

Appendix 3: Long-Term Persistent Liability

Although Monsanto claimed its Roundup was biodegradable, they were convicted of false advertising in the [United States](#)¹ and [France](#)² and were forced to remove the claim. In reality, glyphosate can take months or years to degrade, depending on soil conditions. [The longest recorded half-life for glyphosate degradation was 22 years.](#)³ Furthermore, its continued presence can negatively impact yields and soil biology.

GMOs, on the other hand, have no half-life. Contamination of the gene pool self-propagates, generation after generation. There have been hundreds of documented contamination incidents, and it is widely understood that there is no current technology that can de-contaminate a gene pool.

According to a [review document](#) on GMO shortcomings⁴:

GM genes cannot be controlled, contained, or recalled. Once released into the environment, they can persist and proliferate through cross-pollination and self-seeding. In addition, GM crops can be mixed with non-GM crops during harvesting, in storage, or in transport.

For these reasons, “coexistence” of GM with non-GM and organic crops inevitably results in GM contamination of the non-GM and organic crops. This removes choice from farmers and consumers, forcing everyone to produce and consume crops that are potentially GM-contaminated into the indefinite future.

GM contamination incidents have cost the food and GMO industry and the US government millions of dollars in lost markets, legal damages and compensation to producers, and product recalls. Examples include:

- In 2011 an unauthorized GM Bt pesticidal rice, Bt63, was found in baby formula and rice noodles on sale in China. Contaminated rice products were also found in Germany, Sweden, and New Zealand, where it led to product recalls. GM Bt rice has not been shown to be safe for human consumption. Bt63 contamination of rice imports into the EU was still being reported in 2012.
- In 2006 an unapproved experimental GM rice, grown for only one year in experimental plots, was found to have contaminated the US rice supply and seed stocks. Contaminated rice was found as far away as Africa, Europe, and Central America. In 2007 US rice exports decreased 20% from the previous year as a result of the GM contamination. In 2011 the company that developed the GM rice, Bayer, agreed to pay \$750 million to settle lawsuits brought by 11,000 US farmers whose rice crops were contaminated. A court also ordered Bayer to pay \$137 million in damages to Riceland, a rice export company, for loss of sales to the EU.
- In 2009 an unauthorized GM flax called CDC Triffid contaminated Canadian flax seed supplies, resulting in the collapse of Canada’s flax export market to Europe.
- In Canada, contamination from GM oilseed rape has made it virtually impossible to cultivate organic non-GM oilseed rape.
- Organic corn production in Spain has dropped as the acreage of GM corn production has increased, due to contamination by cross-pollination with GM corn.

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- In 2000 GM StarLink corn, produced by Aventis (now *Bayer CropScience*), was found to have contaminated the US corn supply. StarLink had been approved for animal feed but not for human consumption. The discovery led to recalls of StarLink-contaminated food products worldwide. Costs to the food industry are estimated to have been around \$1 billion. One study estimated that the StarLink incident resulted in \$26 million to \$288 million in lost revenue for producers in 2000–2001.

Syngenta has not been without its own legal problems. Syngenta's own corn variety Agrisure Viptera [contaminated U.S. corn shipments to China](#), prompting the nation to reject multiple shipments at a price tag between \$1 billion to \$3 billion.⁵ Farmers in 20 states have filed more than [1,800 lawsuits against Syngenta](#)⁶ based on Syngenta knowing that the [Agrisure Viptera contamination](#) of the U.S. corn supply was inevitable, and Syngenta gambled with the farmers' livelihoods.⁷

¹ <http://big.assets.huffingtonpost.com/fraud.pdf>

² BBC News (2009) "Monsanto guilty in 'false ad' row," (Oct) <http://news.bbc.co.uk/2/hi/europe/8308903.stm>

³ Ternan, N.G., Mc Grath, J.W., Mc Mullan, G., Quinn, J.P., 1998. Review: Organophosphonates: occurrence, synthesis and biodegradation by microorganisms. *World Journal of Microbiology and Biotechnology* 14, 635–647. <http://link.springer.com/article/10.1023/A:1008848401799>

⁴ Claire Robinson, "10 reasons we don't need GM foods," <http://www.gmwatch.org/files/10-reasons-we-dont-need-GM-foods.pdf>

⁵ Bloomberg Business (2014) "U.S. Grain Losses Seen Up to \$6.3 Billion on China Ban," <http://www.bloomberg.com/news/articles/2014-04-16/u-s-group-says-losses-may-be-6-3-billion-on-china-corn>

⁶ Omaha.com (2015) "Farmers file more than 360 corn lawsuits against Syngenta," (Feb). http://www.omaha.com/money/farmers-file-more-than-corn-lawsuits-against-syngenta/article_89b623ca-ae29-11e4-99ae-939ab4ab9d1e.html

⁷ The Legal Examiner (2015) "Federal judge sends GMO corn lawsuits back to state court," (Jun). <http://chicago-land.legalexaminer.com/defective-dangerous-products/federal-judge-sends-gmo-corn-lawsuits-back-to-state-court/>