

# “Learning to Loath GMOs”: Genetic Engineering, Genetic Modified Plants, Biotechnology and Big Agriculture

Response to the New York Times

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*In its July 19<sup>th</sup> issue, the New York Times Magazine published, in our opinion, a brilliant piece of twisted pseudo-scientific propaganda. The essay, entitled “Learning to Love GMOs,” is truly stunning. Its author, journalist Jennifer Kahn, takes readers who would have little to no understanding of genetic engineering and genetically modified organisms (GMO) through a fictional labyrinth of out-dated and conflated GMO similitudes to an end point where readers might believe GMOs are really cool and there is nothing to be frantically worried about.*

Kahn spins the story of Cathie Martin’s research to develop a genetically engineered purple tomato high in the anti-oxidant anthocyanin as the work of a solo humanitarian to improve consumers’ health by providing nutrient-rich GMO produce. What is missing from Kahn’s equation is that the research was conducted at one of the world’s oldest and most prestigious independent centers for plant science, the Johns Innes Centre (JIC) in the UK. The Centre, which is registered as a charity, lists over 500 employees and is funded by some of **the largest proponents of genetic-modified plants, including the Bill and Melinda Gates Foundation and the Biotechnology and Biological Sciences Research Council**. JIC’s website includes purple tomatoes as one of its projects that combines “transcription factors, biosynthetic genes and iRNA [interference RNA] with the availability of natural tomato mutants.” iRNA, or Post-Transcriptional Gene Slicing, is a method to silence certain genes that researchers desire to curtail their expression.

The *Times* article makes an effort to advance the flawed agro-chemical mantra of “substantial equivalence” without citing the term. Substantial equivalence is a metaphysical belief that natural foods and crops can serve as a basis for determining the safety and nutritional profiles for foods engineered by genetic biotechnological methods. The early acceptance of GMOs was largely based upon the unproven hypothesis of “substantial equivalence.” The USDA’s adoption of this concept during Bill Clinton’s first term in the White House gave GM seed companies a free pass to avoid submitting trial evidence to prove the environmental and health safety of genetically modified crops. Since the ruling claims that GMOs genetically function identically to their natural counterparts, no

compliance of safety regulations should necessarily apply. Therefore Big Ag firms did not have to worry over strict regulatory hurdles, which otherwise apply to other products such as pharmaceutical drugs, processed foods, pesticides, cosmetics and chemical additives.

However, during the past decade a flurry of research has shown that the “substantial equivalence” hypothesis is patently false. Alexandria University in Egypt, the Permaculture Research Institute and the Norwegian Center for Biosafety each found genetically modified crops to be fundamentally different. In addition, studies have confirmed that nutrient levels in traditional, organically raised grown crops are substantially higher than GM varieties. New technological methods to create concise profiles of a food’s molecular composition, notably “omics,” were not available in the early 1990s when Clinton wore the mantle as America’s first biotech president. Omic technology destroyed the Big Ag’s industry’s arguments to support the lie about substantial equivalence. For example, Kings College London published a study in *Scientific Reports of Nature* revealing unquestionable genetic consequences between GMO Roundup and non-GMO corn. The differences include changes in 117 proteins and 91 metabolites.

Despite “substantial equivalence” having been debunked, the erroneous hypothesis continues to linger in pro-GMO propaganda. However, in Kahn’s recent essay, she attempts to shift attention away from the early generation of GMOs, which were engineered solely to sell more toxic pesticides, and emphasize GMO’s potential for increasing nutritional health and to advance medicine. In order to add a bit of balance, [Kahn quotes](#) James Madison University professor Alan Levinovitz who accurately described one fundamental criticism, among many others, against GMOs. “With genetic engineering there’s a feeling that we’re mucking about with the essential building blocks of reality,” Levinovitz stated. “We may feel OK about rearranging genes, the way nature does, but we’re not comfortable mixing them up between creatures.”

But most disturbing is Kahn’s failure to make any mention of the trail of environmental disasters and disease risks due to consuming genetically modified foods. She whitewashes the matter; she prefers we may forget that Monsanto’s soy and corn, which now represent the majority of these foods grown in the US, was developed solely to allow farmers to spray highly toxic pesticides without injuring the crops.

These crops contain notable concentrations of the pesticides that then find their way into numerous consumer food products including baby foods. Nor should we forget that Round-Up grown foods may be destroying people’s microbiome. [Last year](#), researchers at the University of Turku in Finland reported a “conservative estimate that approximately 54% of organisms in our microbiome are “potentially sensitive” to glyphosate. Despite her pro-GMO advocacy, Kahn could have taken a moral high road to at least apologize on Monsanto’s behalf for the disasters glyphosate has left in its wake. The company [has yet to atone](#) despite losing three trials with \$2.4 billion fines, repeated appeal losses, and being ordered to pay \$10.5 billion in settlements. To date Monsanto’s glyphosate poisoning has been [identified with](#) the suppression of essential gut enzymes and amino acid synthesis, gluten intolerance, disruption of manganese pathways, neurological disease, cancer, amyloidosis and autoimmune disease. Her *New York Times* article would have better served the improvement of public health as a warning rather than an applause to appease companies such as Bayer/Monsanto and Syngenta. And shame on the *New York Times*’ editors for permitting such biased misinformation to find its way into print.

