



SEEDY BUSINESS:

What Big Food is hiding with its slick PR campaign on GMOs



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Executive Summary

Since 2012, the agrichemical and food industries have mounted a complex, multifaceted public relations, advertising, lobbying and political campaign in the United States, costing more than \$100 million, to defend genetically engineered food and crops and the pesticides that accompany them. The purpose of this campaign is to deceive the public, to deflect efforts to win the right to know what is in our food via labeling that is already required in 64 countries, and ultimately, to extend their profit stream for as long as possible.

This campaign has greatly influenced how U.S. media covers GMOs. The industry's PR

firm, Ketchum, even boasted that “positive media coverage has doubled” on GMOs. Due to this influence over the media, the public hears mostly what the industries claim: GMOs are safe, and anyone who disagrees or raises questions is not trustworthy.

This report will show how the industries have manipulated the media, public opinion and politics with sleazy tactics, bought science and PR spin. It will describe fifteen things that Big Food is hiding with its slick PR campaign on GMOs.

#1: The agrichemical companies have a history of concealing health risks from the public.

Time and again, the companies that produce GMOs have hidden from consumers and workers the truth about the dangers of their

products and operations. So how can we trust them to tell us the truth about their GMOs?

#2: The FDA does not test whether GMOs are safe. It merely reviews information submitted by the agrichemical companies.

#3: Our nation's lax policy on GMOs is the work of former Vice President Dan Quayle's anti-regulatory crusade. It was designed and delivered as a political favor to Monsanto.

#4: What the agrichemical and tobacco industries have in common: PR firms, operatives, tactics. The agrichemical industry's recent PR campaign is similar in some ways to the most infamous industry PR campaign ever – the tobacco industry's effort to evade responsibility for the deaths of hundreds of thousands of Americans each year.

#5: Russia's PR firm runs the agrichemical industry's big PR salvo on GMOs. We don't trust the PR firm Ketchum when it spins for Russia and President Putin. Why should we trust its spin on GMOs?

#6: The agrichemical industry's key front groups and skills aren't trustworthy. Many of the industry's leading advocates have records of defending the indefensible, or other scandals and conduct that inspires no confidence.

#7: The agrichemical companies have employed repugnant PR tactics. These tactics include attacks on scientists and journalists, and brainwashing children.

#8: The agrichemical companies have a potent, sleazy political machine. They have allies in high places, and employ their power vigorously – and sometimes corruptly – to protect and expand their markets and their profits from GMOs.

#9: Half of the Big Six agrichemical firms can't even grow their GMOs in their own home countries. Because of the health and environmental risks of GMOs, citizens of Germany and Switzerland won't allow farming of BASF, Bayer and Syngenta's GMO seeds.

#10: Monsanto supported GMO labeling in the UK but opposes it in the USA. Although Monsanto is based in St. Louis, Missouri, Monsanto believes that British citizens deserve stronger consumer rights than Americans do.

#11: The pesticide treadmill breeds profits, so it will likely intensify. It is in the financial

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interest of the agrichemical companies to promote the evolution and spread of the most pestilential superweeds and superpests, because these will spur the sale of the greatest quantities of the most expensive pesticides.

#12: GMO science is for sale. Science can be swayed, bought or biased by the agrichemical industry in many ways, such as suppressing adverse findings, harming the careers of scientists who produce such findings, controlling the funding that shapes what research is conducted, the lack of independent U.S.-based testing of health and environmental risks of GMOs, and tainting scientific reviews of GMOs by conflicts of interest.

#13: There are nearly no consumer benefits of GMOs. The GMOs that Americans eat are not healthier, safer or more nutritious than conventional foods. They do not look better, nor do they taste better. By any measure that consumers actually care about, they are not in any way an improvement. Profits from GMOs accrue to the agrichemical companies, while health risks are borne by consumers.

#14: The FDA and food companies have been wrong before: they have assured us of the safety of products that were not safe. Many drugs and food additives that the FDA allowed on the market have subsequently been banned because they were toxic or dangerous.

#15: A few other things the agrichemical industry doesn't want you to know about them: crimes, scandals and other wrongdoing. The agrichemical industry's six major firms – Monsanto, Syngenta, Dow, DuPont, Bayer and BASF – have been involved in so many reprehensible activities that documenting them would require at least an entire book.

Introduction

Since 2012, the agrichemical and food industries have mounted a complex, multifaceted public relations, advertising, lobbying and political campaign in the United States, costing more than \$100 million,¹ to defend genetically engineered food and crops and the pesticides that accompany them.

This campaign has greatly influenced how U.S. media covers genetically engineered food and crops. The industry's PR firm, Ketchum, even boasted that, among other things, that "positive media coverage has doubled" on GMOs.²

The purpose of this campaign is to deceive the public, to deflect efforts to win the right to know what is in our food via labeling that is already required in 64 countries, and ultimately, to extend their profit stream for as long as possible.³

We readily admit that genetically engineered food and crops may in the future provide benefits to society. This is not an anti-GMO report. Rather, it is a report to reveal the truth behind the spin that the agrichemical companies are selling to the public via their massive advertising, political and PR campaign.

Here's the spin from the agrichemical industry's PR campaign: GMOs are safe, anyone who disagrees is untrustworthy, and that the companies that produce GMOs are on the side of farmers, families, sustainability and the environment.

When industries conduct this sort of PR campaign, it is often because they have something – or a lot – to hide. Think, for example, of the tobacco industry in the 1970s and '80s, or the nuclear power industry in the 1980s and '90s, or the fossil fuel industry in

the 2000s.⁴ Industries try to shift the public conversation with slick PR, advertising, and other media sleights of hand. Whether or not they succeed depends largely on the inquisitiveness and tenacity of reporters, citizens and policymakers, to pierce the thicket of PR and advertising, and to uncover what lies beneath it.

During the course of such PR charm offensives, some facts and storylines are lost, while others gain prominence.

This report will show how the industries have manipulated the media, public opinion and politics with sleazy tactics, bought science and PR spin. It will describe fifteen things that Big Food is hiding with its slick PR campaign on GMOs.

Genetic engineering is a relatively new technology in agriculture. While humans have been practicing agriculture for about 12,000 years, the commercial use of genetic engineering in crops is merely two decades old. It began with the Flavr Savr tomato, which went on sale in the spring of 1994.⁵

Since then, the use of genetically engineered crops has skyrocketed. Across the planet, in 2012, about 420 million acres of genetically engineered crops were farmed in 28 countries. The United States has been the quickest to adopt this new technology: 41% of all acreage worldwide planted with genetically engineered crops was in the United States.⁶

By all measures, the agrichemical industry has been highly profitable in recent years, and strong growth is expected to continue. Take, for example, the industry leader, Monsanto.

4 See, for example, John Stauber and Sheldon Rampton, *Toxic Sludge is Good for You: Lies, Damn Lies and the Public Relations Industry*. (Monroe, ME: Common Courage Press, 2002). Sheldon Rampton and John Stauber, *Trust Us We're Experts! How Industry Manipulates Science and Gambles with Your Future*. (New York: Jeremy P. Tarcher/Putnam, 2001). Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*. (Berkeley, CA: University of California Press, 2002.) Wendell Potter, *Deadly Spin: An Insurance Company Insider Speaks Out on How Corporate PR Is Killing Health Care and Deceiving Americans*. (New York: Bloomsbury Press, 2010). See also the Center for Media and Democracy and its [PR Watch](#), and the University of California, San Francisco [Legacy Tobacco Documents Library](#).

5 See especially Belinda Martineau, *First Fruit: The Creation of the Flavr Savr™ Tomato and the Birth of Biotech Food*. (New York: McGraw-Hill, 2001.)

6 Jorge Fernandez-Cornejo, Seth Wechsler, Mike Livingston, and Lorraine Mitchell, "Genetically Engineered Crops in the United States." U.S. Department of Agriculture, February, 2014. Economic Research Report #162.

1 See Appendix A for details.

2 CLIO Awards, 2014 winners page on [GMO Answers](#). Ketchum San Francisco & Washington, DC. Medium: Public Relations. Category: Crisis & Issue Management.

3 The chemical industry has run similar campaigns in the past. For an excellent overview, see Dan Fagin, Marianne Lavelle and the Center for Public Integrity, *Toxic Deception: How the Chemical Industry Manipulates Science, Bends the Law and Endangers Your Health*. (Secaucus, NJ: Carol Publishing Group, 1996).

Since 2000, Monsanto's stock market value has grown nearly tenfold.⁷ And Monsanto expects that it will continue to flourish. For example, in 2014 the company announced that it expects to double its earnings in the next five years. According to John Roberts, executive director of chemical equity research for UBS, Monsanto's "confidence level is off the charts... They feel they have as deep a growth pipeline as they've had in a long time."⁸ More generally, financial analysts at Transparency Market Research project that the global agricultural biotechnology market will nearly double in seven years, from \$15.3 billion in 2012 to \$28.7 billion in 2019.⁹

When profits are strong, industries aim to keep profits coming in for as long as possible. The agrichemical industry is no different. During recent years, the agrichemical companies have fought hard to maintain their highly profitable industry. It is unclear for how much longer they will succeed, as they face several threats.

(1) Most consumers don't trust genetically engineered foods. For example, a 2013 *New York Times* poll found that an overwhelming 93% of Americans support labeling of genetically engineered foods. According to the *Times* poll, "Three-quarters of Americans expressed concern about genetically modified organisms in their food" and "about half" of Americans say that they "would not eat them."¹⁰

(2) Many consumers are concerned about effects of genetically engineered foods on their health. The same *New York Times* poll found that 37% of Americans are concerned about the health effects of genetically engineered foods, while 26% said that the foods are "not safe to eat, or are toxic."

These concerns reflect scientific studies that raise questions about the health risks of consuming genetically engineered food. For example, a review of nineteen animal feeding studies, published in *Environmental*



A FEW KEY DEFINITIONS:

Agrichemical companies produce chemicals used in agriculture, such as pesticides, herbicides and synthetic fertilizers, along with genetically engineered seeds that may accompany them.

The **agrichemical industry** is dominated by six giant multinational corporations: BASF, Bayer, Dow, DuPont, Syngenta and Monsanto. These are the **Big Six** agrichemical firms.

Big Food is comprised of the agrichemical industry, agribusiness industry, the processed food industry and the supermarket chains.

Genes are the basic biological units of heredity in living organisms. They are biological blueprints, composed of DNA, that determine what an organism will look like, what it will do and how it will act.

Genetic engineering is the process of adding DNA to an organism to provide it with new traits or capabilities. It typically involves the transfer of genetic material from at least one species to another. Scientists can combine genes to create novel forms of life that otherwise would not exist and could not be created by nature.

Genetically engineered (GE) food is food composed of genetically engineered plants or animals.

Genetically Modified Organisms (GMOs) are organisms that have been genetically engineered.

GM refers to crops or food products that have been genetically modified (also known as genetically engineered.)

7 Drake Bennett, "Inside Monsanto, America's Third-Most-Hated Company." *Bloomberg Businessweek*, July 3, 2014.

8 Carey Gillam, "Monsanto Profit Falls, But Shares Rise on Bullish Outlook." *Reuters*, June 25, 2014.

9 "Global Agricultural Biotechnology Market is Expected to Reach USD 28,694.1 Million in 2019: Transparency Market Research." Transparency Market Research news release, May 29, 2014.

10 Allison Kopicki, "Strong Support for Labeling Modified Foods." *New York Times*, July 27, 2013.



“Monsanto should not have to vouchsafe the safety of biotech food. Our interest is in selling as much of it as possible. Assuring its safety is the F.D.A.’s job.”

—Philip Angell, Monsanto’s director of corporate communications. “Playing God in the Garden”. *New York Times Magazine*, October 25, 1998.



“Ultimately, it is the food producer who is responsible for assuring safety.”

—FDA, “Statement of Policy: Foods Derived from New Plant Varieties.” May 29, 1992. 57 FR 22984.

Sciences *Europe*, concluded that the “data appear to indicate liver and kidney problems” in animals fed genetically engineered food.¹¹ Another review by Consumers Union senior scientist Michael Hansen called the capacity of genetically engineered crops to create allergic reactions “a major food safety concern.”¹² In 2013, nearly 300 scientists endorsed a statement that there is “no scientific consensus” on the safety or health risks of eating genetically engineered food.¹³ A 2014 review in *Environment International* of 21 studies of the effects of genetically engineered foods on the digestive tracts of rats found an “incomplete picture” regarding “the toxicity (and safety) of GM products consumed by

humans and animals.”¹⁴ In other words, it concludes that there is not enough evidence to say that genetically engineered foods are safe to eat. In the words of Professor Dave Schubert of the Salk Institute for Biological Studies, “The claim that there is a consensus among scientists that GM food products are safe... is simply a PR campaign sponsored by the industry.”¹⁵

Concerns about the health risks of genetically engineered food are magnified by the “paradox of risk assessment” surrounding them. The FDA does not independently test the safety of genetically engineered food. As FDA spokesperson Theresa Eisenman said, “it is the manufacturer’s responsibility to ensure that the [GMO] food products it offers for sale

11 Gilles-Eric Seralini et al., “[Genetically Modified Crops Safety Assessments: Present Limits And Possible Improvements.](#)” *Environmental Sciences Europe*, 2011. 23:10.

12 Memorandum from Michael Hansen, senior scientist, Consumer Reports, to the American Medical Association Council on Science and Public Health, “[Reasons for Labeling Genetically Engineered Food.](#)” March 19, 2012.

13 “[Statement: No Scientific Consensus on GMO Safety.](#)” European Network of Scientists for Social and Environmental Responsibility. October 21, 2013.

14 I.M. Zdziarski, J.W. Edwards, J.A. Carman and J.I. Haynes, “[GM Crops and the Rat Digestive Tract: A Critical Review.](#)” *Environment International*, December 2014. 73:423-433. doi: 10.1016/j.envint.2014.08.018.

15 Carey Gillam, “[GMO Battles Over ‘Settled’ Science Spur New Study of Crops.](#)” *Reuters*, November 11, 2014. For a fuller discussion of scientific studies on the health risks of genetically engineered food, see John Fagan, Michael Antoniou and Claire Robinson, “[GMO Myths and Truths.](#)” 2014. Chapter 3.

are safe...”¹⁶ Meanwhile, Monsanto has argued that assuring safety is not their business. “Monsanto should not have to vouchsafe the safety of biotech food,” Phil Angell, director of corporate communications for Monsanto, told the *New York Times*. “Our interest is in selling as much of it as possible. Assuring its safety is the F.D.A.’s job.”¹⁷ Thus, the paradox: the FDA and Monsanto pass the buck to each other, while neither is willing to guarantee that genetically engineered foods are safe to eat.

(3) The food industry is facing a crisis of confidence generally, not merely regarding genetically engineered food, but also the use of antibiotics, the health risks of certain pesticides, the use of “pink slime” as a meat filler, the brutality of factory farms, the health risks of eating processed foods, and the epidemic of food-related diseases (including obesity, type 2 diabetes, cardiovascular disease and some forms of cancer) that plague our nation. Each of these issues tends to raise questions and reinforce skepticism of the food industry generally, and its handling of the other controversial issues, including genetically engineered food.

(4) Labeling of genetically engineered food could impinge on the profits of the food and agrichemical industries. This threat is apparently so grave that Grocery Manufacturers Association President Pamela Bailey declared that defeating the California ballot measure for labeling of genetically engineered food was her organization’s top priority in 2012.¹⁸

(5) While the federal regulators have been lax in their treatment of genetically engineered foods and crops, this may be changing. The U.S. Government Accountability Office has launched a review of how FDA and USDA evaluate the health and environmental risks of genetically engineered foods and crops.¹⁹ The outcome of this review could well affect the U.S. regulatory regime for genetically engineered foods and crops.

(6) There are a number of other legislative,

regulatory or trade policies that, if implemented, could impair the profits of the agrichemical industry, including bans or restrictions the industry’s ability to plant or test GMO crops, requirements related to containing contamination of GMO crops or compensating for such contamination, and export bans or restrictions.

In many ways, the position of the agrichemical industry today is similar to that of the tobacco industry in the 1950s-80s – a powerful and profitable industry facing doubts and questions about the health risks of its products. And their responses are similar too: creating a strong political and public relations defense, as well as lobbying efforts to turn back any policy or initiative that would curtail their profits.

Behind all this lies a simple question.

Why is the agrichemical industry so desperate to hide its products?

Why does the industry fight so tenaciously to keep secret when we are eating their genetically engineered foods?

Most companies aren’t shy about promoting their products. Usually, they loudly take credit for them. Nearly every day, we see scores – if not hundreds – of companies boasting of their creations, and plastering their names and logos all over them, literally almost everywhere.

It is curious that the agrichemical industry does the opposite. If it were like other industries, the agrichemical companies would affix labels with logos and slogans like “made with genetically engineered seeds” on food products in supermarkets everywhere.

