

# Genetic Engineering: The Global Food and Agricultural Crisis

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Theme: [Biotechnology and GMO](#)

*In 2012, Professor Seralini of the University of Caen in France led a team that carried out research into the health impacts on rats fed GMOs (genetically modified organisms) (1). The two-year long study concluded that rats fed GMOs experienced serious health problems compared to those fed non GM food. Now comes a new major peer-reviewed study that has appeared in another respected journal. This study throws into question the claim often forwarded by the biotech sector that GMO technology increases production and is beneficial to agriculture.*

Researchers at the University of Canterbury in the UK have found that the GM strategy used in North American staple crop production is limiting yields and increasing pesticide use compared to non-GM farming in Western Europe. Led by Professor Jack Heinemann, the study's findings have been published in the June edition of the International Journal of Agricultural Sustainability (2). The research analysed data on agricultural productivity in North America and Western Europe over the last 50 years.

Heinemann states his team found that the combination of non-GM seed and management practices used by Western Europe is increasing corn yields faster than the use of the GM-led package chosen by the US. The research showed rapeseed (canola) yields increasing faster in Europe without GM than in the GM-led package chosen by Canada. What is more, the study finds that it is decreasing chemical herbicide and achieving even larger declines in insecticide use without sacrificing yield gains, while chemical herbicide use in the US has increased with GM seed.

According to Heinemann, Europe has learned to grow more food per hectare and use fewer chemicals in the process. On the other hand, the US choices in biotechnology are causing it to fall behind Europe in productivity and sustainability.

The Heinemann team's report notes that incentives in North America are leading to a reliance on GM seeds and management practices that are inferior to those being adopted under the incentive systems in Europe. This is also affecting non GM crops. US yield in non-GM wheat is falling further behind Europe, "demonstrating that American choices in biotechnology penalise both GM and non-GM crop types relative to Europe," according to Professor Heinemann.

He goes on to state that the decrease in annual variation in yield suggests that Europe has a superior combination of seed and crop management technology and is better suited to withstand weather variations. This is important because annual variations cause price speculations that can drive hundreds of millions of people into food poverty.

The report also highlights some grave concerns about the impact of modern agriculture per

se in terms of the general move towards depleted genetic diversity and the consequently potential catastrophic risk to staple food crops. Of the nearly 10,000 wheat varieties in use in China in 1949, only 1,000 remained in the 1970s. In the US, 95 percent of the cabbage, 91 percent of the field maize, 94 percent of the pea and 81 percent of the tomato varieties cultivated in the last century have been lost. GMOs and the control of seeds through patents have restricted farmer choice and prevented seed saving. This has exacerbated this problem.

Heinemann concludes that we need a diversity of practices for growing and making food that GM does not support. We also need systems that are useful, not just profit-making biotechnologies, and which provide a resilient supply to feed the world well.

### **Despite the evidence, governments capitulate**

Given the mounting evidence that questions the efficacy and safety of GMOs (3,4,5,6,7), it raises the issue why certain governments are siding with the biotech sector to allow GMOs to be made available on commercial markets. It is simply not the case that country after country is accepting GMOs on the basis of scientific evidence, as scientists-cum-lobbyists for the GM sector often state (8). If scientific evidence were to be determining factor, few if any countries would have sanctioned GMOs.

Part of the answer lies in the fact that the powerful US biotech sector continues to forward its agenda that GMOs are a frontier technology that will save humanity from famine and hunger. This is despite evidence that most of the world's hunger is the product of profiteering industrial chemical agriculture and the global structuring of food production and distribution under the banner of 'free trade' and 'structural adjustment' (9,10), or as many of us know it brow beating and structural dependency.

Yet, the mantra of GM as the saviour of humanity persists courtesy of the GM sector's puppet politicians and regulatory bodies (11). The US is pushing for lop-sided bilateral trade agreements with other countries not only to generally tie economies into US economic hegemony in an attempt to boost its ailing economy and flagging currency, but more specifically to get nations to 'accept' GMOs. Through behind-closed-door deals (12,13) coercion (14) or the hijack of regulatory bodies (15), there has been some success, and many think it could be just a matter of time before other countries, not least India, capitulate to allow GM food crops onto the commercial market.

In fact, regardless of any legal statute, it may be and probably is already happening in India, not least via contamination (16). However, if contamination by means of illegal planting and open field 'testing' fails to get GMOs on to the commercial market via the back door, the GM sector is attempting to cover all angles. Immediately after a moratorium on BT Brinjal was announced in 2010, a Biotechnology Regulatory Authority of India (BRAI) Bill suddenly emerged. The BRAI Bill could not be passed in 2010 and 2011 because of objections, but it has surfaced again as a 2013 Bill. Environmentalist Vandana Shiva argues that it not so much constitutes a Biotechnology Regulation Act, but a Biotechnology Deregulation Act, designed to dismantle the existing bio-safety regulation and give the green-light to the GM sector to press ahead with its agenda in the country.

