Ban Terminator Campaign
News Release
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Terminator Seed Battle Begins:
Farmers Face Billions of Dollars in Potential Costs

Curitiba, Brazil. After a week that has seen a worldwide mobilisation against Terminator technology, the issue of Suicide Seeds is about to hit the negotiating floor of the United Nations Convention on Biological Diversity (CBD) meeting in Curitiba, Brazil. Known to the CBD as GURTs (Genetic Use Restriction Technologies), Terminator crops are genetically modified to create sterile seeds at harvest so that farmers must buy new seed every season. Today the Ban Terminator Campaign, a global coalition of over 500 organisations, released new financial calculations indicating that Terminator seeds will impose a burden of billions of extra dollars in seed costs on some of the world's poorest nations.

The calculations, prepared by civil society organisation ETC Group in cooperation with farm organisations, show that if Terminator were commercialised, the extra seed costs for farmers in just seven countries could easily exceed $1.2 billion per year (3 times the amount spent on public agricultural research in the green revolution centres of the CGIAR or about half the yearly Canadian aid budget). Yet this amounts to just a fraction of the full financial windfall the seed industry could hope to extract from farmers if they were to apply Terminator technology to all their seed lines worldwide. This figure is thought likely to run to billions of extra dollars per year. In Brazil, host country to the CBD, soybean farmers could face US$407 million dollars (Brazilian Real $866 million) of extra seed costs if they were unable to re-use harvested seed. Even Canadian wheat farmers, whose government is one of the leading proponents of Terminator at the CBD, could be stung with an annual bill of US$85 million dollars.

The new calculations are being released in advance of an expected showdown later today between delegates from the global South and the four rich countries that have promoted "case by case risk assesment" for Terminator technology: Canada, New Zealand, Australia and the UK (supported on the sidelines by the US, which is not a party to the CBD). This "case by case" clause would open the door to field trialing and commercialisation of sterile seed technology.

"No wonder the multinational seed industry is so keen to win 'case by case' assessment of Terminator," explained Pat Mooney of ETC Group. "If they can undermine the existing moratorium, they will use Terminator as a technology platform for all commercial seeds and extract billions of extra dollars from farmers."

Roberto Requião, the Governor of Brazil's Paraná state, opened the CBD conference on Monday with a strong condemnation of Terminator.

"Suicide seeds are the next step in the transnational industry's strategy to control the production and commercial use of seeds," Requião told the opening plenary of 3000 delegates. "It is one more step by transnational industry to obtain total control over the production of the grain."

Outside the conference there were colourful protests yesterday as hundreds of peasant farmers waved flags and placards reading, "Suicide Seeds are Homicide Seeds." Protests this week have spread far beyond Curitiba: On Monday half of a million signatures were submitted to the Prime Minister of India calling on him to maintain India's national ban on Terminator seeds. In Ottawa, Canada, a thousand people gathered on Monday night to hold a public 'trial' of Terminator technology in an attempt to hold the Canadian government accountable. Smaller protests have occurred at the Canadian embassies in London and Berlin. On March 17th the European Parliament overwhelmingly passed a resolution urging European delegates to the CBD to uphold the existing moratorium on Terminator and to reject the "case by case" clause.

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The Potential Economic Impact of Terminator Seed Technology:
Estimates for Selected Crops and Countries

Background: The president of Delta & Pine Land, the world's largest cotton seed company, predicted in 1998 that Terminator could be used on over 400 million hectares of crops worldwide, and that it would provide seed companies with a safe way to introduce their patented seeds into countries like China, India and Pakistan - especially for crops like rice, wheat, soybeans and cotton.[i] He also speculated that the technology fee would range from a low of 50 cents per acre to $1.50 per acre for high-value crops. (1 hectare = 2.47 acres). Delta & Pine Land is now growing Terminator plants in greenhouses in the United States.

If farmers who now use farm-saved seeds were forced to buy new seeds every time they planted, what economic impact would it have on those countries?

The following case studies were compiled using statistics from national governments, farmers' organizations, trade groups and universities. These statistics are theoretical - but they illustrate what's at stake if the CBD fails to strengthen the de facto moratorium on Terminator and reject proposed language on "case-by-case risk assessment." If Terminator seeds are commercialized, the multinational Gene Giants will take total control over the first link in the food chain.