Even more curious, since 2012, the food and agrichemical industries have spent more than \$100 million dollars to oppose labeling of genetically engineered food. They have fought hard on this point, with expensive political campaigns, first-rate public relations efforts, slick new websites, aggressive litigation, funding front groups and operatives, hiring well-connected lobbyists, organizing trade group efforts, social media campaigns, attacking scientific and journalistic critics, making campaign contributions, and so much more.

16 Rachel Pomerance, “GMOs: A Breakthrough or Breakdown in U.S. Agriculture?” *U.S. News & World Report*, April 25, 2013.

17 Michael Pollan, “Playing God in the Garden.” *New York Times*, October 25, 1998.

18 Michael Pollan, “Vote for the Dinner Party.” *New York Times*, October 10, 2012.

19 Bill Tomson, “GAO Takes on GMOs.” *Politico Morning Agriculture*, October 23, 2014.



To build public confidence, Calgene officials were open about the process [of genetic engineering]. They voluntarily sought government approval, labeled the engineered tomatoes clearly and provided an 800 number for people with questions. But all that changed after Calgene was bought out by the much larger Monsanto...

—Michael Winerip
New York Times, June 24, 2013

The question is: Why? Why don't the agrichemical companies act like other companies? Why don't they want us to know when we're eating their products?

Their reticence to promote or acknowledge their own products is even more striking, given that in the U.S. there is a signal precedent for labeling genetically engineered food: the first genetically engineered food marketed in the U.S., the Flavr Savr tomato. It was produced by the company Calgene. The *New York Times* explains,

To build public confidence, Calgene officials were open about the process [of genetic engineering]. They voluntarily sought government approval, labeled the engineered tomatoes clearly and provided an 800 number for people with questions. But all that changed after Calgene was bought out by the much larger Monsanto...²⁰

Monsanto and the rest of the agrichemical industry could have simply followed along the path set out by Calgene: clear labeling of their products. But they didn't. Why?

It's not as if the agrichemical industry faces a difficult audience. In general, we Americans welcome new technologies. Every day, our newspapers, magazines and TV programs are replete with tidings of the latest technologies. For the most part, we Americans like to learn about these new technologies (we often call them "advances"), and are quick to incorporate them in our work and lives. Every day, companies make their case for their new technologies, and we buy them. The agrichemical industry is a glaring exception.

Of course, the agrichemical companies say that their genetically engineered foods are safe.

But their strident opposition to labeling raises questions and doubts about whether it makes sense to buy genetically engineered foods.

Why are they so reticent to stand behind their own products? What is the agrichemical industry really hiding, and why are they hiding it?

²⁰ Michael Winerip, "[You Call That a Tomato?](#)" *New York Times*, June 24, 2013. See also Belinda Martineau, *First Fruit: The Creation of the Flavr Savr™ Tomato and the Birth of Biotech Food*. (New York: McGraw-Hill, 2001.)

Fifteen things Big Food is hiding with its slick PR campaign on GMOs

#1: The agrichemical companies have a history of concealing health risks from the public

Monsanto is one of the world's largest producers of genetically engineered seeds, and manufacturer of the best-selling herbicide, Roundup. Our government relies on data from Monsanto about GMO crops, yet the company has in the past hid crucial information about the health risks of its products and operations.

In a *Washington Post* article describing how Monsanto polluted the town of Anniston, Alabama with toxic PCBs, Michael Grunwald recounts a key moment in a deposition of Monsanto's Anniston plant manager:

In 1998, a former Anniston plant manager, William Papageorge, was asked in a deposition whether Monsanto officials ever shared their data about PCB hazards with the community.

"Why would they?" he replied.²¹

Indeed, why would they? It's a great question, one that applies not only to PCBs but to genetically engineered foods as well.

If there were something wrong with genetically engineered food, would Monsanto or the other agrichemical companies tell us?

If there were health risks, would the companies disclose them?

Their history suggests that the answer is: probably not.

The big agrichemical companies have a well-documented record of hiding the truth

21 Michael Grunwald, "[Monsanto Hid Decades Of Pollution: PCBs Drenched Ala. Town, But No One Was Ever Told.](#)" *Washington Post*, January 1, 2002.

about the health risks of their products and operations.

Let's review some key moments in that history.

PCBs. Monsanto was the principal manufacturer of toxic polychlorinated biphenyls (PCBs). According to the U.S. Agency for Toxic Substances and Disease Registry, "Approximately 99% of the PCBs used by U.S. industry were produced by the Monsanto Chemical Company in Sauget, Illinois, until production was stopped in August 1977."²² PCBs were banned in 1979. According to the U.S. Environmental Protection Agency, "PCBs have been demonstrated to cause cancer, as well as a variety of other adverse health effects on the immune system, reproductive system, nervous system, and endocrine system."²³

The dangerous legacy of Monsanto's PCB pollution remains, especially in the town of Anniston, Alabama.²⁴ According to the *Washington Post*, regarding Anniston,

thousands of pages of Monsanto documents — many emblazoned with warnings such as "CONFIDENTIAL: Read and Destroy" — show that for decades, the corporate giant concealed what it did and what it knew.

In 1966, Monsanto managers discovered that fish submerged in that creek turned belly-up within 10 seconds, spurting blood and shedding skin as if dunked into boiling water. They told no one. In 1969, they found fish in another creek with 7,500 times the legal PCB levels. They decided "there is little object in going to expensive extremes in limiting discharges." In 1975, a company study found that PCBs caused tumors in rats. They ordered its conclusion changed from "slightly tumorigenic" to "does not appear to be carcinogenic."²⁵

22 "[Toxicological Profile for Polychlorinated Biphenyls.](#)" U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, November 2000, p. 467.

23 "[Polychlorinated Biphenyls: Basic Information.](#)" U.S. Environmental Protection Agency.

24 See, for example, Michael Grunwald, "[Monsanto Hid Decades Of Pollution: PCBs Drenched Ala. Town, But No One Was Ever Told.](#)" *Washington Post*, January 1, 2002. Brett Israel, "[Pollution, Poverty and People of Color: Dirty Soil and Diabetes.](#)" *Scientific American*, June 13, 2012. Ellen Crean, "[Toxic Secret: Alabama Town Was Never Warned Of Contamination.](#)" 60 Minutes, CBS News, November 7, 2002.

25 Michael Grunwald, "[Monsanto Hid Decades Of Pollution: PCBs Drenched Ala. Town, But No One Was Ever Told.](#)" *Washington Post*, January 1, 2002.



Baycol. Bayer AG is the corporate parent of Bayer CropScience AG, a major agricultural company with 2013 revenues of nearly €9 billion from genetically engineered seeds, fungicides, herbicides and insecticides.²⁶ In 1997, Bayer began producing the statin (cholesterol-lowering) drug Baycol. It promoted the drug as “simple and safe.”²⁷ But it withdrew Baycol from the market in 2001 because the frequency of fatal rhabdomyolysis (rapid breakdown of muscle tissue which can cause kidney failure) was far higher than in other statins.²⁸ As early as October 1999, the FDA had already criticized Bayer’s marketing of Baycol as “false, lacking in fair balance, or otherwise misleading” with too little emphasis

on the risk of rhabdomyolysis.²⁹ According to Public Citizen, “Approximately one year before Baycol was removed from the market in August 2001, its manufacturer Bayer, using FDA data on other statins, found that Baycol had 20 times more reports of rhabdomyolysis... per million prescriptions than Lipitor.”³⁰ In 2003, the *New York Times* reported that “company documents indicate that some senior executives at Bayer were aware that their anticholesterol drug had serious problems long before the company pulled it from the market.” Still worse, documents and other evidence suggested that Bayer promoted Baycol “even as a company analysis found that patients on Baycol were falling ill or dying from a rare muscle condition much more often than patients on similar drugs.” There were about 100 deaths and 1,600 injuries linked to Baycol-induced rhabdomyolysis.³¹

26 “[Bayer Continues Successful Course in Anniversary Year.](#)” Bayer CropScience news release, February 28, 2014.

27 [In re Baycol Cases I and II](#), Court of Appeal of the State of California, Second Appellate District, Division Seven.

28 Gina Kolata and Edmund L. Andrews, “[Anticholesterol Drug Pulled After Link With 31 Deaths.](#)” *New York Times*, August 9, 2001.

29 [Correspondence](#) from Michael A. Misocky, Division of Drug Marketing, Advertising and Communications, U.S. Food and Drug Administration to Carol Sever, Deputy Director of Regulatory Affairs, Bayer Corporation, October 25, 1999. Melody Petersen and Alex Berenson, “[Papers Indicate That Bayer Knew Of Dangers of Its Cholesterol Drug.](#)” *New York Times*, February 22, 2003.

30 [Statement](#) by Sidney Wolfe, MD, at the Public Hearing on CDER’s Current Risk Communication Strategies for Human Drugs (HRG Publication 1758). Public Citizen Health Research Group.

31 Melody Petersen and Alex Berenson, “[Papers Indicate That Bayer Knew Of Dangers of Its Cholesterol Drug.](#)” *New York Times*, February 22, 2003. For more information about Bayer generally, see the [Coalition Against Bayer Dangers](#).



Silicone breast implants. Dow Chemical Co. is the world's second largest chemical company,³² and the corporate parent of Dow AgroSciences, an agrichemical company that produces genetically engineered seeds, insecticides, herbicides, fumigants and fungicides. Dow Corning, another subsidiary of Dow Chemical, produced silicone breast implants that, according to the *New York Times*, “ruptured at rates far higher than initially suggested by manufacturers.”³³ The *Times* reported that “tens of thousands of women have claimed that they suffered a host of health problems from silicone-filled breast implants, including hardening of the breast tissue, implant rupture and disabling disorders that resemble autoimmune disorders like lupus.” In 1995, Dow Corning declared bankruptcy because it was, according to the *Times*, “overwhelmed by injury claims filed against it by hundreds of thousands of women who used silicone breast implants.”³⁴

Dow Corning told callers to its telephone hotline that its silicone breast implants were “100 percent safe” and there have “never been health problems with implants or silicone.” Dow Corning stopped telling this to callers after the FDA sent a letter “in which the company was accused of giving out misleading information about breast implants on its hot line. The letter said the company was to take immediate corrective action....[The FDA wrote] ‘These statements overstate the safety of breast implants and minimize known or suspected side effects.’”³⁵ In February 1997, the *Times* reported that a Louisiana state court found that “Dow Chemical Company had knowingly deceived women by hiding information about

the health risks of silicone used in breast implants.”³⁶

Bayer plant explosion. On August 28, 2008, an explosion killed two people at the Bayer CropScience plant in Institute, VA. According to a report by the U.S. House Energy and Commerce Committee, the explosion “came dangerously close” to replicating the catastrophic explosion that was so deadly in Bhopal, India. *Bloomberg*'s account of the congressional investigation explained that executives at Bayer “conducted a ‘campaign of secrecy,’ destroyed evidence and withheld information from emergency responders after a deadly chemical explosion....” The toxic insecticide methomyl was released in the explosion. But “Chemical Safety Board Chairman John Bresland said Bayer officials told emergency personnel on the day of the explosion that ‘no dangerous chemicals had been released.’”³⁷ Bayer went to great lengths to prevent disclosures about the explosion; it even tried to employ a federal terrorism provision that no company had ever invoked before, to block a hearing by the Chemical Safety and Hazard Investigation Board.³⁸



SOURCE: CBGNETWORK.ORG

PFOA. DuPont Co. is one of the world's largest chemical companies, and its subsidiary DuPont Pioneer is a major agrichemical company. The EPA announced on December 14, 2004, that DuPont would pay a total penalty of \$16 million,

32 David Benoit and Ben Lefebvre, “[Dow Chemical Lands in Hedge Fund's Sights.](#)” *Wall Street Journal*, January 21, 2014.

33 Barry Meier, “[Dow Chemical Deceived Women On Breast Implants, Jury Decides.](#)” *New York Times*, August 19, 1997.

34 Barnaby J. Feder, “[Dow Corning In Bankruptcy Over Lawsuits.](#)” *New York Times*, May 16, 1995.

35 “[After U.S. Warning, Dow Curbs Assurances About Breast Implants.](#)” *New York Times*, January 1, 1992.

36 Barry Meier, “[Dow Chemical Deceived Women On Breast Implants, Jury Decides.](#)” *New York Times*, August 19, 1997.

37 Lorraine Woellert, “[Bayer Explosion ‘Dangerously Close’ to Second Bhopal.](#)” *Bloomberg*, April 21, 2009. See also Matthew Wald, “[Lawmakers Say Chemical Company Withheld Information About Explosion.](#)” *New York Times*, April 21, 2009. “[Secrecy in the Response to Bayer's Chemical Plant Explosion.](#)” Hearing before the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, U.S. House of Representatives, April 21, 2009. Serial No. 111-28.

38 Sean D. Hamill, “[Trying to Limit Disclosure on Explosion.](#)” *New York Times*, March 28, 2009.

including “the largest civil administrative penalty EPA has ever obtained under any federal environmental statute,” regarding the use of the chemical perfluorooctanoic acid (PFOA). PFOA has been used to make Teflon and other nonstick coatings. The EPA stated that the violations consist of “multiple failures to report information to EPA about substantial risk of injury to human health or the environment that DuPont obtained about PFOA from as early as 1981 and as recently as 2004.”³⁹

Chemical health risks. In 2010, DuPont agreed to pay a \$3.3 million fine for 57 violations of the Toxic Substances Control Act. EPA found that, regarding 57 studies, “DuPont failed to immediately notify EPA of research indicating substantial [health] risk found during testing chemicals for possible use as surface protection, masonry protection, water repellants, sealants and paints.”⁴⁰

DuPont’s La Porte plant accident. In the early morning of November 15, 2014, a leak of the flammable chemical methyl mercaptan at DuPont’s factory in LaPorte, Texas led to the deaths of four DuPont workers. Nearby, also at the factory, there was an unknown quantity of an infamous industrial chemical – methyl isocyanate – which, when it exploded in Bhopal, India in 1984, killed at least 2,200 people initially, in the world’s worst industrial accident. However, the DuPont shift supervisor who called 911 about the accident failed to disclose the presence of the methyl isocyanate and its potential danger to the public. According to the *Houston Chronicle*,

DuPont shift supervisor Jody Knowles gave no details about the chemicals involved and minimized the risk in the 911 call to the La Porte fire department.

“We have a possible casualty five (workers) my medics are telling me,” he told a dispatcher.

She immediately asked: “Can you tell me is

this any risk to the public? Is it gonna be a possible escaping from your premises?”

“No ma’am, it is not,” Knowles responded.⁴¹

Agent Orange. Dow Chemical and Monsanto were the primary manufacturers of Agent Orange, the infamous herbicide used during the Vietnam War. About 20 million gallons were sprayed in Vietnam.⁴² The herbicide was contaminated with 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), an extremely toxic form of dioxin. The Vietnamese Red Cross estimates 150,000 children have been born with birth defects due to Agent Orange, with a total of 3 million Vietnamese affected by it.⁴³ The U.S. Department of Veterans Affairs presumes that many diseases are caused by exposure to Agent Orange,⁴⁴ but the number of U.S. veterans sickened by it is unknown. Following a lawsuit by Agent Orange victims, 291,000 people received compensation due to exposure to Agent Orange.⁴⁵

Dow was remarkably duplicitous about the health risks of dioxin. Dow repeatedly denied that dioxin caused any disease or illness other than chloracne, a skin condition similar to acne. In March 1983, the president of Dow, Paul Orefice, argued on NBC’s Today Show that “there is absolutely no evidence of dioxin doing any damage to humans except for causing something that is called chloracne. It’s a rash.”⁴⁶ However, in July 1983, the *New York Times* reported that “The Dow Chemical Company knew as early as the middle 1960’s about evidence that exposure to dioxin might cause people to become seriously ill and even die, but the company withheld its concern from the Government and continued to sell herbicides contaminated by dioxin to the Army and the public.” In 1965, Dow’s toxicology director

39 “EPA Settles PFOA Case Against DuPont for Largest Environmental Administrative Penalty in Agency History.” U.S. Environmental Protection Agency news release, December 14, 2005. Michael Janofsky, “DuPont to Pay \$16.5 Million for Unreported Risks.” *New York Times*, December 15, 2005. See also Mark Glassman, “E.P.A. Says It Will Fine DuPont For Holding Back Test Results.” *New York Times*, July 9, 2004.

40 “EPA Announces \$3.3 Million Settlement with DuPont for Failure to Report Toxic Chemical Studies.” U.S. Environmental Protection Agency news release, December 21, 2010.

41 Lise Olsen and Mark Collette, “Deadly DuPont Leak Exposes Safety, Response Failures: Chemical Plant Officials Slow to React to Disaster, Minimized Risk to Fire Crews, Public in First 911 Call.” *Houston Chronicle*, November 22, 2014.