By highlighting the GM sector interests behind the proposed legislation, Shiva says that the goal is to give the sector's corporations immunity by freeing them of courts and democratic control under India's federal structure. For those who follow such developments in India, it

doesn't take a great deal of imagination to appreciate that the future of Indian agriculture is in the wrong hands. Certain key scientists and top politicians have already been ideologically (or otherwise) 'bought and paid for' by proponents of the 'Green Revolution' and more recently the GM sector (7).

On a global level, with reports of wheat (17), rice (18) and maize (19) having been widely contaminated with GMOs, there seems to be a conscious ploy to contaminate so much of the world's crops so that eventually GMOs take over regardless and render the pro/anti GM debate almost academic (20).

It seems that secretive trade deals, the hijack of official bodies designed to ensure the 'public interest' and bullying or intimidation are not enough. Contamination strategies are but one more way of achieving through closed and non-transparent methods what could not be possible by transparent and democratic means - simply because hundreds of millions of people do not want GMOs.

A generation down the line (or much sooner), will we looking at the health and environmental consequences of GMOs in the same way we now regard the impacts of the original 'Green Revolution'?

"There are very good reasons why we have never introduced a Green Revolution into Africa, namely because there is broad consensus that the Green Revolution in India has been a failure, with Indian farmers in debt, bound to paying high costs for seed and pesticides, committing suicide at much higher rates, and resulting in a depleted water table and a poisoned environment, and by extension, higher rates of cancer." Paula Crossfield, food policy writer/activist (21).

We don't have to take Paula Crossfield's word for it, though. Punjab was the 'Green Revolution's' original poster boy, but is fast becoming transformed from a food bowl to a cancer epicenter and now reels under an agrarian crisis marked by discontent, debt, water shortages, contaminated water, diseased soils and pest infested crops (22,23,24).

In the meantime, big 'ag' in collusion with big pharma will continue to control our food and define our healthcare by pushing their highly profitable 'miracle solutions' for the health and environmental problems which they conspired to create in the first place. It is all part of the wider corporate-elite agenda to colonise and control every facet of human existence.

Notes

- 1) <http://www.sciencedirect.com/science/article/pii/S0278691512005637>
- 2) <http://www.tandfonline.com/doi/full/10.1080/14735903.2013.806408#tabModule>
- 3) <http://www.greenmedinfo.com/blog/new-study-confirms-wheat-autism-link-0>
- 4) <http://www.greenmedinfo.com/blog/it-time-acknowledge-roundup-herbicide-contraceptive>
- 5) <http://www.responsibletechnology.org/gmo-dangers>
- 6) <http://vidarbhatimes.blogspot.co.uk/2012/11/maharashtra-reports-btcotton-failure-in.html?m=1>
- 7) )

<http://www.globalresearch.ca/india-genetically-modified-seeds-agricultural-productivity-and-political-fraud/5328227>

8) <http://www.deccanherald.com/content/311963/ban-gm-crops-imperil-indian.html>

9) <http://www.globalresearch.ca/our-hunger-games/5302603>

10) <http://cchronicle.com/2010/10/focus-on-hunger-interview-with-vandana-shiva/>

11) <http://renewse.com/general33/fd.htm>

12) <http://www.global-sisterhood-network.org/content/view/799/76/>

13)

<http://www.globalresearch.ca/us-eu-free-trade-agreement-a-corporate-stitch-up-by-any-other-name/5339789>

14) <http://www.rawstory.com/rs/2010/12/20/us-retaliation-list-gm-crops-cablegate/>

15) <http://www.globalresearch.ca/stench-of-eu-corruption-in-monsanto-gmo-whitewash/5316294>

16) <http://www.globalresearch.ca/the-death-of-rice-in-india/9562>

17) <http://rt.com/news/monsanto-wheat-japan-exports-026/>

18) [http://www.gmcontaminationregister.org/index.php?content=nw\\_detail2](http://www.gmcontaminationregister.org/index.php?content=nw_detail2)

19) <http://www.scidev.net/global/gm/news/mexico-confirms-gm-maize-contamination.html>

20) <http://www.nwrage.org/content/2005-was-very-good-year-biotech-food-industry>

21) <http://civileats.com/2009/07/10/g8-promises-15-billion-in-agricultural-aid/>

22) <http://www.deccanherald.com/content/309654/punjab-transformation-food-bowl-cancer.html>

23)

<http://sagarmediainc.wordpress.com/2013/06/07/punjab-indias-grain-bowl-now-reels-under-agrarian/>

24) <http://www.amazon.com/The-Violence-Green-Revolution-Agriculture/dp/0862329655>

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