Brazil - Soybeans:
In Brazil, an estimated 70 percent of the 22 million hectare soybean crop is planted in farmer-saved seed. If Terminator seeds were commercialized and used in soybeans, it would cost Brazilian soybean farmers US$407 million per year (Brazilian Real $866 million).[ii]

Argentina - Soybeans:
In Argentina, an estimated 70 percent of the 14 million hectare soybean crop comes from farmer-saved seed and purchases of "bolsa blanca" (black market) seeds. If Terminator seeds were commercialized and used in soybean seed, the estimated cost would be US$276 million per annum (BRL$588).[iii]

Pakistan - Wheat:
In Pakistan approximately 88% of the total wheat area is planted in farm-saved seeds. If wheat farmers in Pakistan were forced to rely on Terminator seeds it would cost them an estimated US$191 million per year (BRL $406 million).[iv]

Pakistan - Cotton:
An estimated 40% of Pakistan's 3.15 million cotton area is planted in farm-saved cotton seed. The estimated cost if cotton farmers in Pakistan were forced to buy seed with Terminator technology: US$33 million per annum (BRL $70 million).[v]

Philippines - Rice:
In the Philippines, 59% of the rice crop is planted with farmer-saved seeds. If these rice farmers were forced to buy new seed every time they planted - they would spend an estimated US$172 million per annum (BRL $366).[vi]

Ethiopia - Wheat:

In Ethiopia, approximately 90% of the total wheat area is planted in farm-saved seed. If Terminator seeds were commercialized and Ethiopian wheat farmers were forced to buy new seed every time they planted, it would cost an estimated US$66 million per year. (140 BRL)[vii]

Iran - Rice:
In 2001-2002 more than 600,000 hectares under rice production in Iran, and more than 80% of the total rice area under cultivation was dedicated to local varieties, which implies farmer-saved seeds. If rice farmers in Iran who use farm-saved seed on an estimated 480,000 hectares were forced to buy Terminator rice seed, it would cost approximately US$34 million (BRL$72) [viii]

Canada - Wheat:
If Canadian wheat farmers (who now grow wheat on 8.36 million hectares with farm-saved seed) were forced to buy Terminator wheat seed, the total cost per annum would be US$85 million per annum (BRL$181).

Notes:

[i] Bill Freiberg, "Is Delta & Pine Land's Terminator Gene" a Billion Dollar Discovery*?" Seed and Crops Digest*, March/April 1998.

[ii] Sources: Central Cooperative for Agricultural Research (Coodetec); Enrique Ortega. FEA, Unicamp, Campinas,, Brasil, FAO.

Approximately 22 million hectares of soybeans were under cultivation in 2005/06. According to Central Cooperative for Agricultural Research (Coodetec), certified RR soybean seeds account for 2.5 million hectares of plantings - only 11.4% of the 22 million hectares under cultivation in the 05-06 growing season. We are using a conservative estimate that 70% of the total soybean crop in Brazil is planted in farmer-saved and/or black market seed. According to Enrique Ortega, the cost of certified soybean seed in Brazil per hectare/per year is US$25.20. 15.4 million hectares x $25.20 = $388 million. If Brazilian soybean farmers who are currently using farm-saved seed were forced to buy commercial seed every year they would spend $388 million on seed at current commercial soybean seed prices. If an additional fee of 50 cents per acre were charged ($1.23 per hectare $1.23 per hectare x 15.4 million hectares = $18,942,000. The total estimated cost to Brazilian soybean farmers, if Terminator seeds were commercialized and used in soybeans = $388 million + $19 million = $407 million.

[iii] Sources: Secretaria de Agricultura, Republica Argentina: http://www.sagpya.mecon.gov.ar/new/00/agricultura/otros/granos/soja.php; Walter Pengue, Professor of Agriculture and Ecology, University of Buenos Aires; In Argentina, approximately 70% of the soybean area is planted in farmer-saved seeds and seed purchased on the black market ("bolsa blanca"). Of the 14 million hectares of soybeans harvested in 2005, an estimated 9,800,00 hectares were sown with farm-saved soybean seeds. In Argentina, the cost of soybean seed (RR) is approximately US $27 per hectare. If farmers who are now using farm-saved seed were forced to use Terminator soybean seed, how much would they have to pay? 9,800,000 ha x $27 per ha = $264,600,000; estimated Terminator technology fee (50 cents per acre) = $1.23 per hectare: $1.23 x 9,800,000 = $12,054,000

Total = $264,600,000 + $12,054,000 = $276,654,000.

[iv] Sources: Lok Sanjh Foundation; www.nationalpak.com; FAOSTAT. Pakistan harvested approximately 8.3 million hectares of wheat in 2005. Only 12% of the total wheat area is planted with purchased seed. An estimated 7.3 million hectares of wheat are planted with farm-saved seed. The current price of wheat seed per hectare is approximately US$25.00. 7.3 million hectares x $25 per ha = $182,500,000
Estimated Terminator technology fee: $1.23 per hectare 7.3 million x $1.23 = $8,979,000
$182,500,000 + $8,979,000 = $191,479,000. Total estimated cost if wheat farmers in Pakistan (who are now growing wheat on 7.3 million hectares with farm-saved seed) were forced to buy seed with Terminator technology = $191,479,000.