42 Clyde Haberman, “Agent Orange’s Long Legacy, for Vietnam and Veterans.” *New York Times*, May 11, 2014.

43 Drew Brown, “4 Decades After War Ended, Agent Orange Still Ravaging Vietnamese.” *McClatchy*, July 22, 2013. Tom Fawthrop, “Vietnam’s War Against Agent Orange.” BBC, June 14, 2004. See also Lien Hoang, “Agent G.M.O.” *New York Times*, March 26, 2013.

44 U.S. Department of Veterans Affairs, “Veterans’ Diseases Associated with Agent Orange.”

45 William Glaberson, “Agent Orange, the Next Generation: In Vietnam and America, Some See a Wrong Still Not Righted.” *New York Times*, August 8, 2004.

46 Russell Mokhiber, *Corporate Crime and Violence*. (San Francisco, Sierra Club Books, 1988), p. 80.

wrote that dioxin could be “exceptionally toxic” to humans. Dow’s medical director wrote, regarding dioxin, that “Fatalities have been reported in the literature.”⁴⁷

There is also a strong appearance that Monsanto prepared fraudulent studies to convince the EPA that dioxin was relatively nontoxic. These studies were exposed by the EPA chemist Cate Jenkins, in a memorandum titled “Newly Revealed Fraud by Monsanto in an Epidemiological Study Used by EPA to Assess Human Health Effects from Dioxin.”⁴⁸ Jenkins found a “long pattern of fraud” regarding “dioxin contamination of a wide range of Monsanto Corp. products, as well as health studies of Monsanto’s dioxin-exposed workers.”⁴⁹

DBCP. Dow and Shell were the main manufacturers of the pesticide DBCP (1,2-Dibromo-3-Chloropropane). Early results from DBCP animal health risk experiments were troubling. Dow’s internal 1958 DBCP animal testing report stated that their data “show that liver, lung and kidney effects might be expected....Testicular atrophy may result from prolonged, repeated exposure.”⁵⁰ In 1961, a study in Toxicology and Applied Pharmacology ensured that Dow knew that DBCP was toxic and could cause sterility.⁵¹ But Dow hid that crucial health risk information from its workers. According to the *New York Times*, it wasn’t until the “mid-1970s, after tests by the National Cancer Institute suggested that DBCP could cause cancer in mice and rats, [that] Dow so informed its workers...Dow concedes that it never told its workers about the 1961 study’s suggestion that DBCP affected the testes.”⁵²

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- 47 Ralph Blumenthal, “[Files Show Dioxin Makers Knew of Hazards.](#)” *New York Times*, July 6, 1983.
- 48 E.G. Vallianatos and McKay Jenkins, *Poison Spring: The Secret History of Pollution and the EPA.* (New York: Bloomsbury Press, 2014), p. 252, and pp. 63-72. See also Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World’s Food Supply.* (New York, New Press, 2010), pp. 48-59.
- 49 William H. Freivogel, “Greenpeace, Chemist Challenge Monsanto on Dioxin Findings.” *St. Louis Post-Dispatch*, November 29, 1990.
- 50 Jack Doyle, *Trespass Against Us: Dow Chemical and the Toxic Century.* (Monroe, Maine: Common Courage Press, 2004), p. 292.
- 51 Torkelson TR et al. “[Toxicologic Investigations of 1,2-Dibromo-3-Chloropropane.](#)” *Toxicology and Applied Pharmacology*, September 1961, 3:545-59. William K. Stevens, “[Sterility Linked to Pesticide Spurs Fears on Chemical Use.](#)” *New York Times*, September 11, 1977. “[Let the Workers Know the Risks.](#)” *New York Times* editorial, September 27, 1977.
- 52 William K. Stevens, “[Sterility Linked to Pesticide Spurs Fears on Chemical Use.](#)” *New York Times*, September 11, 1977.

In 1977, the EPA tightly restricted the use of DBCP in the United States, and banned it in 1979, but Dow continued to ship DBCP to fruit manufacturers such as Del Monte, Chiquita and Dole, for use in Latin America. This led to DBCP exposure that sterilized Latin American fruit workers, and lawsuits from tens of thousands of them.⁵³ Thus far, Dow and Shell, and fruit companies Dole and Chiquita, have largely escaped liability for exposing workers to DBCP.⁵⁴

The agrichemical companies have repeatedly kept silent, or suppressed key facts about health risks of their products and operations. It’s a pattern of deception. Given this history, can we trust that they aren’t deceiving us yet again about the health and environmental risks genetically engineered food?



#2: The FDA does not test whether GMOs are safe

In recent testimony before Congress, the FDA stated that it is “confident that the GE foods in the U.S. marketplace today are as safe as their conventional counterparts.”⁵⁵

However, FDA does not itself test whether genetically engineered foods are safe. The FDA has repeatedly made this clear. As Jason Dietz, a policy analyst at FDA explains about genetically engineered food: “It’s the manufacturer’s responsibility to insure that the

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- 53 Diana Jean Schemo, “[U.S. Pesticide Kills Foreign Fruit Pickers’ Hopes.](#)” *New York Times*, December 6, 1995.
- 54 Vicent Boix and Susanna R. Bohme, “[Secrecy and Justice in the Ongoing Saga of DBCP Litigation.](#)” *International Journal of Occupational and Environmental Health*, June 2012, 18(2):154-61. doi: 10.1179/1077352512Z.00000000010.
- 55 **Statement** of Michael M. Landa, J.D., Director, Center for Food Safety and Applied Nutrition, Food and Drug Administration, Department of Health and Human Services, Before the Subcommittee on Health, Committee on Energy and Commerce, U.S. House of Representatives. December 10, 2014.

product is safe.”⁵⁶ Or, as FDA spokesperson Theresa Eisenman said, “it is the manufacturer’s responsibility to ensure that the [GMO] food products it offers for sale are safe...”⁵⁷

Nor does the FDA require independent pre-market safety testing for genetically engineered food. As a matter of practice, the agricultural companies submit their own studies to the FDA as part of a voluntary “consultation.” Moreover, the FDA does not require the companies to submit full and complete information about these studies. Rather, as the FDA has testified, “After the studies are completed, a summary of the data and information on the safety and nutritional assessment are provided to the FDA for review.”⁵⁸

That the FDA does not see the complete data and studies is a problem, according to a *Biotechnology and Genetic Engineering Reviews* article by William Freese and David Schubert:

the FDA never sees the methodological details, but rather only limited data and the conclusions the company has drawn from its own research....the FDA does not require the submission of data. And, in fact, companies have failed to comply with FDA requests for data beyond that which they submitted initially. Without test protocols or other important data, the FDA is unable to identify unintentional mistakes, errors in data interpretation, or intentional deception...⁵⁹

At the end of the consultation, the FDA issues a letter ending the consultation. Here is a typical response from FDA, in its letter to Monsanto about its MON 810 Bt corn:

Based on the safety and nutritional assessment you have conducted, it is our understanding that Monsanto has concluded that corn products derived from this new variety are not materially

different in composition, safety, and other relevant parameters from corn currently on the market, and that the genetically modified corn does not raise issues that would require premarket review or approval by FDA.... as you are aware, **it is Monsanto’s responsibility to ensure that foods marketed by the firm are safe** [emphasis ours], wholesome and in compliance with all applicable legal and regulatory requirements.⁶⁰

This testing regime is insufficient for several other reasons.

Most of the animal safety testing prepared for the FDA is merely short-term. A study in the *International Journal of Biological Sciences* summarizes the typical testing regime: “The most detailed regulatory tests on the GMOs are three-month long feeding trials of laboratory rats, which are biochemically assessed.” Such tests may well be too brief in duration to uncover pathologies that develop more slowly, such as many types of organ damage, endocrine disturbances and cancer.⁶¹

There are too few peer-reviewed studies on the health risks of genetically engineered food. In their 2004 article in *Biotechnology and Genetic Engineering Reviews*, William Freese and David Schubert wrote that, “Published, peer-reviewed studies, particularly in the area of potential human health impacts, are rare. For instance, the EPA’s human health assessment of Bt crops cites 22 unpublished corporate studies, with initially only one ancillary literature citation.”⁶² Similarly, a 2014 review in *Environment International* of 21 studies of the effects of genetically engineered foods on the digestive tracts of rats found an “incomplete picture” regarding “the toxicity (and safety) of GM products consumed by humans and animals.”⁶³ In other words, it concludes that there is

56 Nathaniel Johnson, “[The GM Safety Dance: What’s Rule and What’s Real.](#)” *Grist*, July 10, 2013.

57 Rachel Pomerance, “[GMOs: A Breakthrough or Breakdown in U.S. Agriculture?](#)” *U.S. News & World Report*, April 25, 2013.

58 [Statement](#) of Michael M. Landa, J.D., Director, Center for Food Safety and Applied Nutrition, Food and Drug Administration, Department of Health and Human Services, Before the Subcommittee on Health, Committee on Energy and Commerce, U.S. House of Representatives. December 10, 2014.

59 William Freese and David Schubert, “[Safety Testing of Genetically Engineered Food.](#)” *Biotechnology and Genetic Engineering Reviews*, November 2004, 21:299-324.

60 [Correspondence](#) from Alan M. Rulis Ph.D., Director, Office of Premarket Approval, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, to Dr. Kent Croon, Regulatory Affairs Manager, Monsanto Company, September 25, 1996.

61 Joël Spiroux de Vendômois, et al., “[Debate on GMOs: Health Risks after Statistical Findings in Regulatory Tests.](#)” *International Journal of Biological Sciences*, 2010; 6(6):590-598. doi:10.7150/ijbs.6.590.

62 William Freese and David Schubert, “[Safety Testing of Genetically Engineered Food.](#)” *Biotechnology and Genetic Engineering Reviews*, November 2004, 21:299-324.

63 I.M. Zdziarski, J.W. Edwards, J.A. Carman and J.I. Haynes, “[GM Crops and the Rat Digestive Tract: A Critical Review.](#)” *Environment International*, December 2014. 73:423-433. doi: 10.1016/j.envint.2014.08.018.

not enough evidence to say that genetically engineered foods are safe to eat.

The FDA permits companies to submit their own safety studies, but does not require independent ones. However, the evidence regarding pharmaceutical studies strongly suggests that industry-funded studies are more likely than independent ones to be favorable to industry. Here's Ben Goldacre's review of this evidence:

in 2010, three researchers from Harvard and Toronto found all the trials looking at five major classes of drug—antidepressants, ulcer drugs and so on—then measured two key features: were they positive, and were they funded by industry? They found over five hundred trials in total: 85 per cent of the industry-funded studies were positive, but only 50 per cent of the government funded trials were. That's a very significant difference.

In 2007, researchers looked at every published trial that set out to explore the benefit of a statin....This study found 192 trials in total, either comparing one statin against another, or comparing a statin against a different kind of treatment. Once the researchers controlled for other factors...they found that industry-funded trials were twenty times more likely to give results favoring the test drug. Again, that's a very big difference.

We'll do one more. In 2006, researchers looked into every trial of psychiatric drugs in four academic journals over a ten-year period, finding 542 trial outcomes in total. Industry sponsors got favorable outcomes for their own drug 78 per cent of the time, while independently funded trials only gave a positive result in 48 per cent of cases.⁶⁴

These results present a compelling argument for FDA to require independent pre-market safety testing for genetically engineered food, but the FDA fails to do so.

Perhaps more importantly, the agrichemical

64 Ben Goldacre, "Trial Sans Error: How Pharma-Funded Research Cherry-Picks Positive Results." *Scientific American*, February 13, 2013. Ben Goldacre, *Bad Pharma: How Drug Companies Mislead Doctors and Harm Patients*. (New York: Faber and Faber, 2012), pp. 1-2.

industry is under no obligation to report the results of all their studies. How do we know that they are not suppressing evidence of health risks of genetically engineered food? It is well-known that in other industries "publication bias" and the suppression of studies is commonplace. That is certainly true in the pharmaceutical industry. Here, for example, is Ben Goldacre's description of missing evidence in trials on antidepressants:

researchers found seventy-four studies in total, representing 12,500 patients' worth of data. Thirty-eight of these trials had positive results, and found that the new drug worked; thirty-six were negative. The results were therefore an even split between success and failure for the drugs, in reality. Then the researchers set about looking for these trials in the published academic literature, the material available to doctors and patients. This provided a very different picture. Thirty-seven of the positive trials—all but one—were published in full, often with much fanfare. But the trials with negative results had a very different fate: only three were published. Twenty-two were simply lost to history, never appearing anywhere other than in those dusty, disorganized, thin FDA files. The remaining eleven which had negative results in the FDA summaries did appear in the academic literature, but were written up as if the drug was a success....

This was a remarkable piece of work, spread over twelve drugs from all the major manufacturers, with no stand-out bad guy. It very clearly exposed a broken system: in reality we have thirty-eight positive trials and thirty-seven negative ones; in the academic literature we have forty-eight positive trials and three negative ones.⁶⁵

Why shouldn't we expect the agrichemical industry to follow the pharmaceutical industry's pattern of suppressing negative results? This

65 Ben Goldacre, *Bad Pharma: How Drug Companies Mislead Doctors and Harm Patients*. (New York: Faber and Faber, 2012), p. 20. See also Erick H. Turner, Annette M. Matthews, Eftihia Linardatos, Robert A. Tell, and Robert Rosenthal, "Selective Publication of Antidepressant Trials and Its Influence on Apparent Efficacy." *New England Journal of Medicine*, January 17, 2008. 2008; 358:252-260. DOI: 10.1056/NEJMs065779. Benedict Carey, "Researchers Find a Bias Toward Upbeat Findings on Antidepressants." *New York Times*, January 17, 2008.



question seems especially relevant, given the agrichemical industry's history of suppressing evidence of health risks of their other products and operations. It makes no sense for the FDA to trust an industry with such a record.

It is also worth remembering that in the U.S. there is a history of fraud in toxicological testing. As Dan Fagin and Marianne Lavelle explain in their book *Toxic Deception*, "The U.S. regulatory system for chemical products is tailor-made for fraud. The subjects are arcane, the results subjective, the regulators overmatched, and the real work conducted by – or for – the manufacturers themselves."⁶⁶ Regarding Monsanto's role in such frauds, they write that:

Paul Wright had been a research chemist

at Monsanto before he went to work for IBT [then the nation's largest toxicology lab] in 1971 as its chief rat toxicologist. Wright stayed at the lab for only 18 months before he returned to Monsanto.... But it was long enough, the [federal] government investigators concluded, for him to be in the middle of a series of apparently fraudulent studies that benefitted Monsanto products...In all three cases [regarding an herbicide and a chlorinator], the [federal government] investigators wrote in an internal memo, there was evidence that Monsanto executives knew that the studies were faked but sent them to the FDA and the EPA anyway.⁶⁷

66 Dan Fagin, Marianne Lavelle and the Center for Public Integrity, *Toxic Deception: How the Chemical Industry Manipulates Science, Bends the Law and Endangers Your Health*. (Secaucus, NJ: Carol Publishing Group, 1996), p. 33.

67 Dan Fagin, Marianne Lavelle and the Center for Public Integrity, *Toxic Deception: How the Chemical Industry Manipulates Science, Bends the Law and Endangers Your Health*. (Secaucus, NJ: Carol Publishing Group, 1996), p. 34.

Finally, how can we assess the health risks of genetically engineered foods that are currently on the market? At this time, we can't. The FDA does not require any post-market studies of health risks of genetically engineered food. As a 2010 study in the *International Journal of Biological Sciences* points out, "although some stakeholders claim that a history of safe use of GMOs can be upheld, there are no human or animal epidemiological studies to support such a claim as yet, in particular because of the lack of labeling and traceability in GMO-producing countries."⁶⁸ Without such epidemiological studies on genetically engineered food, we can't know whether GMOs are safe or not, and if they cause illnesses, what they are, who is afflicted, and with what frequency.

Perhaps not coincidentally, there is a similar problem with testing of pesticide levels on the fruits and vegetables eaten by American consumers. A November 2014 report by the U.S. Government Accountability Office found that the FDA only tests the pesticide levels of less than one per thousand imported fruits and vegetables, and one per hundred of those grown domestically. GAO concluded that the FDA's testing program is not "statistically valid."⁶⁹ The *Washington Post* explains the GAO's conclusion: "The U.S. Food and Drug Administration does not perform enough pesticide residue tests — on either imported or domestic foods — to say whether the American food supply is safe..."⁷⁰

Of course, the agrichemical companies say their genetically engineered foods are safe. What's curious about this is that they have enough money to carry out independent pre-market and post-market testing of the health risks of their products. Such testing would be an easy way to put to rest any questions about health risks. But they don't. Why not? Also, the agrichemical industry could lobby for federal laws or rules requiring pre-market and post-market safety testing for genetically

engineered foods. And they would likely prevail. They haven't done that either. Why not? It suggests they don't want to know the answers, or they don't want us to know the answers. Or both. This doesn't inspire trust.