Kahn is eager to cite findings showing GMO benefits without indicating her sources. She tells us that environmental groups have “quietly walked back their opposition as evidence has mounted that GMOs are both safe to eat and not inherently bad for the environment.” Kahn doesn’t mention who these groups might be. She reframes the Philippine story of the destruction of genetically engineered Golden Rice; yet around that time even the pro-industry magazine *Forbes* published an article questioning Golden Rice’s viability and noting that its benefits are only based upon unfounded hypotheses. As for its risks to health, GM Watch in the UK points out the [work conducted](#) by David Schubert at the Salk Institute revealed that the rice might potentially generate Vitamin A derivatives that could “damage human fetuses and cause birth defects.”

Kahn, who should be acknowledged as a highly respected science journalist and teaches journalism at the University of California’s Berkeley campus, happens to be a contributing author for the Genetic Literacy Project (GLP) at the University of California at Davis, acts more like a public relations operation sponsored by the agro-chemical industry. Monsanto/Bayer, Syngenta and DuPont are among GLP’s industry partners.

It is one of the most frequently quoted sources of cherry-picked information by pro-GMO advocates and journalists. In our opinion, it is perhaps one of the most financially compromised and scientifically illiterate organizations, founded and funded to disseminate pro-GMO propaganda in order to prop up public support for GMOs and genetic engineering in general. In effect, some universities now act as private industry’s lobbyists. This becomes a greater scandal when the university is a public institution receiving public funding. GLP and its east coast partner, Cornell University’s Alliance for Science, largely funded by the Bill and Melinda Gates Foundation, serve as the GMO industry’s clearing houses for public relations to spin science into advertising, propaganda and character assassination of GM opponents.

The Genetic Literacy Project is a key collaborator with another food industry front organization, the American Council on Science and Health (ACSH). ACSH has nothing to do with actual health science. It has been described by the independent corporate financial watchdog organization Sourcewatch as a thinly veiled corporate front that holds “a generally apologetic stance regarding virtually every other health and environmental hazard produced by modern industry, accepting corporate funding from Coca-Cola, Syngenta, Proctor Gamble, Kellogg, General Mills, Pepsico, and the American Beverage Association, among others.” ACSH also favors toxic pesticides, the use of biphenol A in products, cigarettes and hydrofracking. It is closely aligned with pseudo-medical front organizations that criticize alternative and natural health modalities, such as Quackwatch and the Science Based Medicine network.

GLP sources a couple thousand corporate-friendly studies favoring GMO benefits and safety. One review of over 1,700 studies, known as the Nicolia Review, for a time was the most cited source making the broadest claims for GMO safety. However subsequent independent and unbiased reviews of Nicolia’s analysis concluded that many of these studies were tangential at best and barely took notice of anything related to crop genetic engineering.

Many studies are completely irrelevant from a value-added perspective because they have nothing to do with GMO safety. Furthermore, other studies in Nicolia’s collection conclude the exact opposite of their intention and give further credibility to GMOs environmental, animal and human health risks. When Nicolia published his review, he omitted and ignored scientifically sound research that directly investigated GMO safety and found convincing

evidence to issue warnings. [For example](#), one peer-reviewed publication by over 300 independent scientists declared that there is no scientific consensus that GM crops and food are safe. Not surprisingly, there is no mention of this study in the Nicolia Review.

It is no secret that Monsanto and Big Ag have significant influence over UC-Davis's agricultural department and divisions. The bogus economic studies trumped up by the Big Ag cartel to defeat California's GMO labeling bill Prop 37 were performed at UC-Davis and then publicized through the GLP. Gary Ruskin, who has been filing Freedom of Information Act requests, has publicly expressed deep concerns that UC Davis is acting as a financial conduit for private corporations and interests to develop and launch PR attacks against academics, professors, activists and other institutions who oppose those same corporate interests.

For GMO opponents, the name Mark Lynas, may send shivers down the spine. As soon as any journalist or researcher mentions Lynas' name approvingly, one can be certain which camp the author represents. Therefore when Kahn quotes Lynas as if he were an unbiased authority about GMOs, we know we have boarded the wrong train and will reach a destination of distorted scientific facts and self-righteous corporate praise.

The public watchdog group US Right to Know [describes Lynas](#) as "a former journalist turned promotional advocate for genetically engineered foods and pesticides who makes inaccurate claims about those products from his perch at the Gates Foundation-funded Cornell Alliance for Science (CAS)." Lynas [has accused](#) those who would inform the public about Round-Up's carcinogenic properties as conducting a "witch hunt" by "anti-Monsanto activists" who "abused science." Lynas has denied his role as a shill for Big Ag. However, a decade ago, *The Guardian* acquired a [private memo](#) from the pro-biotechnology organization EuropaBio about its initiative to recruit "ambassadors" to preach the GMO gospel. Mark Lynas was specifically named in the document alongside then UN Secretary General Kofi Annan as a prime candidate to pressure European agencies who were skeptical about GMO claims, promises and health and environmental risks. In short, Lynas has been one of Big Ag's most invaluable foot soldiers for over a dozen years.