[v] Sources: Sources: Lok Sanjh Foundation, USDA Foreign Agricultural Service. In 2005/06, Pakistan produced 3.15 million hectares of cotton. An estimated 40% of the total cotton area, 1,260,000 hectares, is planted in farm-saved cotton seed. Cost of commercial cotton seed per hectare is approximately US$25. $25 per ha x 1,260,000 hectares = $31,500,000 Terminator technology fee - $1.23 per hectare = $1.23 x 1,260,000 = $1,549,800
$31,500,000 + $1,549,800 = $33,049,800
Total estimated cost if cotton farmers in Pakistan (who are now growing cotton on an estimated 1.26 million hectares with farm-saved seed) were forced to buy seed with Terminator technology = $33,049,800.

[vi] Sources: Philippines Department of Agriculture; SEARICE, FAO.
Approximately 4.12 million hectares of rice were harvested in the Philippines in 2005. According to the Philippines Department of Agriculture, the area planted in certified, registered and hybrid rice for 05/06 targets = 1.68 million hectares. Of the 1.68 million ha, approx. 23% to hybrid rice; 77% to certified commercial rice seed. Approximately 41% total rice area in Philippines planted to purchased seed. An estimated 59% rice area planted to farmer-saved seeds and informal seed exchanges (SEARICE notes this is conservative estimate - in reality the area planted to farmer-saved seed is higher) With government subsidy the current price of hybrid rice is $24 per hectare. For two plantings of rice per year, the total is $48 per hectare/per year. Cost of self-pollinated commercial rice seed: $76.50 per hectare per year (two plantings)
If 389,000 ha planted in hybrid rice, the cost of seed = 389,000 x $48 = $18,672,000 (govt. subsidized price) If 1,291,867 ha planted in certified commercial rice, the estimated cost of seed (two plantings per annum) = 1,292,000 hectares x $76.50 = $98,838,000
What would be the cost if farmers were forced to buy seed for 2,420,000 hectares - the 59% of the total rice area now planted in farm-saved seeds? We calculate that 23% of total area is the cost of hybrid rice: 556,600 hectares x $48.00 = $26,716,800
Estimated additional technology fee of 50 cents per acre = $1.23 per hectare (1 hectare = 2.471 acres). The additional technology fee of $1.23 per hectare x 556,600 hectares = $684,618

$26,716,800 + $684,618 = $27,401,418

If 77% of Terminator rice area (1,863,400) - 77% of the area now devoted to farm-saved rice - was planted at cost of certified commercial (2 plantings per year = $76.50 per hectare) 1,863,400 ha x 76.50 = $142,550,100
1,863,400 ha x $1.23 = $2,291,982
77% of rice area calculated at cost of certified commercial seed + technology fee: Total = $144,842,082
144,842,082 + $27,401,418 = $172,243,500 - the total estimated cost if rice farmers in the Philippines (now growing rice on 2.4 million hectares with farm-saved seed) were forced to buy seed with Terminator technology.

[vii] Sources: FAO; Dr. Regassa Feyissa, former director, Institute of Biodiversity, Addis Ababa. More than 90% of the wheat crop in Ethiopia is planted in farmer-saved seed. The total wheat area harvested in 2005 was 1,200,000 hectares.

Approximately 1,000,000 hectares planted in farm-saved seeds. Price of commercial wheat seed in Ethiopia = approximately 525 birr per hectare = US$
1 Ethiopian Birr = 0.12443 US dollar 525 Birr = approximately $65.00 per ha
US$65 per hectare x 1,000,000 hectares = US$65,000,000 Estimated Terminator technology fee = $1.23 per hectare x 1,000,000 = $1,230,000
$65,000,000 + $1,230,000 = $66,000,000 per hectare
Ethiopian wheat farmers were forced to buy commercial wheat seed every time they planted, and if an additional technology fee of $1.23 per hectare were added to the price of commercial wheat seed, they would spend an estimated $66 million per annum.

[viii] Sources: Ministry of Jihad for Agriculture MJA, FAO/TCDC Mission to the Islamic Republic of Iran; N. Shobha Rani. On the Internet: http://www.fao.org/documents/ show_cdr.asp?url_file=//DOCREP/003/W8595T/ w8595t00.htm. According to FAO more than 80% of the rice land under cultivation is dedicated to local varieties, which implies farmer-saved seeds. In 2001-2002 more than 600,000 hectares were under rice production in Iran. In 2001-02 the average cost of commercial rice seed per hectare was 568,560 rials, about $70 US dollars at the exchange rate of the time.

Estimated technology fee = US$1.23 per hectare x 480,000 hectare = US$590,400 480,000 x US$70 = US$33,600,000 US$590,400 + US$33,600,000 = US$34,190,400