Even at the outset, some FDA scientists had concerns about the health risks of genetically engineered food. According to the *New York Times*,

Among them was Dr. Louis J. Pribyl, one of 17 government scientists working on a policy for genetically engineered food. Dr. Pribyl knew from studies that toxins could be unintentionally created when new genes were introduced into a plant's cells. But under the new edict, the government was dismissing that risk and any other possible risk as no different from those of conventionally derived food. That meant biotechnology companies would not need government approval to sell the foods they were developing.

"This is the industry's pet idea, namely that there are no unintended effects that will raise the F.D.A.'s level of concern," Dr. Pribyl wrote in a fiery memo to the F.D.A. scientist overseeing the policy's development. "But time and time again, there is no data to back up their contention."

Dr. Pribyl, a microbiologist, was not alone at the agency. Dr. Gerald Guest, director of the center of veterinary medicine, wrote that he and other scientists at the center had concluded there was "ample scientific justification" to require tests and a government review of each genetically engineered food before it was sold.

Three toxicologists wrote, "The possibility of unexpected, accidental changes in genetically engineered plants justifies a limited traditional toxicological study."⁷¹

The federal government's premise for lax regulation of GMOs was the notion of "substantial equivalence" — that new genetically engineered foods were substantially equivalent to regular foods, so there was no need for regulation. As the FDA's 1992 "guidance to industry" stated, "FDA believes that the new

68 Joël Spiroux de Vendômois et al., "[Debate on GMOs: Health Risks after Statistical Findings in Regulatory Tests.](#)" *International Journal of Biological Sciences*, 2010; 6(6):590-598. doi:10.7150/ijbs.6.590.

69 "[Food Safety: FDA and USDA Should Strengthen Pesticide Residue Monitoring Programs and Further Disclose Monitoring Limitations.](#)" U.S. Government Accountability Office, November 6, 2014. GAO-15-38.

70 Kimberly Kindy, "[Pesticide Levels On Food Unknown Due to Poor Government Testing.](#)" *Washington Post*, November 7, 2014.

71 Kurt Eichenwald, Gina Kolata and Melody Petersen, "[Biotechnology Food: From the Lab to a Debacle.](#)" *New York Times*, January 25, 2001.

techniques are extensions at the molecular level of traditional methods and will be used to achieve the same goals as pursued with traditional plant breeding.”⁷² It was with this idea that the agrichemical industry evaded rigorous safety testing.

But the premise of “substantial equivalence” was dubious from the start. It was an a priori political concept – adopted without studies or evidence – to treat genetically engineered food as GRAS (Generally Regarded As Safe). It was claimed by the agrichemical industry, not proven by independent study. For this reason, some FDA staff opposed the idea of “substantial equivalence.” For example, Dr. Linda Kahl, an FDA compliance officer, was concerned about unpredictable or unknown safety risks from genetically engineered food. She wrote:

“The process of genetic engineering and traditional breeding are different, and according to the technical experts in the agency, they lead to different risks,” Dr. Kahl wrote. “There is no data that addresses the relative magnitude of risk – for all we know, the risks may be lower for genetically engineered foods than for foods produced by traditional breeding. But the acknowledgment that the risks are different is lost in the attempt to hold to the doctrine that the product and not the process is regulated.”⁷³

Along the same lines, E. J. Matthews of the FDA’s Toxicology Group warned that “genetically modified plants could...contain unexpected high concentrations of plant toxicants” and that these could be “uniquely different chemicals that are usually expressed in unrelated plants.”⁷⁴

“Substantial equivalence is a pseudo-scientific concept,” explained a commentary by Erik Millstone, Eric Brunner and Sue Mayer in *Nature*, “because it is a commercial and political judgment masquerading as if it were scientific. It is, moreover, inherently anti-scientific because it was created primarily to

provide an excuse for not requiring biochemical or toxicological tests.”⁷⁵

As Consumers Union senior staff scientist Michael Hansen points out, even the FDA itself has explicitly rejected its own premise of “substantial equivalence.” It did so in its 2001 proposed rule on pre-market notice of genetically engineered food. The FDA wrote:

Because some rDNA-induced unintended changes are specific to a transformational event (e.g., those resulting from insertional mutagenesis), FDA believes that it needs to be provided with information about foods from all separate transformational events, even when the agency has been provided with information about foods from rDNA-modified plants with the same intended new trait and has had no questions about such foods.... In contrast, the agency does not believe that it needs to receive information about foods from plants derived through narrow crosses [such as traditional plant breeding]⁷⁶

Yet, even though the FDA has acknowledged the flaws in its own premise of “substantial equivalence,” the underlying policy lives on – now without any justification at all.

So, the FDA states that it is “confident” about the safety of GMOs currently in the marketplace. But it does not itself conduct safety testing on GMOs. It does not sponsor independent safety testing. It does not require independent safety testing. It does not require long-term safety testing, to uncover ill effects that have delayed onset. It does not have access to the full data and content of all industry safety testing. And it does not require post-market epidemiological testing. Without such testing, and full access to industry data, the FDA cannot credibly decree, declare or certify that GMOs are safe.

72 “Statement of Policy: Foods Derived From New Plant Varieties.” U.S. Food and Drug Administration, May 29, 1992. 57 FR 22984.

73 Marian Burros, “Documents Show Officials Disagreed On Altered Food.” *New York Times*, December 1, 1999.

74 Helena Paul and Ricarda Steinbrecher, *Hungry Corporations: Transnational Biotech Companies Colonise the Food Chain*. (London: Zed Books, 2003), p. 170.

75 Erik Millstone, Eric Brunner and Sue Mayer, “Beyond ‘Substantial Equivalence.’” *Nature* 401, 525-526, October 7, 1999. doi:10.1038/44006.

76 “Pre-market Notice Concerning Bioengineered Foods.” US Food and Drug Administration, January 18, 2001. 66 FR 4706, at 4711. Memorandum from Michael Hansen, Senior Scientist, Consumer Reports, to AMA Council on Science and Public Health, “Reasons for Labeling of Genetically Engineered Foods.” March 19, 2012.



#3: Our nation's lax policy on GMOs is the work of former Vice President Dan Quayle's anti-regulatory crusade

Our nation's policy on genetically engineered food is the product of President George H. W. Bush's vice president, Dan Quayle. Quayle is perhaps best remembered for misspelling the word "potato" in a spelling bee, and for his

work as the Bush administration's "regulation terminator."⁷⁷ But his most important legacy was his giant favor to the agrichemical industry and its genetically engineered foods and crops.

Under the Quayle policy, the FDA does not test the safety of genetically engineered food. It does not certify that these foods are safe. Rather, Quayle's policy allows industry to get away with self-policing of health risks. As Jason Dietz, a policy analyst at FDA explains: "It's the manufacturer's responsibility to insure that the product is safe."⁷⁸

Here's how the Quayle policy on genetically engineered food came about.

77 "[Dan Quayle, Regulation Terminator.](#)" *BusinessWeek*, November 3, 1991.

78 Nathaniel Johnson, "[The GM Safety Dance: What's Rule and What's Real.](#)" *Grist*, July 10, 2013.



As vice president, under President Reagan, George H. W. Bush expressed his support for deregulation of genetically engineered foods. In a 1987 walkthrough of Monsanto's St. Louis laboratories, when Monsanto's regulatory concerns came up, Bush responded: "Call me, I'm in the dereg business. I can help."⁷⁹

Two years later, when Bush became President, he was in an excellent position to help. On March 31, 1989, he created the White House Council on Competitiveness, and put his vice-president, Dan Quayle, in charge of it. The *Washington Post* called Quayle's regulatory relief task force a "command post for a war against government regulation of American business." It called Quayle a "zealot when it comes to deregulation."⁸⁰ According to the *Post*, "Word quickly spread through the business community that the Competitiveness

Council was ready and able to help on regulatory matters, and its agenda filled up."

The Quayle regulatory relief task force intervened in countless regulatory battles, including efforts to "change regulations on federal rules relating to commercial aircraft noise, bank liability on property loans, housing accessibility for the disabled, clothing makers' right to work at home, disclosure requirements on pensions, protection of underground water from landfill runoff, reporting requirements for child-care facilities located in religious institutions, and fees for real estate settlements."⁸¹

Here's how the *New York Times* described the political process that led to the Quayle policy on genetically engineered food.

In the weeks and months that followed, the White House complied, working behind the scenes to help Monsanto

79 Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World's Food Supply*. (New York: New Press, 2010), p. 144.

80 Bob Woodward and David S. Broder, "Quayle's Quest: Curb Rules, Leave 'No Fingerprints.'" *Washington Post*, January 9, 1992.

81 Bob Woodward and David S. Broder, "Quayle's Quest: Curb Rules, Leave 'No Fingerprints.'" *Washington Post*, January 9, 1992.

— long a political power with deep connections in Washington — get the regulations that it wanted.

It was an outcome that would be repeated, again and again, through three administrations. What Monsanto wished for from Washington, Monsanto — and, by extension, the biotechnology industry — got. If the company’s strategy demanded regulations, rules favored by the industry were adopted. And when the company abruptly decided that it needed to throw off the regulations and speed its foods to market, the White House quickly ushered through an unusually generous policy of self-policing.

Even longtime Washington hands said that the control this nascent industry exerted over its own regulatory destiny — through the Environmental Protection Agency, the Agriculture Department and ultimately the Food and Drug Administration — was astonishing.⁸²

James Maryanski, the former biotechnology coordinator for FDA’s Center for Food Safety and Applied Nutrition, explained the White House’s involvement: “Basically, the government had taken a decision that it would not create new laws....Yes, it was a political decision. It was a very broad decision that didn’t apply to just foods. It applied to all products of biotechnology.”⁸³

On May 26, 1992, Vice President Quayle himself announced our nation’s policy on genetically engineered foods and crops as a deregulatory initiative.

“The reforms we announce today will speed up and simplify the process of bringing better agricultural products, developed through biotech, to consumers, food processors and farmers,” Mr. Quayle said. “We will ensure that biotech products will receive the same oversight as other products, instead of being hampered by unnecessary regulation.”⁸⁴

Quayle said that the United States “was the world leader in biotechnology” and that the government wanted to “keep it that way.”⁸⁵

Of course, the Quayle policy was lax as intended. No food safety laws or regulations were proposed or promulgated. The FDA merely issued a “guidance” that establishes a process for voluntary “consultations” on safety. The Quayle policy did not require mandatory pre-market or post-market safety testing of genetically engineered food. In essence, the agrichemical industry got exactly what it wanted: the appearance of regulation, without the actuality of it. An article in *Nature* explained “The biotechnology companies wanted government regulators to help persuade consumers that their products were safe, yet they also wanted the regulatory hurdles to be set as low as possible.”⁸⁶

Henry Miller, the founding director of the FDA’s Office of Biotechnology, explained the outcome quite bluntly: “In this area [regulation of GMOs], the U.S. government agencies have done exactly what big agribusiness has asked them to do and told them to do.”⁸⁷

Under the Quayle policy, agrichemical companies were not even required to notify the FDA of a new genetically engineered food or product. That minor requirement was added in 2001.⁸⁸

And so it is unsurprising that the Quayle policy was prepared under the supervision of the FDA’s deputy commissioner for policy, Michael Taylor, a former vice president for public policy at Monsanto,⁸⁹ who had also represented Monsanto as a partner of the law firm King & Spalding.⁹⁰

82 Kurt Eichenwald, Gina Kolata and Melody Petersen, “[Biotechnology Food: From the Lab to a Debacle.](#)” *New York Times*, January 25, 2001.

83 Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World’s Food Supply.* (New York: New Press, 2010), p. 146.

84 Kurt Eichenwald, Gina Kolata and Melody Petersen, “[Biotechnology Food: From the Lab to a Debacle.](#)” *New York Times*, January 25, 2001.

85 Marian Burros, “[Documents Show Officials Disagreed On Altered Food.](#)” *New York Times*, December 1, 1999.

86 Erik Millstone, Eric Brunner and Sue Mayer, “[Beyond ‘Substantial Equivalence.’](#)” *Nature* 401, 525-526, October 7, 1999. doi:10.1038/44006.

87 Kurt Eichenwald, Gina Kolata and Melody Petersen, “[Biotechnology Food: From the Lab to a Debacle.](#)” *New York Times*, January 25, 2001. Henry Miller isn’t the only former regulator to make such remarks. For example, former Agriculture Secretary Dan Glickman commented that “Regulators even viewed themselves as cheerleaders for biotechnology...” Stephanie Simon, “[Biotech Soybeans Plant Seed of Risky Revolution.](#)” *Los Angeles Times*, July 1, 2001.

88 See “[Pre-market Notification Concerning Bioengineered Foods.](#)” U.S. Food and Drug Administration. January 18, 2001, 66 FR 4706.

89 Taylor currently serves as the FDA’s [Deputy Commissioner for Foods and Veterinary Medicine.](#)

90 Judy Sarason, “Monsanto Losing VIP.” *Washington Post*, December 23, 1999.

#4: What the agrichemical and tobacco industries have in common: PR firms, operatives, tactics



When assessing whether or not to trust the agrichemical companies and their genetically engineered food, it is noteworthy that several of their public relations firms were once employed by the tobacco industry in its efforts to evade responsibility and liability for the millions of Americans they killed.⁹¹ These PR efforts on behalf of the tobacco industry – perhaps the most significant and destructive PR campaign ever – raise questions about whether these same firms are spinning a similarly deceitful PR campaign for the agrichemical industry to hide any health or

environmental risks of genetically engineered food.

Tobacco Institute's PR firm tasked with reviving Monsanto's image & spinning Bayer

Americans have a negative view of Monsanto, and it's getting worse. In a 2013 Harris poll measuring the "reputation quotient" of "the most visible companies," Monsanto performed poorly, ranking 47th out of 60 companies.⁹² In the 2014 Harris Poll, it fell to third to last, "above BP and Bank of America and just behind Halliburton."⁹³ *Bloomberg Businessweek* even titled its recent profile of Monsanto, "Inside Monsanto, America's Third-Most-Hated Company."⁹⁴ *Politico's* recent profile of Monsanto's PR woes began with "Monsanto is the agriculture world's prince of darkness, spreading its demonic genetically modified seeds on fields all over the earth...."⁹⁵

In 2013, to boost its public image, Monsanto

91 "More than 20 million Americans have died as a result of smoking since the first Surgeon General's report on smoking and health was released in 1964.....Between 2005-2009, smoking was responsible for more than 480,000 premature deaths annually among Americans 35 years of age and older." ["The Health Consequences of Smoking - 50 Years of Progress."](#) U.S. Surgeon General, U.S. Department of Health and Human Services, 2014. See also generally Robert N. Proctor, *Golden Holocaust: Origins of the Cigarette Catastrophe and the Case for Abolition*. (Berkeley, CA: University of California Press, 2011). Richard Kluger, *Ashes to Ashes: America's Hundred-Year Cigarette War, the Public Health, and the Unabashed Triumph of Philip Morris*. (New York: Alfred A. Knopf, 1997). Allan M. Brandt, *The Cigarette Century: The Rise, Fall and Deadly Persistence of the Product that Defined America*. (New York: Basic Books, 2007). Stanton A. Glantz, John Slade, Lisa A. Bero, Peter Hanauer and Deborah E. Barnes, *The Cigarette Papers*. (Berkeley, CA: University of California Press, 1996). [Legacy Tobacco Documents Library](#), University of California, San Francisco.

92 [Harris Poll 2013 RQ Summary Report](#). Harris Interactive, February 2013.

93 Drake Bennett, "Inside Monsanto, America's Third-Most-Hated Company." *Bloomberg Businessweek*, July 3, 2014.

94 Drake Bennett, "Inside Monsanto, America's Third-Most-Hated Company." *Bloomberg Businessweek*, July 3, 2014.

95 Jenny Hopkinson, "Monsanto Confronts Devilish Public Image Problem." *Politico*, November 29, 2013.

has hired the PR firm Fleishman Hillard to “reshape” its reputation “amid fierce opposition to the seed giant’s genetically modified products,” as the PR industry’s *Holmes Report* put it. It notes that the companies, both headquartered in St. Louis:

have a solid historic relationship. After previously serving as the company’s AOR [Agency of Record] in the 80s, FH has more recently worked on branding and comms projects for some of the company’s divisions.... According to sources familiar with the situation, Monsanto is aiming [to] develop a more cohesive communications approach, in the face of sustained NGO criticism.⁹⁶

Among other things, Monsanto is trying to resuscitate its image with “mommy bloggers,” trying to convince them that Monsanto is really a “sustainable agriculture company.”⁹⁷

In 2013, Fleishman Hillard also became the PR agency of record for Bayer.⁹⁸

The Tobacco Institute was the cigarette industry’s main lobbying organization. And Fleishman Hillard worked as its public relations firm. In its resignation letter to the Tobacco Institute in 1993, Fleishman Hillard’s Richard J. Sullivan notes that “Our company has represented the Institute for the past seven and a half years....We always believed that we provided excellent service to you and the Institute, and in return you have always been very generous and supportive of us.”⁹⁹

In the *Washington Post*, Morton Mintz recounted the story of how Fleishman Hillard and the Tobacco Institute converted the Healthy Buildings Institute into a front group for the tobacco industry in its effort to spin away public concern about the dangers of second-hand smoke.¹⁰⁰

Fleishman Hillard was also caught using unethical tactics against public health and

tobacco control advocates. According to a study by Ruth Malone in the *American Journal of Public Health*, Fleishman Hillard conducted espionage against tobacco control advocates on behalf of the tobacco company R. J. Reynolds. It even secretly audiotaped tobacco control meetings and conferences.¹⁰¹ However, in recent years, Fleishman Hillard has worked on a number of anti-smoking campaigns.

