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TO:	**Ministers of the Environment, Ministers of Science & Technology, and Delegates attending COP7 in Kuala Lumpur, Malaysia**
FROM:	**ETC Group (formerly RAFI), Hope Shand and Pat Mooney**
RE:	**GURTs or Terminator Technology**
DATE:	**8 January 2004**

The ETC Group, formerly known as RAFI, is a non-profit, international civil society organization based in Canada. The ETC Group is dedicated to the advancement of biological and cultural diversity and human rights.

We are writing to bring your attention to the critical issue of ***GURTs or Terminator seed technology*** that will be discussed at the Seventh Conference of the Parties (COP7) to the Convention on Biological Diversity, February 9-20, 2004.

What is Genetic Use Restriction Technology (GURTs)? Genetic use restriction technology is a very broad term that refers to the use of an external chemical inducer to control the expression of a plants' genetic trait. This could include the trait for sterility, or any other trait such as colour, ripening, cold tolerance, etc.

T-GURT refers to the restriction of a <u>specific trait</u> in a plant.

V-GURT refers to restriction of the <u>entire variety</u> by engineering plants that render sterile seeds. It is more popularly known as Terminator seeds, genetic seed sterilization, or technology protection system.

What is Terminator? Terminator technology (or V-GURTs) refers to plants have been genetically modified to render sterile seeds. For the past six years, Terminator has been widely condemned as an immoral application of genetic engineering. The Director General of FAO, the President of the Rockefeller Foundation, the Consultative Group on International Agricultural Research, and Maurice Strong, past Secretary General of UNCED, are among those individuals and institutions that have publicly disavowed the technology. Terminator has been on CBD's agenda since 1998.

Why was it developed? The technology was developed by the multinational seed/agrochemical industry and the US government as a biological mechanism to prevent farmers from re-using their harvested seed, and to maximize seed industry profits. <u>Genetic seed sterilization is a threat to world food security because it is a technology that offers the potential to restrict the food producing capacity of farmers.</u> Over three-quarters of the world's farmers, primarily poor farmers in the developing world, depend on farm-saved seed as their primary seed source. If commercialized, Terminator seeds will force dependence on external seed sources and it will extinguish the age-old practice of farmer selection and breeding.

Who holds patents on Terminator? The US government and Delta & Pine Land, the world's largest cotton seed company, jointly hold three patents on Terminator technology. Syngenta, DuPont, BASF and Monsanto are among the other multinational companies that have won patents on genetic seed sterilization. Some governments mistakenly assume that the seed industry has abandoned its quest to commercialize Terminator seeds in response to widespread public protest. Unfortunately, this is not the case. Agrochemical giant Syngenta applied for its most recent US patent on Terminator technology in August 2003. A recent paper authored by representatives of Monsanto and Delta & Pine Land for the International Seed Federation claims that Terminator seed will benefit farmers everywhere:

"The International Seed Federation (ISF) believes that GURTs have the potential to benefit farmers and others in all size, economic and geographical areas…the potential effects of the GURTs may be beneficial to small farmers and quite positive for the environment and biodiversity."[1]

What do GURTs/Terminator seeds have to do with biosafety? The seed industry is now waging an aggressive "greenwashing" campaign to promote Terminator technology as a biosafety tool for containing unwanted gene flow from genetically modified (GM) plants. They argue that engineered sterility offers a built-in safety feature for GM plants because if genes from a Terminator crop cross-pollinate with related plants nearby, the seed produced from unwanted pollination will be sterile – it will not germinate. There is growing evidence that escaped genes from GM plants are causing genetic contamination and posing threats to agricultural biodiversity and the livelihoods of farmers – especially in Third World centers of crop genetic diversity. Recent studies have confirmed that DNA from genetically modified maize has contaminated traditional maize grown by indigenous farmers in Mexico.

The very companies whose GM seeds are causing unwanted contamination are now insisting that society must accept their new and untested technology to contain genetic pollution. This is twisted and dangerous logic. If GM seeds are unsafe they should not be used. If they have polluted Third World centers of genetic diversity, the clean-up costs should rest with the companies. If Terminator wins commercial acceptance under the guise of biosafety, seed sterility will be incorporated in <u>all</u> genetically engineered plants. That's because seed sterility is the ultimate monopoly-maker. Terminator offers a much stronger monopoly than patents; unlike patents, there's no expiration date, no exemption for plant breeders, and no need for lawyers.

What impact will Terminator seeds have on resource-poor farmers?
Genetically modified Terminator seeds are not relevant to the needs of resource-poor farmers; but that doesn't mean poor farmers won't find Terminator seeds in their fields if they are commercialized. A recent study on Terminator conducted by Wageningen University for the Food and Agriculture Organization (FAO) warns that:

"Serious seed security risk can be expected for those already seed insecure poor farmers who are not able to save their own seed for the next season. Risk of crop losses due to absent viability

exist when poor farmers access the grain market for their seed (in many cases 20% of farmers), often at a late moment."

If imported grain contains Terminator genes and farmers unknowingly plant it as seed, it would not germinate. Similarly, farmers who depend on humanitarian food aid risk devastating crop loss if they unknowingly use food aid containing Terminator genes as seed.

