

# Hunger explained?

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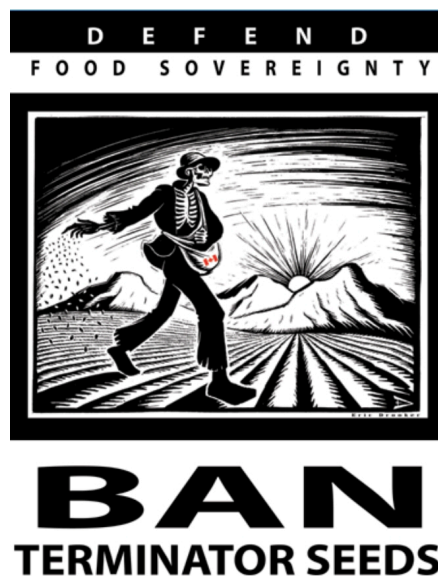
## **Brazil may approve the use of sterile GMO seeds using the so-called “terminator” technology in February 2014.**

This approval would break the global moratorium on “terminator” technology that dates back to 2000, when the [UN Convention on Biological Diversity](#) recommended governments not to approve field testing or commercial use of Genetic Use Restriction Technologies (GURT). This moratorium had been confirmed at the March 2006 UN Conference of Parties 8 meeting in Brazil.

The approval of this technology by Brazil, who is the second world GMO grower after the US, would most probably imply a cascade of approvals in several other countries, thus breaking the moratorium.

What are [GURTs](#)? They are technologies that incorporate a mechanism to restrict the utilization of a particular seed or of its specific characteristics. There are two types of GURTS:

- “Terminator” or Technology Protection System (TPS) which incorporates a sequence in the plant’s DNA that kills developing plant embryos, so seeds cannot be saved and replanted in subsequent years and farmers have to purchase new seeds every year
- “Traitors” or Trait-specific Genetic Use Restriction Technology (T-GURT) whose desirable traits (e.g. pest resistance or resistance to a particular herbicide) can be activated by the yearly application of a chemical or other treatment. In this case, the farmer can save and replant seeds, but cannot benefit of the controlled traits unless he/she purchases the activating chemical every year.



Both these technologies were developed to strengthen the property rights of corporations developing GMO seeds and secure their huge profits. All major seed and chemical

companies (Monsanto, Syngenta, Bayer, DuPont and others) are believed to hold patents on this type of technology.

It is the “terminator” or TPS technology which stands to be approved in Brazil. At this stage, the approval would however be limited to non-food crops only. Many believe, however, that this approval would open the door for broader approvals in the future, including for food crops.

When this technology was first developed in the 90s by US Department of Agriculture and the world's largest seed and agrochemical firms, arguments given by its proponents was that it could prevent the unwanted spread of GMO seeds and pollen in the environment and eliminate losses caused by pre-harvest or in-storage germination. Currently similar arguments are being put forward underlying that the technology could protect conventional and organic farmers by stopping GMO plant genes from spreading to other varieties, an issue of growing importance in countries where GMO crops are cultivated on a large scale. Opponents, stress that, besides obliging farmers to purchase every year new seeds or special chemicals, the sequence of genes creating the “terminator” effect could be disseminated in the environment and contaminate essential food crops making them sterile, with devastating consequences for humankind. The moratorium banning the technology was approved following massive worldwide demonstrations, particularly by farmers.

Brazil is the second GMO producer in the world, with around 40 million ha cultivated under GMOs. GMO utilization is growing fast and is expected to grow by a further 6.8% in 2014. The largest increase is expected for cotton (+35%). In Brazil, soybean cultivated are more than 90% GMO and for corn the proportion is 70%.

The GMO history in Brazil starts in 1998, when the sale of GMOs was banned following a lawsuit by the [Brazilian Institute for Consumer Defense](#). In 2003, the marketing of GMOs was again allowed provided the packaging indicated products which contain more than 1 percent genetically modified raw materials. In March 2005, the Bio-safety Act allowed for the use of transgenic organisms. The act outlined regulations for biotechnology research and created the organization that oversees this regulation, the Brazilian Technical Committee of National Biosafety ([CTNBio](#)).

In July 2013 a report prepared for the [National Brazilian Council for Food and Nutrition Safety](#) (CONSEA - Conselho Nacional de Segurança Alimentar e Nutricional) admits that all the cultivation approvals for GMOs in Brazil were given without prior sound and reliable scientific analyses, and without proper legal precedent, suggesting that all current GMO plantations in Brazil were illegal. [\[read here\]](#). At the same time [EMBRAPA](#), the autonomous national research organization, was trying to bring to market a GMO bean to fight off the golden mosaic virus.

It is clear from this quick historic review that GMOs are at the heart of an important struggle in Brazil, the outcome of which will have tremendous implications worldwide.

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For more information read:

- J. Watts and J. Vidal, [Unease among Brazil's farmers as Congress votes on GM terminator seeds](#), The Guardian, 2013.