Ogilvy & Mather, DuPont Pioneer’s PR Firm, Worked for the Tobacco Institute

DuPont Pioneer is the world’s second largest seed producer, and a major producer of genetically engineered seeds.

On March 26, 2012, the *Des Moines Register* reported that Pioneer had hired the PR firm Ogilvy & Mather, which also represents Pioneer’s corporate parent, DuPont.¹⁰² Ogilvy & Mather’s work on behalf of DuPont Pioneer has been highly regarded. The PR Society of America awarded Ogilvy PR and DuPont Pioneer its highest honor, “Best of the Anvils,” for producing a PR campaign to obfuscate the responsibility of DuPont and its neonicotinoid pesticides in the ongoing crisis afflicting the world’s bees.¹⁰³

Ogilvy & Mather Public Affairs also worked for the Tobacco Institute, then the principal lobbying arm of the tobacco industry. According to a 1987 agreement between Ogilvy and the Tobacco Institute, “Ogilvy will provide The Institute public affairs consulting services... [including] assistance in strategy development and implementation, writing assignments as appropriate, and initiating and maintaining contact with targeted coalition groups.”¹⁰⁴ Ogilvy also conducted “media tours” for the Tobacco Institute regarding matters such as “indoor air quality,” “environmental tobacco smoke,” and “economic issues.”¹⁰⁵

96 Arun Sudhaman, “Monsanto Selects FleishmanHillard To Reshape Reputation.” *The Holmes Report*, July 24, 2013.

97 Sarah Henry, “Monsanto Woos Mommy Bloggers.” *Modern Farmer*, September 18, 2014.

98 Virgil Dickson, “Bayer Brings on Fleishman for Global Issues Account.” *PR Week*, August 1, 2013.

99 Correspondence from Richard J. Sullivan, Fleishman Hillard to Susan Stuntz, Senior Vice President, Tobacco Institute, April 16, 1993. Legacy Tobacco Documents Library, Bates No. T10K0011478.

100 Morton Mintz, “Second-hand Money.” *Washington Post*, March 24, 1996.

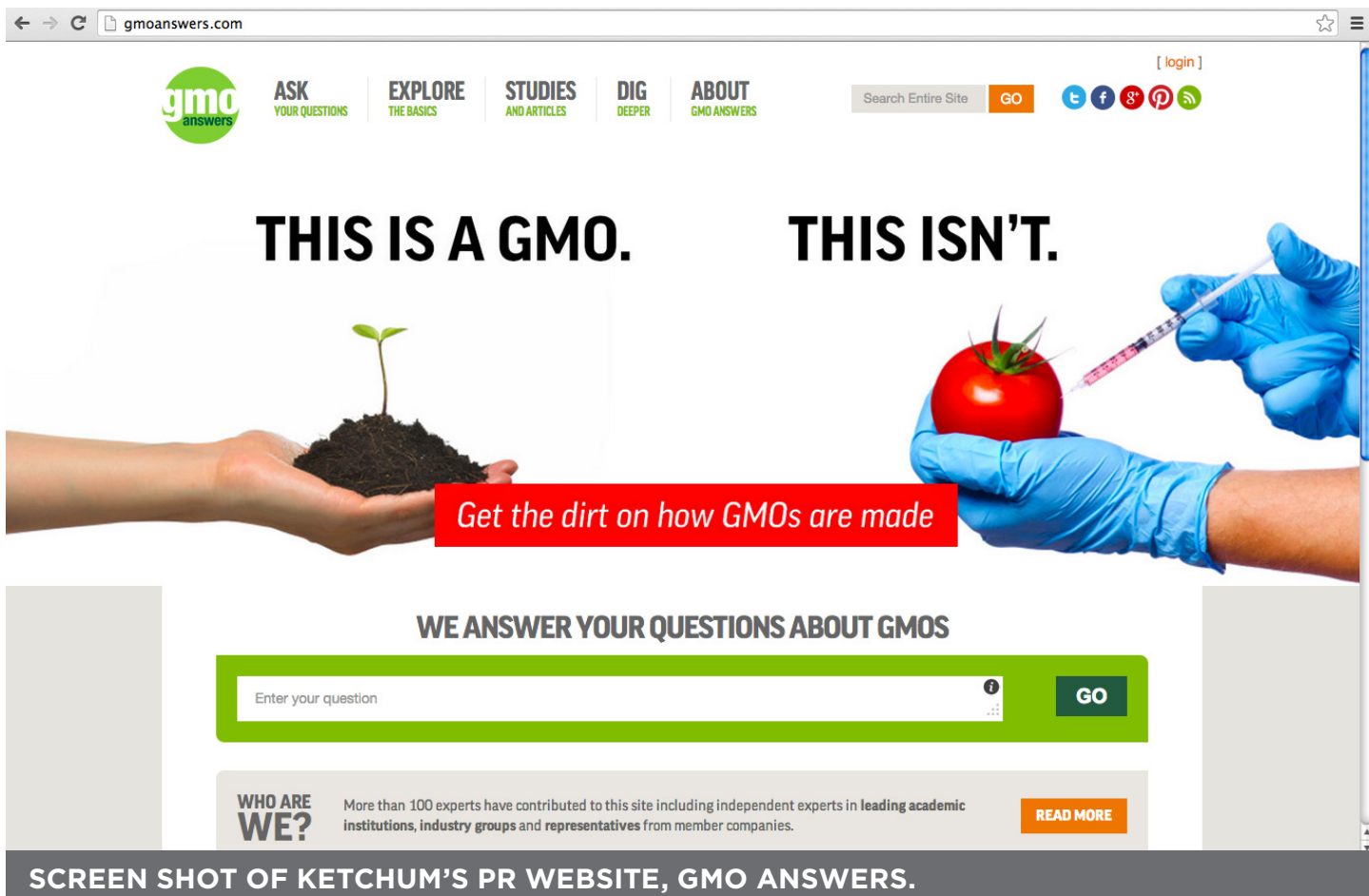
101 Ruth E. Malone, “Tobacco Industry Surveillance of Public Health Groups: The Case of STAT and INFACT.” *American Journal of Public Health*, June 2002. 92(6): 955-960.

102 Dan Piller, “Pioneer Shifts Ad, PR Agency Work.” *Des Moines Register*, March 26, 2012.

103 Jack O’Dwyer, “PRSA Award-Winning DuPont Linked to Bee Deaths.” *Jack O’Dwyer’s Newsletter*, December 11, 2013.

104 Correspondence from William Kloepfer, Jr., Senior Vice President, The Tobacco Institute Inc., to Joseph L. Powell, Jr., Chairman, Ogilvy & Mather Public Affairs. June 30, 1987. Legacy Tobacco Documents Library, University of California, San Francisco. Bates No. T101480030-T101480031.

105 Correspondence from Peter G. Sperber, The Tobacco Institute, to Joseph L. Powell, Jr., Chairman & CEO, Ogilvy & Mather. August 18, 1987. Legacy Tobacco Documents Library, University of California, San Francisco. Bates No. T101480028-T101480029.



SCREEN SHOT OF KETCHUM'S PR WEBSITE, GMO ANSWERS.

Ketchum's work for the tobacco industry

The Council for Biotechnology has hired Ketchum to produce its major PR campaign and website, GMO Answers.¹⁰⁶

Ketchum, McLeod and Grove also wrote copy for Brown & Williamson's cigarette advertising campaigns. For example, they prepared copy to convince Americans to smoke Fact cigarettes because they were supposedly less dangerous than other cigarettes:

Is Fact a safer cigarette? You like to smoke. You enjoy it. But just to be on the safe side, you settle for a low-'tar.' Well, according to the critics, that's not safe enough....If you think they're right, then you should smoke Fact...¹⁰⁷

106 Georgina Gustin, "Monsanto, Other Biotech Companies, Launch Website To Answer GMO-Related Questions." *St. Louis Post-Dispatch*, July 29, 2013. Dan Flynn, "Plant Biotechnology Industry Rolls Out Site to Address Top Consumer Questions." *Food Safety News*, March 20, 2014.

107 Ketchum, McLeod and Grove, "Safety (critics)/Challenge Combination." Advertising copy for Brown & Williamson, May 13, 1976. Now that the tobacco industry is in disrepute, Ketchum has switched sides. In May 2014, Legacy announced that Ketchum is the public relations agency of record for both Legacy and its Truth campaign.

Two Syngenta PR firms worked for the tobacco industry

According to news reports, Syngenta hired the PR firm Jayne Thompson & Associates to help spin a massive 2004 lawsuit against it regarding atrazine.¹⁰⁸ On its website, Jayne Thompson's firm boasts of its work on behalf of Altria, the parent company of tobacco firm Philip Morris USA:

"to craft and manage a high-stakes integrated crisis, media relations and public affairs campaign" resulting in, among other things, "more than a dozen supportive editorials... strong Illinois media coverage...national editorial support and international press attention."¹⁰⁹

In the *New Yorker*, Rachel Aviv notes that after a critical *New York Times* article about atrazine, Syngenta hired a PR firm called the White House Writers Group to help defend its

108 Ameet Sachdev, "PR Executive Sets Off Firestorm With Proposal to Discredit Madison County Court System." *Chicago Tribune*, May 28, 2011.

109 Jayne Thompson & Associates, "Crisis Communications, Media Relations & Public Affairs".

embattled herbicide.¹¹⁰ Among other things, Syngenta's PR firm, the White House Writers Group, has also done PR work for the Philip Morris tobacco company, including work on speeches, talking points and fact sheets.¹¹¹

Top operative against GMO labeling was outside counsel to Philip Morris

Tom Hiltachk is the managing partner of the Sacramento law firm Bell, McAndrews & Hiltachk LLP. He was the treasurer for the front group/campaign committee that the agricultural and food industries employed to oppose Proposition 37, the 2012 California ballot initiative for labeling of genetically engineered food.¹¹² Bell, McAndrews & Hiltachk represented the "No on 37" campaign.¹¹³ Donations to the "No on 37" campaign went directly to Bell, McAndrews and Hiltachk's offices.¹¹⁴

Hiltachk is a former outside counsel to Philip Morris.¹¹⁵ Among his other work on behalf of the tobacco industry, he also represented "Californians for Smokers Rights"¹¹⁶ and the "Cigarettes Cheaper!" chain stores in their opposition to the collection of California tobacco taxes.¹¹⁷

110 Rachel Aviv, "[A Valuable Reputation](#)," *New Yorker*, February 10, 2014. See also Clare Howard, "[Syngenta's Campaign to Protect Atrazine, Discredit Critics](#)," *Environmental Health News*, June 17, 2013.

111 See, for example, [Memorandum](#) for Craig Fuller, Senior Vice President, Corporate Affairs, Philip Morris Companies, from Clark S. Judge, White House Writers Group, "Regarding Written Deliverables Called For By PM-RJR Task Force." March 12, 1993. Legacy Tobacco Documents Library, University of California, San Francisco. Bates No. 2048596137-2048596141A. [Memorandum](#) for Craig L. Fuller, Senior Vice President, Corporate Affairs, Philip Morris Companies, from Clark S. Judge, Managing Partner, White House Writers Group, "Regarding Edited Versions of First Round Speeches." June 2, 1993. Legacy Tobacco Documents Library, University of California, San Francisco. Bates No. 2023923028-2023923029.

112 See the campaign finance [electronic filings](#) of "No on 37: Coalition Against the Deceptive Food Labeling Scheme, Sponsored by Farmers and Food Producers." California Secretary of State.

113 See campaign finance [disclosures](#) of "No on 37: Coalition Against the Deceptive Food Labeling Scheme, Sponsored by Farmers and Food Producers." California Secretary of State.

114 Michele Simon, "[Big Tobacco Shills Trying to Stop GMO Labeling in California](#)," *Huffington Post*, August 14, 2012.

115 Stella Aguinaga, Stanton A. Glantz, "[The Use of Public Records Acts to Interfere with Tobacco Control](#)," *Tobacco Control*, September 1995, 4(3): 222-230. Lee Fang, "[Smelling A Chance To Burn Oil Money, Tobacco Lobbyists Orchestrate Effort To Repeal CA Clean Energy Law](#)," *Think Progress*, July 27, 2010.

116 Stella Aguinaga, Stanton A. Glantz, "[The Use of Public Records Acts to Interfere with Tobacco Control](#)," *Tobacco Control*, September 1995, 4(3): 222-230. Lee Fang, "[Smelling A Chance To Burn Oil Money, Tobacco Lobbyists Orchestrate Effort To Repeal CA Clean Energy Law](#)," *Think Progress*, July 27, 2010.

117 "[Judge Rejects Tobacco Firms' Challenge to Collection of Taxes Under Prop. 10](#)," *Associated Press/Los Angeles Times*, November 16, 2000.

"No on 37" opposition research firm worked for tobacco giant Altria

MB Public Affairs is an opposition research firm that that was hired by the "No on 37" campaign to defeat GMO labeling in California.¹¹⁸

Previously, MB Public Affairs worked for the tobacco company Altria (formerly Philip Morris Cos.), according to the *Los Angeles Times*.¹¹⁹

Using the tobacco industry playbook by pretending to care (about farmers and sustainability)

The tobacco industry was famous for its self-serving advertising and public relations campaigns to make smokers think that it cared about them, while it was actually promoting a product that, when used as intended, is often deadly.

For example, in 1953, the tobacco company Liggett & Myers ran an advertising campaign called "Best For You," in which it promoted its Chesterfield cigarettes as "Best for you."¹²⁰ One of its 1954 ads featured the claim that Chesterfields were "The cigarette tested and approved by 30 years of scientific tobacco research."¹²¹ Another set of advertisements for Virginia Slims promoted the idea that cigarettes could help smokers to be slim, beautiful and empowered.¹²² Many other tobacco ad campaigns ran in a similar vein.

Of course, the tobacco companies cared only about profits, not smokers, but this ruse helped to hook generations of smokers.

In a similar way, just as tobacco companies pretended to care about smokers, the agricultural companies pretend to care about farmers and sustainability, when what they really care about is profits.

The agricultural industry uses farmers as spokespeople because Americans typically view farmers as trustworthy and honorable. For example, Monsanto has produced a

118 See campaign finance [disclosures](#) of "No on 37: Coalition Against the Deceptive Food Labeling Scheme, Sponsored by Farmers and Food Producers." California Secretary of State.

119 Jim Newton, "[A Mysterious Inquiry](#)," *Los Angeles Times*, June 20, 2011.

120 "[Best for You](#)," Stanford Research Into the Impact of Tobacco Advertising, Stanford School of Medicine.

121 "[Today's Chesterfield is the Best Cigarette Ever Made!](#)" Stanford Research Into the Impact of Tobacco Advertising, Stanford School of Medicine.

122 "[Virginia Slims Before 1989](#)," Stanford Research into the Impact of Tobacco Advertising, Stanford School of Medicine.

website titled “American Farmers,”¹²³ packed with beautiful and moving photographs of farmers and their families, and bountiful harvests of crops. Here’s what Monsanto says it wants to accomplish: “Through our America’s Farmers programs, we hope to help educate consumers about modern agriculture, grow rural communities and schools, and celebrate women in agriculture.”¹²⁴

The website celebrates farmers and farming in myriad ways. “Farmers do more than feed, fuel and clothe the world,” Monsanto’s website says. “They are the life blood of rural communities, supporting the local economy and giving back to the community whenever possible.”¹²⁵ It even gives out awards and “recognition” for farmers and their families.

In essence, Monsanto is trying to associate itself and its genetically engineered crops with the positive halo of our nation’s farmers, and to use that to boost its profits.

Undoubtedly, American farmers and their families do heroic things every day, and get less credit than they deserve. So many work hard, and go without thanks, celebration or even much compensation, to feed our country and our planet. So, of course American farmers deserve celebration. But what is wrong with these PR efforts is the cynical use of good farmers and their families – not to help them, but rather to bolster Monsanto and its profits.

