other genetically modified (GM) seed technologies that pose unacceptable threats to farmers, biodiversity and food sovereignty.

Today ETC Group reports on a new crop of genetic engineering technologies that are being promoted as a biosafety solution to the unwanted spread of transgenes from GM crops, trees and pharmaceutical-producing plants. In practice, these technologies, if commercialized, will allow the multinational seed industry to tighten its grasp on proprietary seeds and to restrict the rights of farmers.

[The 28-page Communiqué](#) begins with an examination of the [European Union's 'Transcontainer' project](#), which is developing GM crops and trees for Europe that could be "biologically contained" through "reversible transgenic sterility." [The three-year project](#), which is part of the EU's Sixth Framework Programme, supports the goal of "co-existence" – the controversial idea that GM crops and non-GM crops can peacefully co-exist – and it aims to promote public acceptance of GM crops.

"We've always known that Terminator technology is simply too lucrative for the seed industry to abandon," says ETC Group's Hope Shand, "but it's outrageous that the European Union is using public funds to develop genetic seed sterilization." Shand adds, "The EU-funded Transcontainer project is especially disturbing in light of the European Parliament's strong anti-Terminator stance only last year." [The European Parliament passed a resolution](#) in March 2006 urging European delegates meeting at the CBD (United Nations Convention on Biological Diversity) in Curitiba, Brazil to uphold the *de facto* moratorium on Terminator. At the meeting governments unanimously re-affirmed and strengthened the moratorium, which recommends against the field-testing or commercialization of seeds that have been genetically engineered to produce sterile seeds at harvest. The United Nations uses the term GURTs (genetic use restriction technology) to refer to Terminator.

Apologists for the Transcontainer project argue that its aim is not to restrict seed use but to contain transgenes, and that the technology under development differs from Terminator because the seeds' sterility will be "reversible," so that seed fertility can be recovered – most likely through the application of a chemical. Hope Shand counters, "A scenario in which farmers would have to pay for a chemical to restore seed viability creates a new perpetual monopoly for the seed industry. Even if these 'Zombie seeds' are not being designed with the intent to restrict seed use, the reality is that farmers will end up having to pay for the privilege of restoring seed fertility every year. Zombie seeds are no more acceptable than suicide seeds – there is simply no such thing as a safe and acceptable form of Terminator," adds Shand.

ETC's report also examines new research on gene excision technologies (i.e.,

molecular methods to snip out transgenes at some point in a plant's life). Dubbed Exorcist by ETC Group, the technology is a strategy for both biocontainment and for restricting access to proprietary germplasm. In theory, DNA-excision could be designed to occur at any stage during the plant's development – before the GM plant flowers and produces pollen, for example, or before it becomes food. The excision process can be triggered by an external environmental or chemical stimulus, or excision can be designed to occur automatically at a particular stage in the plant's life. ETC's Kathy Jo Wetter explains, "In its current state, Exorcist is far from a failsafe biocontainment strategy – it won't work 100% of the time – but even if Exorcist can't fully contain transgenes, it could still function as a biological method to enforce patents by restricting access to proprietary traits."

Finally, [ETC Group's Communiqué](#) examines "extreme" biocontainment methods – molecular methods involving "conditionally lethal genes" capable of terminating plants and their transgenic DNA in the event that other containment strategies fail. The idea is that a "Pull-the-Plug" plant could be killed by triggering the lethal gene – by the application of an external chemical, for example – taking the GM trait down with it. If the lethal gene is not triggered, the plant lives and can pass on its foreign genes to the next generation. Ostensibly, these pull-the-plug plants are being developed as a back-up strategy for last-resort biological containment.

"There's also a more sinister possibility," suggests ETC's Silvia Ribeiro, "that companies could pull the plug on plants they believe are being grown without the proper licensing agreements. We've already seen biotech companies resort to nasty tactics to ferret out farmers suspected of possible patent infringement. Now companies could threaten to trigger the lethal gene or they could simply apply the chemical trigger to get positive or negative confirmation when they suspect the farmer of patent infringement."

Ribeiro concludes, "Zombie seeds, Exorcist seeds and Pull-the-Plug plants: these are all defective technologies that won't prevent the unwanted spread of transgenes from GM crops. But if governments can be convinced that biological containment of GMOs is possible using one of these new techniques – or a combination of them – it will open the floodgates to new markets for biotech plants, particularly GM crops and trees grown for biofuels. The result will be more heavily subsidized multinational companies and drastically increased risk of transgenic contamination."

Governments meeting in Rome at the FAO's Commission on Genetic Resources for Food and Agriculture are today considering a "code of conduct" on biotechnology. "If anyone needs more evidence of the urgent need for a biotech code of conduct, Zombie seeds and suicide seeds are it," says Pat Mooney of ETC Group.

Civil society organizations convening in Berlin next week (June 18-21) at the Second European Forum on Sustainable Rural Development should consider requesting that the European Commission cease funding for Zombie seed research, particularly because of its dangerous implications for 1.4 billion people who depend on farm-saved seeds.

ETC Group's report concludes with recommendations related to these "dual use" GURTs – new genetic modification techniques designed to contain transgenes and restrict access to proprietary germplasm. The CBD's scientific advisory body (SBSTTA) meeting in Paris, France, 2 - 6 July 2007 should recommend that

governments meeting at the 9th Conference of the Parties to the CBD (Bonn, Germany, 19-30 May 2008) strengthen the United Nations' moratorium on Terminator by recommending a ban on the technology.

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