Similar to the Genetic Literacy Project, the Cornell Alliance for Science does not conduct any agricultural research; yet its tentacles to attack GMO opponents are far reaching in the media. CAS was launched in 2014 after the Bill and Melinda Gates Foundation granted the alliance \$5.6 million in start-up monies. The public relations Alliance makes the unfounded claim to represent "balanced" research about genetic engineered products. One of its missions is to influence the next generation of agricultural researchers to embrace GMO science. For CAS, as for Bill Gates, GMOs are the only food solution for Africa's future. [Five years ago](#), organic New York farmers mobilized to pressure the Trustees of Cornell University to evict CAS from the campus and halt its influence over the school's prestigious College of Agriculture and Life Sciences. Unfortunately, the Alliance is still there.

One argument Kahn wants us to buy into is that there were mistakes made during the early roll out of GMOs in the 1990s. But, somehow, mysteriously and without any solid evidence, we are supposed to believe that these same companies now engineering new generations of crops have learned their lessons. All that has really changed has been the genetic technology for altering plant genomes. The same mind-set that only technology and the quest for food dominance remain. After hundreds of thousands of dollars were flushed away during a genetically modified wheat project, a retired professor of plant agriculture at the University of Guelph in Canada [remarked](#):

“We – scientists and the public – are so malleable and gullible (or is it because researchers and research administrators are just desperate for money?), that we swallow and become promoters of the mantra that GM is somehow going to feed the world: by resolving the monumental threat of burnt toast? Or browning in cut apples? Or flower color in carnations? Really? For shame. Let’s be honest. The one and only reason these people, corporations, and governments are funding this sorry use of [lab] bench space is because it may yield a proprietary product.”

Following Lynas’ lead, Kahn wants us to believe that genes exchanged between different plants is common in nature and therefore manipulating genes between species with genetic engineering tools, such as CRISPR, should not worry us. Yes, plants have acquired genes from other organisms in the past – the far distant past – [according to](#) the Union of Concerned Scientists. However, it is so exceedingly rare that these should be regarded as anomalies without any correlation whatsoever to the millions of different genes available to bio-engineer new plant organisms. This has been one of Lynas’ pet arguments on his bully pulpit since turning his back on his former Greenpeace activists and joining Monsanto’s legions.

It may also be noted that Jennifer Kahn is an active participant in CRISPRcon, a forum dedicated to “the future of CRISPR and gene editing technology applications in agriculture, health, conservation and more.” Among the organization’s supporters are Bayer, the Innovative Genomics Institute, Cornell Alliance for Science, Corteva Agriscience and the United Soybean Board. A mission noted on [its website](#) is expressed in one of its mottos, “The public doesn’t trust GMOs. Will it trust CRISPR?” This is a public relations pitch that permeates her *Times* article.

It is important for independent investigators and researchers to identify and publicize the background of cloaked public relations shills posing as unbiased journalists in mainstream news sources. We believe Kahn’s *New York Times* piece is an attempt to disingenuously manipulate the narrative so more Americans will love GMOs. In the wake of the agrichemical industry’s efforts to bolster favorable images of GMOs and more recently CRISPR editing technologies, the mainstream media willingly rolls out a red carpet. No equal publishing space is awarded to the critics of genetic engineering who uncover the flaws in the industry’s public research. Consequently, journalists such as Mark Lynas and Jennifer Kahn are the norm rather than exception. Today the lesson is clear that money, power and influence sustain the lies and deceit of private industry. Take on any cause critical of genetic engineered foods, and Big Ag will come after you.

Seven years ago, 70 percent of Americans, [according to](#) a Consumer Reports National Research Center survey, did not want genetically modified organisms in their food. [In 2018](#), the Pew Research Center reported that only five percent of Americans said GM foods were better for one’s health – which about makes up the number of people who are in one way or another invested in the agrichemical industry. Still [over half](#) believe they endanger health. Yet too much has been invested into agro-biotechnology to expect GMOS to disappear at any time. As the public increasingly turns away from genetically modified organisms in their produce, we will expect new volleys of industry propaganda appearing in the mainstream media. We can also expect to hear ever wilder and more irrational claims about how GMO-based agriculture might reduce CO2 greenhouse pollution and save humanity. And we expect much of this PR campaign to be backed by the World Economic Forum’s full-throttle Great Reset invasion. In other words, out of desperation to reach global food dominance, the agro-chemical industry backed by western governments will be declaring a full food war

against the peoples of the world. It is time for us to unlearn any illusory attachment we might have to Big Agriculture and learn to loath GMOs.

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