The food and agrichemical companies and their front groups also use farmers prominently in their negative campaign ads against labeling of genetically engineered food, because farmers are seen as trustworthy. Farmers were used as spokespeople in ads in the campaigns against GMO labeling ballot initiatives in California,¹²⁶ Washington,¹²⁷ Oregon¹²⁸ and Colorado.¹²⁹ In California, the name of the industry front group campaign committee against GMO labeling was “No On 37: Coalition Against The Deceptive Food Labeling Scheme, Sponsored By Farmers

123 Monsanto’s American Farmers [website](#).

124 “[Your Day Begins With a Farmer](#).” Monsanto’ American Farmers website.

125 “[Recognition Programs](#).” Monsanto’s America’s Farmers website.

126 “[Farmer Ted Sheely: No On 37](#).” Advertisement for No on 37.

127 “[Third-Generation Farmer: Brenda Alford](#).” Advertisement for No on 522.

128 No on 92 commercials, “[Farmer Matt](#)” and “[Three Generations](#).”

129 No on 105 commercials, “[Farmer Veronica Lasater](#),” and “[Modern Beet Varieties](#).”

And Food Producers,”¹³⁰ even though most of the money for the campaign came from big agrichemical and food companies.

In a similar vein, Monsanto’s new national advertising campaign includes a 60-second spot titled “Food is Love,” that cynically tries to associate itself with the warmth and love that comes out of sharing food with friends and family. In this emotional spot, Monsanto is pretending that it cares about you and your loved ones.¹³¹

Just as the agrichemical industry pretends to care about farmers, and about you, it also pretends to care about “sustainability.” Of course, given the adverse impact of herbicides like Roundup on soil health,¹³² there may well be few things less sustainable than spraying vast quantities such herbicides on crops and fields across the planet.¹³³ Nevertheless, for example, Monsanto boasts often and loudly that it embraces the idea of “sustainability,” producing slick websites (posted at [sustainability.monsanto.com](#)),¹³⁴ beautiful videos on sustainability,¹³⁵ along with a “commitment to sustainable agriculture,” and statements professing its “vision for sustainable agriculture.”¹³⁶

These protestations from Monsanto in support of “sustainability” are ironic, as they come from a company that produced huge quantities of toxic chemicals and pollution. For example, Monsanto was the main manufacturer of toxic PCBs. The dangerous legacy of Monsanto’s PCB pollution remains, especially in the town of Anniston, Alabama,¹³⁷ and it is incompatible with the idea of sustainability.

130 Their campaign finance [filings](#) are available from the California Secretary of State.

131 See Maria Altman, “[Monsanto Appeals Directly To Consumers In New Ad Campaign](#),” St. Louis Public Radio, November 5, 2014. “[Food is Love](#).” Monsanto commercial, November 5, 2014.

132 See, for example, Stephanie Strom, “[Misgivings About How a Weed Killer Affects the Soil](#),” *New York Times*, September 19, 2013. Carey Gillam, “[Roundup Herbicide Research Shows Plant, Soil Problems](#),” *Reuters*, August 12, 2011.

133 See, for example, “[Eight Ways Monsanto Fails at Sustainable Agriculture](#).” Union of Concerned Scientists, January 4, 2012.

134 “[Monsanto’s Corporate Responsibility & Sustainability](#),” Monsanto website.

135 See, for example, “[Monsanto Company: Committed to Sustainable Agriculture, Committed to Farmers](#),” and “[Monsanto’s Commitment to Sustainable Agriculture](#).”

136 “[Our Commitment to Sustainable Agriculture](#).” Monsanto website.

137 See, for example, Michael Grunwald, “[Monsanto Hid Decades Of Pollution](#),” *Washington Post*, January 1, 2002. Brett Israel, “[Pollution, Poverty and People of Color: Dirty Soil and Diabetes](#),” *Scientific American*, June 13, 2012. Ellen Crean, “[Toxic Secret](#),” 60 Minutes, CBS News, November 7, 2002.



Dow Chemical and Monsanto were also the primary manufacturers of Agent Orange, an infamous herbicide used during the Vietnam War. About 20 million gallons were sprayed in Vietnam.¹³⁸ The herbicide was contaminated with 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), which is a highly toxic chemical. Monsanto was also a manufacturer of the infamous pesticide DDT. Again, this record is incompatible with sustainability.

#5: Russia's PR firm runs the agrichemical industry's big PR salvo on GMOs

The agrichemical industry faces major public relations challenges, so it needs superb PR assistance. Perhaps it is not surprising that they hired the public relations firm that represents Russia, Ketchum, to manufacture the spin they need to keep its lavish profits flowing from the sale of genetically engineered seeds and related pesticides.

¹³⁸ Clyde Haberman, "Agent Orange's Long Legacy, for Vietnam and Veterans." *New York Times*, May 11, 2014.

We Americans have good reason to distrust the ways that Russia and its PR firm Ketchum spin Russia's aggressive foreign policy. So why should we trust Ketchum and its major public relations initiative to sell the idea that genetically engineered foods are safe for humans and the environment?

Ketchum is one of the world's largest public relations firms. It is owned by the giant advertising firm Omnicom.

Ketchum began working for Russia in 2006. According to *ProPublica*, Russia pays Ketchum generously: "From mid-2006 to mid-2012, Ketchum received almost \$23 million in fees and expenses on the Russia account and an additional \$17 million on the account of Gazprom, the Russian state-controlled energy giant..."¹³⁹ According to the *New York Times*, Ketchum has ten employees working on the Russia account.¹⁴⁰

Ketchum's work on behalf of Russia is well-known. For example, in a recent news report, *Reuters* identified Ketchum as "The U.S."

¹³⁹ Justin Elliott, "From Russia With PR." *ProPublica*, September 12, 2013.

¹⁴⁰ Ravi Somaiya, "P.R. Firm for Putin's Russia Now Walking a Fine Line." *New York Times*, August 31, 2014. See also Rosie Gray, "Putin Spokesman Suggests Kremlin Might End Ketchum Contract." *BuzzFeed*, September 2, 2014.





company that handles public relations for Russia in the United States.”¹⁴¹ Here’s how the *Washington Post* introduced its readers to Ketchum: “Meet Ketchum, a New York-based PR firm that looks out for Russia’s interests

in the U.S.”¹⁴² When Russian President Vladimir V. Putin wanted to place a magnificently deceptive op-ed¹⁴³ in the *New York Times* about Syria, it had Ketchum place it.¹⁴⁴

What else does Ketchum do for Russia? According to the *Washington Post*, “Ketchum spends a lot of time sending out press releases, setting up meetings with visiting Russian officials, and talking with journalists about things like Russia’s G20 presidency and U.S.-Russia relations...”¹⁴⁵

In recent months, Ketchum has tried to spin itself away from any ties to Russian foreign policy. It claimed that “We are not advising the Russian Federation on foreign policy, including the current situation in Ukraine.”¹⁴⁶

Ketchum and espionage

Aside from its work for Russia, Ketchum has a history of unethical activities. For example Ketchum hired the notorious private investigative firm Beckett Brown International (BBI) to conduct a massive espionage effort against Greenpeace, including hiring police to gain access to Greenpeace’s trash, hiring

141 Andy Sullivan, “Russia’s U.S. PR Firm Distances Itself from Ukraine Dispute.” *Reuters*, March 6, 2014.

142 Holly Yeager, “Who Would Work For Russia? These People.” *Washington Post*, March 7, 2014. David Teather, “PR Groups Cash in on Russian Conflict.” *Guardian*, August 23, 2009.

143 Vladimir V. Putin, “A Plea for Caution From Russia: What Putin Has to Say to Americans About Syria.” *New York Times*, September 11, 2013.

144 Rosie Gray, “Ketchum Placed Controversial Putin Op-Ed: The PR Firm’s Biggest Russia Coup Ever?” *BuzzFeed News*, September 12, 2013. Justin Elliott, “From Russia With PR.” *ProPublica*, September 12, 2013.

145 Holly Yeager, “Who Would Work For Russia? These People.” *Washington Post*, March 7, 2014. Ketchum’s recent work for Russia is cheerfully detailed in its filings required by the Foreign Agents Registration Act. See, for example, Ketchum’s supplemental statement to the FARA registration unit of the U.S. Department of Justice, July 11, 2014. See also Eamon Javers, “Who’s on Putin’s American Payroll?” *CNBC*, March 5, 2014.

146 Andy Sullivan, “Russia’s U.S. PR Firm Distances Itself from Ukraine Dispute.” *Reuters*, March 6, 2014.

a firm staffed by former National Security Agency (NSA) employees to conduct computer intrusion and electronic surveillance, and obtaining phone records of Greenpeace staff or contractors.¹⁴⁷

Ketchum appears to have also targeted consumer, food safety and environmental groups with espionage over issues related to genetically engineered food. According to an email from BBI staffer Jay Bly to Tim Ward, a former Maryland State Trooper also working for BBI:

Received a call from Ketchum yesterday afternoon re three sites in DC. It seems Taco Bell turned out some product made from bioengineered corn. The chemicals used on the corn have not been approved for human consumption. Hence Taco Bell produced potential glow-in-the-dark tacos. Taco Bell is owned by Kraft. The Ketchum Office, New York, has the ball. They suspect the initiative is being generated from one of three places:

1. Center for Food Safety, 7th & Penn SE
2. Friends of the Earth, 1025 Vermont Ave (Between K & L Streets)
3. GE Food Alert, 1200 18th St NW (18th & M)

#1 is located on 3rd floor. Main entrance is key card. Alley is locked by iron gates. 7 dumpsters [sic] in alley—take your pick.

#2 is in the same building as Chile Embassy. Armed guard in lobby & cameras everywhere. There is a dumpster in the alley behind the building. Don’t know if it is tied to bldg. or a neighborhood property. Cameras everywhere.

#3 is doable but behind locked iron gates at rear of bldg.¹⁴⁸

Ketchum has been involved in other scandals, too. For example, the U.S. Government Accountability Office criticized Ketchum in

147 James Ridgeway, “Black Ops, Green Groups.” *Mother Jones*, April 11, 2008. Gary Ruskin, *Spooky Business: Corporate Espionage Against Non-Profit Organizations*. November 20, 2013. Spencer S. Hsu, “Greenpeace Accuses Dow Chemical, Sasol and P.R. Allies of Corporate Spying.” *Washington Post*, November 29, 2010. Ralph Nader, “Corporations Spy on Nonprofits With Impunity.” *Huffington Post*, August 22, 2014. For details regarding Greenpeace’s lawsuit against Ketchum and others, see Greenpeace’s [Spy Gate](#) web page.

148 James Ridgeway, “The Dirty History of Corporate Spying.” *Guardian*, February 15, 2011.

2004 and 2005 for producing video news releases that violated federal prohibitions against “covert propaganda” because they failed to disclose that they were financed by the federal government.¹⁴⁹

What Russia’s PR Firm Does To Spin GMOs

Public relations firms like Ketchum are notoriously secretive, so there is little public information available about what services they really provide to the agrichemical industry. Here’s what we know.

The Council for Biotechnology selected Ketchum to produce a major public relations initiative: the GMO Answers campaign and website,¹⁵⁰ to help promote the industry’s views on genetically engineered food. According to the *St. Louis Post-Dispatch*, “Ketchum will oversee the site” which the agrichemical companies “hope will help clear up confusion — and dispel mistrust — about their products.”¹⁵¹

Ketchum’s spinning for the agrichemical industry has been so artful that it was shortlisted in 2014 for a CLIO Award in the category of “Public Relations: Crisis and Issue Management.”¹⁵²

Ketchum claims its work on GMOs has had a major impact. According to a Ketchum video, “positive media coverage has doubled. On Twitter, where we closely monitor the conversation, we’ve successfully balanced 80%

of interactions with detractors.”¹⁵³ Cathleen Enright, executive director for the Council for Biotechnology Information, has also confirmed the campaign’s influence to *Reuters*. It “has tracked media reports about GMOs since the campaign began and has seen ‘measurable change,’ Enright said. ‘We’ve seen the positive tone ... increase. That tells us we are having an impact.’”¹⁵⁴

The American Farm Bureau Federation also boasts of Ketchum’s social media work in support of GMOs and the agrichemical industry. According to Andrew Walmsley of the American Farm Bureau Federation, Ketchum “seeks out negative (biotech-related) tweets on Twitter. We started that earlier this year. They’ll monitor for negative tweets and then ask (the author) to check out GMOanswers. ... Since we launched that there’s been about an 80 percent reduction in negative Twitter traffic as it relates to GMOs.”¹⁵⁵

Not surprisingly, given the impact that Ketchum’s GMO Answers campaign has had, the Council for Biotechnology Information has “committed to spending millions more annually for several more years on this campaign,” according to *Reuters*, though it would not disclose exactly how much it has spent or will spend on it. *Reuters* reported that it is a “multimillion-dollar campaign.”¹⁵⁶

The GMO Answers site purports to be a place where consumers can get “answers” from industry leaders and “independent experts” about genetically engineered food.

There is not enough space here to point out all of the deceptions in Ketchum’s GMO Answers website. But among the most notable deceptions — a classical public relations strategy — is to attribute comments to “independent experts” when they are

149 “Matter of: Department of Health and Human Services, Centers for Medicare & Medicaid Services—Video News Releases.” U.S. General Accounting Office, May 19, 2004. GAO file # B-302710. Correspondence with U.S. Senators Frank R. Lautenberg and Edward M. Kennedy. “Subject: Department of Education—No Child Left Behind Act Video News Release and Media Analysis.” U.S. Government Accountability Office, September 30, 2005. GAO File #B-304228. Sebastian Jones and Michael Grabell, “PR Firm Behind Propaganda Videos Wins Stimulus Contract.” *ProPublica*, March 30, 2010. Robert Pear, “White House’s Medicare Videos Are Ruled Illegal.” *New York Times*, May 20, 2004.

150 <http://www.gmoanswers.com>.

151 Georgina Gustin, “Monsanto, Other Biotech Companies, Launch Website To Answer GMO-Related Questions.” *St. Louis Post-Dispatch*, July 29, 2013. Dan Flynn, “Plant Biotechnology Industry Rolls Out Site to Address Top Consumer Questions.” *Food Safety News*, March 20, 2014.

152 “Ketchum Continues Winning Tradition at CLIOs with Three Awards, One Shortlist Mention.” Ketchum news release, October 2, 2014.

153 Ketchum helps the agrichemical industry respond to negative comments on social media. An article in the *Delta Farm Press* quotes Andrew Walmsley of the American Farm Bureau Federation states that Ketchum “seeks out negative (biotech-related) tweets on Twitter. We started that earlier this year. They’ll monitor for negative tweets and then ask (the author) to check out GMOanswers. ... Since we launched that there’s been about an 80 percent reduction in negative Twitter traffic as it relates to GMOs.” CLIO Awards, public relations category, 2014 winners page on [GMO Answers](#).

154 Carey Gillam, “U.S. GMO Crop Companies Double Down on Anti-labeling Efforts.” *Reuters*, July 29, 2014.

155 David Bennett, “The Battle Over Biotech Food Labeling Heating Up.” *Delta Farm Press*, August 4, 2014.

156 Carey Gillam, “U.S. GMO Crop Companies Double Down on Anti-labeling Efforts.” *Reuters*, July 29, 2014.

not independent at all. For example, the site identifies Bruce M. Chassy as an “independent expert.”¹⁵⁷ He is nothing of the sort, and has a history of hiding his ties to the agrichemical and food industries.¹⁵⁸ Another supposedly “independent expert” is Hans Sauer, who is actually “Deputy General Counsel for Intellectual Property for the Biotechnology Industry Organization,” a major trade group for the biotechnology and agrichemical industries.¹⁵⁹ Another supposedly “independent expert” is Kent Bradford, director of the Seed Biotechnology Center at UC Davis.¹⁶⁰ Two years ago, public health lawyer Michele Simon called out Bradford for parroting word-for-word the talking points of the agrichemical industry in an anti-GMO labeling op-ed that was published the *Woodland Daily Democrat*.¹⁶¹

Ketchum is also behind the agriculture industry front group U.S. Farmers and Ranchers Alliance. According to the *St. Louis Post-Dispatch*,

In 2011 the leaders of 12 commodity groups met in St. Louis at the invitation of Rick Tolman, head of the National Corn Growers Association, resolving to do something to better connect with consumers. They formed the U.S. Farmers and Ranchers Alliance, which in turn launched the “Food Dialogues,” a series of panel discussions and other programs intended to reach shoppers with a more ag-friendly message. The group members pooled their resources and hired New York PR firm, Ketchum, to help guide strategy.¹⁶²

For ample good reason, we Americans are disinclined to trust Ketchum when it speaks for Russia and its president, Vladimir Putin.

Russia’s lack of credibility is legendary. Why should we trust Ketchum when it speaks on GMOs any more than we trust it when it speaks for Russia?