Recommendations for COP7:
Over the past six years, the CBD and FAO have prudently requested that studies be conducted and experts convened to examine the potential impacts of GURTs/Terminator. These studies/consultations include:

- Report of The Ad Hoc Technical Expert Group Meeting on The Potential Impacts of Genetic Use Restriction Technologies on Smallholder Farmers, Indigenous and Local Communities and Farmers' Rights, Montreal, 19 - 21 February 2003, UNEP/CBD/AHTEG-GURTs/1/2, 10 September 2003.

- "Potential impacts of genetic use restriction technologies (GURTs) on agricultural biodiversity and agricultural production systems: follow-up to the first session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture, and the sixth Conference of the Parties to the Convention on Biological Diversity." FAO, September 2002 (English) (CGRFA-9/02/17) http://www.fao.org/ag/cgrfa/docs9.htm

- "Potential impacts of genetic use restriction technologies (GURTs) on agricultural biodiversity and agricultural productions systems: technical study" FAO, September 2002 (English) (CGRFA-9/02/17 Annex). Consequences of the use of the new technology http://www.biodiv.org/doc/meetings/cop/cop-06/information/cop-06-inf-01-rev1-en.pdf

- "Report on the impacts of the application of genetic use restriction technologies on indigenous and local communities and farmers' rights," CBD, Expert Consultation, Montreal, February 2002. (English/French/Spanish/Arabic/Chinese/Russian) (UNEP/CBD/COP/6/11/ADD1) http://www.biodiv.org/meetings/cop-06.asp

- "Consequences of the use of the new technology for the control of plant genetic expression for the conservation and sustainable use of biological diversity," FAO, June 1999 (UNEP/CBD/SBSTTA/4/9/Rev.1)

Despite the completion of numerous studies, a few Parties and governments are now requesting that COP7 call for *additional studies* on GURTs – a tactic that is designed to delay further action and debate on genetic seed sterilization. <u>Unless COP7 recommends that Parties take steps to prevent the commercial introduction of Terminator seeds, it will be too late – they will be commercialized within a few years.</u> COP7 will have an opportunity to unambiguously advise the international community that genetic seed sterility is a dangerous, anti-farmer technology that threatens biodiversity, poor farmers and global food security.

Proposed text:

Recalling decision V/5 of the Conference of the Parties to the Convention on Biological Diversity and, in particular, its paragraphs 23, 24 and 27,

Recalling decision VI/5 of the Conference of the Parties to the Convention on Biological Diversity, Noting that the Food and Agriculture Organization of the United Nations as well as the CBD and SBSTTA have conducted in-depth technical studies on the potential impacts of the applications of genetic use restriction technologies, and that the Ad Hoc Technical Expert Group on GURTs has analysed the potential impacts of GURTs on smallholder farmers, indigenous and local communities and on Farmers' Rights;

Recognizing the significant contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world;

Recognizing that germplasm under the control of GURTs is designed to produce sterile seeds and that GURTs would therefore not contribute to the enrichment of local genetic diversity;

Recognizing that GURTs are likely to reinforce current trends in concentration of breeding efforts in the private sector and will likely result in fewer options for smallholder farmers and indigenous and local communities, rather than widening breeding efforts to broaden the genetic base of crops through the stimulation of participatory crop breeding;

Recognizing that GURTs have the potential to reduce the quantity and variability of *in situ* cultivated germplasm from which selection can occur, thus negatively affecting traditional seed exchange, farm-level breeding and improvement of local crop varieties;

Recognizing that genetic use restriction technologies are not yet commercially available, but that the technology is designed as a mechanism to prevent farmers from re-using proprietary seed, and that commercial enterprises have indicated their intention to commericalise genetic use restriction technology in both developed and developing countries;

Recognizing that GURTs technology is likely to unintentionally enter the seed supply of smallholder farming communities, either through humanitarian aid channels or through informal seed markets;

Recognizing also that GURTs, if commercialized, could have a wide range of negative impacts on indigenous and local communities and smallholder farmers in particular, and, taking into account research assessments of potential risk and socio-economic impacts,

<u>Recommends</u> that, in line with the precautionary approach, Parties and other governments:

develop national regulatory frameworks to prohibit the introduction and commercial sale of any genetic use restriction technology involving food, feed and oilseed crops,

should not approve genetically modified seeds incorporating genetic use restriction technologies for commercial use because of the likely adverse impacts on agrobiodiversity of smallholder farmers and indigenous and local communities.

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[1] Harry B. Collins and Roger W. Krueger, "Potential Impact of GURTs on Smallholder Farmers, Indigenous & Local Communities and Farmers Rights: The Benefits of GURTs," p. 1. Paper made available to the CBD's Ad Hoc Technical Expert Group on the Impact of GURTs on Smallholder Farmers, Indigenous People and Local Communities, February 19-21, 2003, the official position paper of the International Seed Federation. The ISF position paper on GURTs (February, 2003) is available at: http://www.etcgroup.org/documents/collins_kreugerISF.pdf
A more recent ISF position paper on GURTs is available: http://www.seedquest.com/News/releases/2003/july/6168.htm