#6: The agrichemical industry’s key front groups and shills aren’t trustworthy

The creation and use of front groups and shills is a standard public relations tactic of the tobacco, fossil fuels, chemicals and other industries to advance their public relations, legislative, regulatory or other goals. They provide a number of PR advantages to companies and industries:

- They multiply the number of speakers on behalf of a corporate point of view, validating it from an “independent” or academic perspective, making it seem that the company or industry is not alone or isolated.
- They may have more credibility than the company or industry, because they may not be seen as directly profiting from corporate actions, and because their conflicts of interest may be hidden.
- The front groups and shills may say things that, for many reasons, the company or industry wishes it could say, but cannot say directly.

The use of front groups in public relations was invented and pioneered by the legendary public relations and marketing genius Edward Bernays, in his work on behalf of the tobacco industry and many others.¹⁶³

Following are a few of the agrichemical industry’s key front groups and shills.

Henry Miller

Henry I. Miller is perhaps the most prolific and best-known apologist for genetically engineered food and crops. He is the

157 “Independent Expert: Bruce M. Chassy.” GMO Answers.

158 “Bruce Chassy has received research grants from major food companies and has conducted seminars for Monsanto, Mills Labs (Minneapolis, MN, USA), Unilever (Gaithersburg, MD, USA), Genencor (S. San Francisco, CA, USA), Amgen (Thousand Oaks, CA, USA), Connaught Labs (now part of Aventis, Strasbourg, France) and Transgene (Strasbourg, France).” Virginia A. Sharpe and Doug Gurian-Sherman, “Competing Interests.” *Nature Biotechnology* 21, 1131 (2003) doi:10.1038/nbt1003-1131a.

159 “Independent Expert: Hans Sauer.” GMO Answers. Sauer’s bio states that he has “18 years of in-house experience in the biotechnology industry.”

160 “Independent Expert: Kent Bradford.” GMO Answers.

161 Kent J. Bradford, “Prop. 37: More Than Meets the Eye.” *Woodland Daily Democrat*, September 30, 2012. Michele Simon, “Did Monsanto Write This Anti-GMO Labeling Op-Ed Signed by a UC Davis Professor?” *Treehugger*, October 4, 2012.

162 Georgina Gustin, “PR Push by Ag and Biotech Industries Has a Secret Weapon: Moms.” *St. Louis Post-Dispatch*, May 3, 2013.

163 See, for example, Sheldon Rampton and John Stauber, *Trust Us, We’re Experts!* (New York: Penguin Putnam, 2001), pp. 44-5. Timothy L. O’Brien, “Spinning Frenzy: P.R.’s Bad Press.” *New York Times*, February 13, 2005.

“the Robert Wesson Fellow in Scientific Philosophy and Public Policy at the Hoover Institution.”¹⁶⁴ He was the founding director of the FDA’s Office of Biotechnology. He has written numerous articles and op-eds in the *Wall Street Journal*, *New York Times*, *Forbes* and other news outlets in support of genetically engineered food, and against the labeling of it.¹⁶⁵ He was even featured in TV advertisements against Proposition 37, a ballot initiative for labeling of genetically engineered food in the State of California.¹⁶⁶

Miller’s bio on the *Forbes* website proclaims: “I debunk junk science and flawed public policy.”¹⁶⁷ However, during the course of his life, Miller himself has often presented an agile defense of junk science and flawed public policy.

Defending the tobacco industry

In a 1994 APCO Associates PR strategy memo to help Phillip Morris organize a global campaign to fight tobacco regulations, Henry Miller was referred to as “a key supporter” of these pro-tobacco industry efforts.¹⁶⁸

- In 2012, Miller wrote that “nicotine ... is not particularly bad for you in the amounts delivered by cigarettes or smokeless

products.”¹⁶⁹

Denying climate change

- Miller is a member of the “scientific advisory board” of the George C. Marshall Institute,¹⁷⁰ which is famous for its oil and gas industry funded denials of climate change.¹⁷¹

Defending the pesticide industry

- Miller defended the use of widely-criticized neonicotinoid pesticides and claimed that “the reality is that honeybee populations are not declining.”¹⁷²
- Miller has repeatedly argued for the re-introduction of DDT, a toxic pesticide banned in the United States since 1972, which has been linked to pre-term birth and fertility impairment in women.¹⁷³

Defending exposure to radiation from nuclear power plants

- In 2011, after the Japanese tsunami and radiation leaks at the Fukushima nuclear power plants, Miller argued in *Forbes* that “those ... who were exposed to low levels of radiation could have actually benefitted from it.”¹⁷⁴ At that time, he even penned an article titled “Can radiation be good for you?”¹⁷⁵

Defending the plastics industry

In an article in *Forbes*, Miller defended the use of the endocrine disruptor bisphenol A (BPA), which is banned in Europe and Canada for use in baby bottles.¹⁷⁶

Henry Miller’s other activities

Miller was a trustee of the infamous industry front group American Council for Science and Health, according to the ACSH website.¹⁷⁷

164 Hoover Institution, Henry Miller [bio](#).

165 See, for example, Jayson Lusk and Henry I. Miller, “[We Need G.M.O. Wheat](#),” *New York Times*, February 2, 2014. Henry I. Miller and Gregory Conko, “[General Mills Has a Soggy Idea for Cheerios](#),” *Wall Street Journal*, January 20, 2014. Henry I. Miller, “[India’s GM Food Hypocrisy](#),” *Wall Street Journal*, November 28, 2012. Henry I. Miller, “[Organic Farming Is Not Sustainable](#),” *Wall Street Journal*, May 15, 2014. Henry I. Miller, “[More Crop for the Drop](#),” *Project Syndicate*, August 7, 2014. Henry Miller, “[California’s Anti-GMO Hysteria](#),” *National Review*, March 31, 2014. Henry I. Miller, “[Genetic Engineering and the Fight Against Ebola](#),” *Wall Street Journal*, August 25, 2014. Henry I. Miller, “[Salmon Label Bill Should Be Thrown Back](#),” *Orange County Register*, April 4, 2011. Henry I. Miller, “[GE Labels Mean Higher Costs](#),” *San Francisco Chronicle*, September 7, 2012. Gregory Conko and Henry Miller, “[Labeling Of Genetically Engineered Foods Is a Losing Proposition](#),” *Forbes*, September 12, 2012. Gregory Conko and Henry I. Miller, “[A Losing Proposition on Food Labeling](#),” *Orange County Register*, October 11, 2012. Henry I. Miller and Bruce Chassy, “[Scientists Smell A Rat In Fraudulent Genetic Engineering Study](#),” *Forbes*, September 25, 2012. Jay Byrne and Henry I. Miller, “[The Roots of the Anti-Genetic Engineering Movement? Follow the Money!](#)” *Forbes*, October 22, 2012.

166 See, for example, Marc Lifsher, “[TV Ad Against Food Labeling Initiative Proposition 37 Is Pulled](#),” *Los Angeles Times*, October 4, 2012. Eric Van Susteren, “[Stanford Demands Anti-Prop. 37 Ad Be Changed](#),” *Palo Alto Weekly*, October 17, 2012.

167 *Forbes*, Henry Miller [bio](#) and articles page.

168 Memorandum from Tom Hockaday and Neal Cohen of Apco Associates Inc. to Matt Winokur, “[Thoughts on TASSC Europe](#),” March 25, 1994. Legacy Tobacco Documents Library, University of California, San Francisco. Bates No. 2024233595-2024233602.

169 Henry I. Miller and Jeff Stier, “[The Cigarette Smokescreen](#),” *Defining Ideas*, March 21, 2012.

170 Competitive Enterprise Institute, Henry Miller [bio](#).

171 See, for example, the [profile](#) of the George C. Marshall Institute in *DeSmogBlog*.

172 Henry I. Miller, “[Why the Buzz About a Bee-pocalypse Is a Honey Trap](#),” *Wall Street Journal*, July 22, 2014.

173 Henry I. Miller, “[Re-Booting DDT](#),” *Project Syndicate*, May 5, 2010. Henry I. Miller, “[Rachel Carson’s Deadly Fantasies](#),” *Forbes*, September 5, 2012.

174 Henry I. Miller, “[Can Tiny Amounts Of Poison Actually Be Good For You?](#)” *Forbes*, December 21, 2011.

175 Henry I. Miller, “[Can Radiation Be Good For You?](#)” *Project Syndicate*, April 8, 2011.

176 Henry I. Miller, “[BPA Is A-OK, Says FDA](#),” *Forbes*, March 12, 2014.

177 “[The Buzz About a Bee-pocalypse Is a Honey Trap](#),” American Council on Science and Health, July 23, 2014.

American Council on Science and Health

The American Council on Science and Health is a frequent defender of genetically engineered foods and crops.¹⁷⁸ It is a front group for the tobacco, agrichemical, fossil fuel, pharmaceutical and other industries.

Personnel

ACSH's "Medical/Executive Director" is Dr. Gilbert Ross.¹⁷⁹ In 1993, according to United Press International, Dr. Ross was "convicted of racketeering, mail fraud and conspiracy," and was "sentenced to 47 months in jail, \$40,000 in forfeiture and restitution of \$612,855" in a scheme to defraud the Medicaid system.¹⁸⁰

- ACSH's Dr. Ross was found to be a "highly untrustworthy individual" by a judge who sustained the exclusion of Dr. Ross from Medicaid for ten years.¹⁸¹

Funding

ACSH has often billed itself as an "independent" group, and has been referred to as "independent" in the press. However, according to internal ACSH financial documents obtained by *Mother Jones*:

- "ACSH planned to receive a total of \$338,200 from tobacco companies between July 2012 and June 2013. Reynolds American and Phillip Morris International were each listed as expected to give \$100,000 in 2013, which would make them the two largest individual donations listed in the ACSH documents."¹⁸²
- "ACSH donors in the second half of 2012 included Chevron (\$18,500), Coca-Cola

(\$50,000), the Bristol Myers Squibb Foundation (\$15,000), Dr. Pepper/Snapple (\$5,000), Bayer Cropscience (\$30,000), Procter and Gamble (\$6,000), agribusiness giant Syngenta (\$22,500), 3M (\$30,000), McDonald's (\$30,000), and tobacco conglomerate Altria (\$25,000). Among the corporations and foundations that ACSH has pursued for financial support since July 2012 are Pepsi, Monsanto, British American Tobacco, DowAgro, ExxonMobil Foundation, Philip Morris International, Reynolds American, the Koch family-controlled Claude R. Lambe Foundation, the Dow-linked Gerstacker Foundation, the Bradley Foundation, and the Searle Freedom Trust."¹⁸³

- ACSH has received \$155,000 in contributions from Koch foundations from 2005-2011, according to Greenpeace.¹⁸⁴

Indefensible and incorrect statements on science

ACSH has:

Claimed that "There is no evidence that exposure to secondhand smoke involves heart attacks or cardiac arrest."¹⁸⁵

- Argued that "there is no scientific consensus concerning global warming. The climate change predictions are based on computer models that have not been validated and are far from perfect."¹⁸⁶
- Argued that fracking "doesn't pollute water or air."¹⁸⁷
- Claimed that "The scientific evidence is clear. There has never been a case of ill health linked to the regulated, approved use of pesticides in this country."¹⁸⁸

178 See, for example, the American Council on Science and Health web page on [GMOs](#).

179 "[Meet the ACSH Team](#)," American Council on Science and Health website.

180 "Seven Sentenced for Medicaid Fraud." *United Press International*, December 6, 1993. See also correspondence from Tyrone T. Butler, Director, Bureau of Adjudication, State of New York Department of Health to Claudia Morales Bloch, Gilbert Ross and Vivian Shevitz, "[RE: In the Matter of Gilbert Ross, M.D.](#)" March 1, 1995. Bill Hogan, "[Paging Dr. Ross](#)." *Mother Jones*, November 2005. Martin Donohoe MD FACP, "[Corporate Front Groups and the Abuse of Science: The American Council on Science and Health \(ACSH\)](#)." *Spinwatch*, June 25, 2010.

181 Department of Health and Human Services, Departmental Appeals Board, Civil Remedies Division, [In the Cases of Gilbert Ross, M.D. and Deborah Williams M.D., Petitioners, v. The Inspector General](#). June 16, 1997. Docket Nos. C-94-368 and C-94-369. Decision No. CR478.

182 Andy Kroll and Jeremy Schulman, "[Leaked Documents Reveal the Secret Finances of a Pro-Industry Science Group](#)." *Mother Jones*, October 28, 2013. "[American Council on Science and Health Financial Report, FY 2013 Financial Update](#)." *Mother Jones*, October 28, 2013.

183 Andy Kroll and Jeremy Schulman, "[Leaked Documents Reveal the Secret Finances of a Pro-Industry Science Group](#)." *Mother Jones*, October 28, 2013. "[American Council on Science and Health Financial Report, FY 2013 Financial Update](#)." *Mother Jones*, October 28, 2013.

184 "[Koch Industries Climate Denial Front Group: American Council on Science and Health \(ACSH\)](#)." Greenpeace. See also Rebekah Wilce, "[Kochs and Corps Have Bankrolled American Council on Science and Health](#)." *PR Watch*, July 23, 2014.

185 Richard Craver, "[The Effects of the Smoking Ban](#)." *Winston-Salem Journal*, December 12, 2012.

186 Elizabeth Whelan, "'Global Warming' Not Health Threat." *PRI (Population Research Institute) Review*, January 1, 1998.

187 Elizabeth Whelan, "[Fracking Doesn't Pose Health Risks](#)." *The Daily Caller*, April 29, 2013.

188 "[TASSC: The Advancement of Sound Science Coalition](#)," p. 9. Legacy Tobacco Documents Library, University of California, San Francisco. November 21, 2001. Bates No. 2048294227-2048294237.

- Declared that “There is no evidence that BPA [bisphenol A] in consumer products of any type, including cash register receipts, are harmful to health.”¹⁸⁹
- Argued that the exposure to mercury, a potent neurotoxin, “in conventional seafood causes no harm in humans.”¹⁹⁰

Bruce M. Chassy

On the agrichemical industry PR website GMOAnswers, Bruce Chassy is identified as an “independent expert.”¹⁹¹ In reality, he is nothing of the sort. He has been supported by the agrichemical and processed food industries, and defends them in the media, and on his website Academics Review, and elsewhere.¹⁹²

Chassy has hid his ties to industry before. For example, a 2003 letter in *Nature Biotechnology* points out the journal’s failure to require its authors to disclose “close ties to companies that directly profit from the promotion of agricultural biotechnology.” The letter continues that “Bruce Chassy has received research grants from major food companies and has conducted seminars for Monsanto, Mills Labs (Minneapolis, MN, USA), Unilever (Gaithersburg, MD, USA), Genencor (S. San Francisco, CA, USA), Amgen (Thousand Oaks, CA, USA), Connaught Labs (now part of Aventis, Strasbourg, France) and Transgene (Strasbourg, France).”¹⁹³

At other times, Chassy has been more forthright about where his support comes from.

189 “[The Top 10 Unfounded Health Scares of 2012.](#)” American Council on Science and Health, February 22, 2013.

190 “[The Biggest Unfounded Health Scares of 2010.](#)” American Council on Science and Health, December 30, 2010.

191 “[Independent Expert: Bruce M. Chassy.](#)” GMOAnswers.

192 See, for example, [Academics Review](#). Henry I. Miller and Bruce Chassy, “[Scientists Smell A Rat In Fraudulent Genetic Engineering Study.](#)” *Forbes*, September 25, 2012. “[Genetically Modified Crops Are Overregulated, Food Science Expert Says.](#)” *Science Daily*, February 17, 2013. Andrew Pollack, “[Foes of Modified Corn Find Support in a Study.](#)” *New York Times*, September 19, 2012. “[The Potential Impacts of Mandatory Labeling for Genetically Engineered Food in the United States.](#)” Council for Agricultural Science and Technology, Issue Paper #54, April, 2014. Elaine Watson, “[Dr Chassy: ‘None of the Animals and Plants We Eat Today Exist ‘In Nature’, They Have All Been Extensively Genetically Modified.’](#)” *Food Navigator*, August 6, 2013. John R. Allen Jr., “[Resistance To GMOs Works Against the Hungry and Poor.](#)” *National Catholic Reporter*, May 19, 2019. Steve Tarter, “[Hybrid Crops That Used to Offer Resistance to Rootworm No Match for Mother Nature.](#)” *Peoria Journal-Star*, June 21, 2014. David Nicklaus, “[GMO Labeling Drive Is Based on Fear, Not Science.](#)” *St. Louis Post-Dispatch*, August 19, 2012.

193 Virginia A. Sharpe and Doug Gurian-Sherman, “[Competing Interests.](#)” *Nature Biotechnology* 21, 1131 (2003) doi:10.1038/nbt1003-1131a.



For example, Chassy is co-author of a 2010 study in *Food and Chemical Toxicology* that was “supported” by “BASF; Bayer CropScience; Dow AgroSciences; Monsanto Company; Pioneer, A Dupont Company; Syngenta Biotechnology, Inc.”¹⁹⁴

Chassy also is one of the “Scientific Advisors” to the notorious American Council on Science and Health.¹⁹⁵

Pamela C. Ronald

Pamela Ronald is prominent defender of genetically engineered foods and crops.¹⁹⁶ She is professor of plant pathology at the University of California, Davis.¹⁹⁷

In 2013, her reputation as a scientist suffered two serious blows, following retraction of two of her scientific papers.¹⁹⁸

194 Wayne Parrott, Bruce Chassy, Jim Ligon, Linda Meyer, Jay Petrick, Junguo Zhou, Rod Herman, Bryan Delaney, Marci Levine, “[Application of Food and Feed Safety Assessment Principles to Evaluate Transgenic Approaches to Gene Modulation in Crops.](#)” *Food and Chemical Toxicology*, Vol. 48, Issue 7, July 2010, pp. 1773-1790. doi: 10.1016/j.fct.2010.04.017.

195 American Council on Science and Health, “[Scientific Advisors.](#)”

196 See, for example, Pamela Ronald, “[How Scare Tactics on GMO Foods Hurt Everybody.](#)” *MIT Technology Review*, June 12, 2014. Pamela Ronald, “[Genetically Engineered Crops—What, How and Why.](#)” *Scientific American*, August 11, 2011. Pamela C. Ronald and James E. McWilliams, “[Genetically Engineered Distortions.](#)” *New York Times*, May 14, 2010. Pamela Ronald, “[The Truth About GMOs.](#)” *Boston Review*, September 6, 2013. Pamela Ronald, “[Would Rachel Carson Embrace ‘Frankenfoods’? - This Scientist Believes ‘Yes.’](#)” *Forbes*, August 12, 2012. Amanda Little, “[A Journalist and a Scientist Break Ground in the G.M.O. Debate.](#)” *New Yorker*, April 25, 2014. Tom Standage, “[Biotechnology.](#)” *Economist*, November 2, 2010.

197 Pamela Ronald [bio](#), Ronald Laboratory.

198 Sang-Wook Han, Malinee Sriariyanun, Sang-Won Lee, Manoj Sharma, Ofir Bahar, Zachary Bower, Pamela C. Ronald, “[Retraction: Small Protein-Mediated Quorum Sensing in a Gram-Negative Bacterium.](#)” *PLOS One*, September 9, 2013. [Retraction of Lee et al.](#), *Science* 326 (5954) 850-853. *Science*, October 11, 2013; Vol. 342 no. 6155, p. 191, DOI: 10.1126/science.342.6155.191-a. See also Jonathan Latham, “[Can the Scientific Reputation of Pamela Ronald, Public Face of GMOs, Be Salvaged?](#)” *Independent Science News*, November 12, 2013. Pamela Ronald, “[Lab Life: The Anatomy of a Retraction.](#)” *Scientific American*, October 10, 2013.

#7: The agrichemical companies have employed repugnant PR tactics

Syngenta investigates and attacks its critics

Syngenta is one of the world's largest agrichemical companies. Among other things, it is notable for its aggressive attacks against its critics.

Writing in the *New Yorker*, Rachel Aviv recounted the story of Syngenta's unusually forceful attacks against Tyrone Hayes, a professor of integrative biology at the University of California, Berkeley. Hayes had published studies showing that Syngenta's widely-used herbicide atrazine is an endocrine disruptor in frogs. In response, Syngenta launched a multi-pronged effort to, in the words of Syngenta communications manager Sherry Ford, "discredit Hayes." Among other tactics Syngenta deployed against Hayes, Aviv reports that

In 2005, Ford made a long list of methods for discrediting him: "have his work audited by 3rd party," "ask journals to retract," "set trap to entice him to sue," "investigate funding," "investigate wife." The initials of different employees were written in the margins beside entries, presumably because they had been assigned to look into the task.¹⁹⁹

In its efforts to defend atrazine, Syngenta also investigated the investigative reporter Danielle Ivory, who now writes for the *New York Times*. According to Beau Hodai and Lisa Graves, when Ivory was asking questions about atrazine, "Bret Jacobson, the founder and president of Maverick Strategies and Communications, a public relations/consulting firm specializing in 'opposition research,' submitted a dossier on Ivory to the firm 'Quinn

Thomas Public Affairs."²⁰⁰

Brainwashing children

In 2012, the Council for Biotechnology Information, a public relations front group for the big agrichemical companies, released the *Biotechnology Basics Activity Book*, which delivers pro-industry propaganda to children. The workbook is filled with false and deeply questionable statements about genetically engineered crops, such as "biotechnology is helping to improve the health of the Earth and the people who call it home." Children are encouraged to do the workbook exercises, because, "As you work through the puzzles in this book, you will learn more about biotechnology and all of the wonderful ways it can help people live better lives in a healthier world."²⁰¹

Attacking and intimidating scientists

The agrichemical industry and its PR minions have a history of harsh and career-threatening attacks against their scientific critics,²⁰² including Tyrone Hayes,²⁰³ Ignacio Chapela,²⁰⁴ Arpad Pusztai,²⁰⁵ Gilles-Eric Seralini,²⁰⁶ Manuela

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- 200 Beau Hodai and Lisa Graves, "[Syngenta PR's Weed-Killer Spin Machine: Investigating the Press and Shaping the 'News' about Atrazine.](#)" *PR Watch*, February 7, 2012. Memorandum from Bret Jacobson, Maverick Strategies to Quinn Thomas Public Affairs, "[RE: Quick Backgrounder on Danielle Ivory.](#)" March 4, 2010.
- 201 Council for Biotechnology Information, "[Biotechnology Basics Activity Book.](#)" See also Ronnie Cummins, "[Outrageous Lies Monsanto and Friends Are Trying to Pass off to Kids as Science.](#)" *Alternet*, March 20, 2012.
- 202 Emily Waltz, "[GM Crops: Battlefield.](#)" *Nature*, September 2, 2009. 461, 27-32. doi:10.1038/461027a. John Fagan, Michael Antoniou and Claire Robinson, "[GMO Myths and Truths.](#)" pp. 93-99.
- 203 Rachel Aviv, "[A Valuable Reputation.](#)" *New Yorker*, February 10, 2014. Clare Howard, "[Syngenta's Campaign to Protect Atrazine, Discredit Critics.](#)" *Environmental Health News*, June 17, 2013. "[Silencing the Scientist: Tyrone Hayes on Being Targeted by Herbicide Firm Syngenta.](#)" *Democracy Now*, February 21, 2014.
- 204 George Monbiot, "[The Fake Persuaders.](#)" *Guardian*, May 14, 2002. Andy Rowell, "[Immoral Maize.](#)" *GMWatch*.
- 205 Andrew Rowell, "[The Sinister Sacking of the World's Leading GM Expert and the Trail That Leads to Tony Blair and the White House.](#)" *Daily Mail*, July 7, 2003, "[Why I Cannot Remain Silent: Interview with Dr. Arpad Pusztai.](#)" *GM-Free*, August/September, 1999. Marion Nestle, *Safe Food: Bacteria, Biotechnology, and Bioterrorism*. (Berkeley, CA: University of California Press, 2004), pp. 186-9. Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World's Food Supply*. (New York: New Press, 2010), pp. 178-187.
- 206 Adriane Fugh-Berman and Thomas G. Sherman, "[Rounding Up Scientific Journals.](#)" *Bioethics Forum*, January 10, 2014. "[Controversial Seralini Study Linking GM to Cancer in Rats Is Republished.](#)" *Guardian*, June 24, 2014. Barbara Casassus, "[Paper Claiming GM Link with Tumours Republished.](#)" *Nature*, June 24, 2014. doi:10.1038/nature.2014.15463.

199 Rachel Aviv, "[A Valuable Reputation.](#)" *New Yorker*, February 10, 2014. See also Clare Howard, "[Syngenta's Campaign to Protect Atrazine, Discredit Critics.](#)" *Environmental Health News*, June 17, 2013.

Malatesta,²⁰⁷ and Emma Rosi-Marshall.²⁰⁸

How do these attacks affect what is known about the agrichemical industry and its genetically engineered crops? No one really knows. But given this history, any scientist who publishes findings that are contrary to the interests of the agrichemical industry can reasonably expect a sharp attack, or perhaps even a career-ending one. Of course there are scientists who are courageous enough to publish despite such prospects. But surely worries about how the industry might respond, and its effects on career prospects, has a deterrent effect on scientists' initiation and publication of research that is adverse to the agrichemical industry.

#8: The agrichemical companies have a potent, sleazy political machine

The agrichemical industry's political machine is deeply powerful, subtle and complex. Here's how the *Guardian* describes it:

Monsanto and the US farm biotech industry wield legendary power. A revolving door allows corporate chiefs to switch to top posts in the Food and Drug Administration and other agencies; US embassies around the world push GM technology onto dissenting countries; government subsidies back corporate research; federal regulators do largely as the industry wants; the companies pay millions of dollars a year to lobby politicians; conservative thinktanks combat any political opposition; the courts enforce corporate patents on seeds; and the consumer is denied labels or information.²⁰⁹

What follows is a brief summary of the

207 See interview with Manuela Malatesta in Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World's Food Supply*. (New York: New Press, 2010), pp. 176-177.

208 Emily Waltz, "GM Crops: Battlefield." *Nature*, September 2, 2009. 461, 27-32. doi:10.1038/461027a.

209 John Vidal, "Monsanto Protection Act Put GM Companies Above the Federal Courts." *Guardian*, April 4, 2013.

agrichemical industry's political infrastructure, and its recent major initiatives.

Personnel

In the United States, it is the hallmark of a powerful industry to have strong ties to both Democrats and Republicans, and across the U.S. political spectrum. Certainly, the agrichemical industry does.

Personnel is power, so the saying goes. Here is a brief review of the agrichemical industry's most potent political allies:

Hillary Clinton

As of this writing, Clinton is the presumptive favorite to be the Democratic nominee for President in 2016. She has a long history of support for the agrichemical industry. Most recently, on June 25, 2014, she delivered the keynote address to the Biotechnology Industry Organization (BIO) international conference where she essentially endorsed genetically engineered crops, stating "I stand in favor of using seeds and products that have a proven track record, you say, and are scientifically provable [sic] to continue to try to make the case to those who are skeptical."²¹⁰

Clinton was a strong ally of the agrichemical industry during her tenure as Secretary of State, continuing the Bush administration's support of the industry.²¹¹ However, in the 2007-8 Democratic presidential primaries, Clinton supported labeling of genetically engineered food.²¹²

U.S. Supreme Court Justice Clarence

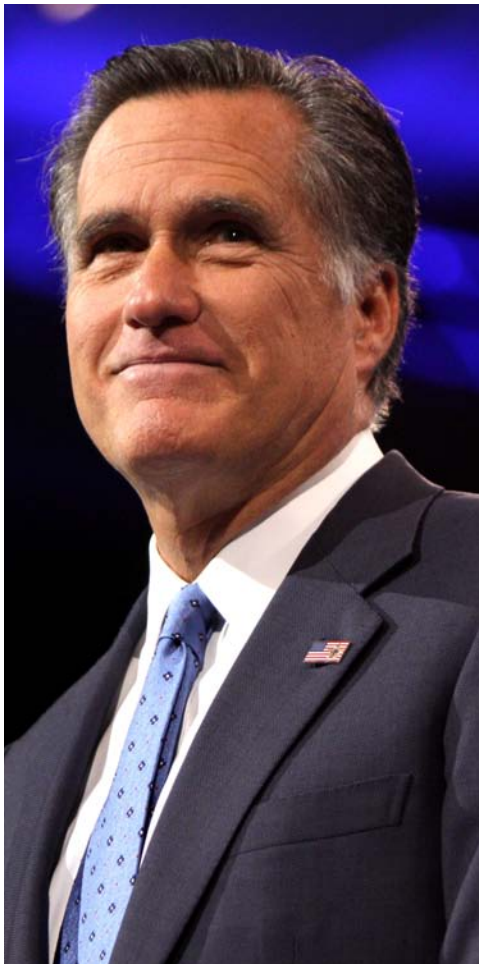
Thomas. From 1977-79, Justice Thomas worked as an attorney in the "pesticide and agriculture division" of the Monsanto Company.²¹³

210 Christina London, "Hillary Clinton: We Can't Afford to Lose Biotech." NBC7 San Diego, June 26, 2014. Ken Stone, "Hillary Clinton Cheers Biotechers, Backing GMOs and Federal Help." *Times of San Diego*, June 25, 2014. Max Ocean, "Hillary Clinton Goes to Bat for GMOs at Biotech Conference." *Common Dreams*, July 3, 2014. "Clinton Cool with GMOs." *Politico Morning Agriculture*, June 27, 2014.

211 See, for example, "Biotech Ambassadors: How the U.S. State Department Promotes the Seed Industry's Global Agenda." Food and Water Watch, May 2013. Tom Philpott, "Taxpayer Dollars Are Helping Monsanto Sell Seeds Abroad." *Mother Jones*, May 18, 2013.

212 Paula Lavigne, "Labels For Genetically Altered Food Becoming A Hot Political Topic." *Port Clinton (OH) News Journal*, November 5, 2007.

213 Bio of Justice Clarence Thomas, Oyez Project, Chicago-Kent College of Law.



FROM LEFT: MITT ROMNEY, HILLARY CLINTON AND FDA DEPUTY COMMISSIONER FOR FOODS MICHAEL TAYLOR

Mitt Romney. The Republican 2012 candidate for president was an architect of Monsanto’s metamorphosis from a chemical manufacturer to a genetic engineering and agrichemical firm. Romney was CEO of Bain & Company, and Monsanto was its largest consulting client.²¹⁴

U.S. Secretary of Agriculture Tom Vilsack. In 2001, Vilsack was honored by the Biotechnology Industry Organization as its “Governor of the Year” for his “support of the industry’s economic growth and agricultural biotechnology research.”²¹⁵

FDA Deputy Commissioner for Foods Michael Taylor. Taylor was Monsanto’s vice president for public policy from 1998-2001.²¹⁶

The Obama administration. There are many signs of the agrichemical industry’s sway over the Obama administration. While a presidential candidate in 2007, Senator Barack Obama pledged to label genetically engineered food if he were elected president. Seven years later, he has yet to keep his promise.²¹⁷

Obama’s trade and foreign policy strives to sweep away international concerns about the health and safety of genetically engineered food and crops. One major component of the Obama administration’s advocacy of the Transatlantic Trade and Investment Partnership for Europe and the Trans-Pacific Partnership for Asia is to convince Europe and Asia to open their markets to U.S. genetically engineered

214 Wayne Barrett, “[Mitt Romney, Monsanto Man.](#)” *The Nation*, September 12, 2012.

215 “[Iowa’s Vilsack Named BIO Governor of the Year.](#)” Biotechnology Industry Organization news release, September 20, 2001.

216 Elizabeth Flock, “[Monsanto petition tells Obama: ‘Cease FDA ties to Monsanto.’](#)” *Washington Post*, January 30, 2012.

217 Jenny Hopkinson, “[Lawmakers Ask Obama to Keep ‘07 GMO Labeling Promise.](#)” *Politico*, January 16, 2014.

crops and foods.²¹⁸ And a key purpose of the U.S. State Department's Office of Agriculture, Biotechnology and Textile Trade Affairs is to "maintain open markets for U.S. products derived from modern biotechnology," according to its website. The website continues that "The Department of State works with a host of other agencies and organizations to promote acceptance of this promising technology."²¹⁹

Congress, federal pre-emption and the DARK Act

In Congress, the agrichemical industry's allies are pushing legislation to eliminate the ability of states to require labeling of genetically engineered food. This legislation, dubbed by its sponsors the "Safe and Accurate Food Labeling Act of 2014" and by consumer groups the "Deny Americans the Right to Know (DARK) Act," was championed by Rep. Mike Pompeo (R-KS). The most generous contributors to Rep. Pompeo's campaigns – by a large margin – have been tied to Koch Industries,²²⁰ whose Koch brothers have spent countless millions in advocacy against environmental causes. At the end of the 113th Congress, Pompeo's legislation (H.R. 4432) had 37 co-sponsors, of whom 34 were Republicans. It is interesting that this legislation for federal pre-emption of states rights to label food would gain Republican support in the House, given the Republican Party's advocacy of states' rights and returning power to the states.

Lobbying and the purchase of influence

The food and agrichemical industries are spending freely on lobbying in Washington. According to an analysis by the Environmental Working Group, corporations that oppose GMO labeling spent \$27 million on lobbying during the first half of 2014, more than three times

what they spent during the whole of 2013.²²¹

In Congress, as in the general public, GMOs have greater acceptance among Republicans than Democrats. So, naturally, the agrichemical companies want to bolster their power where they are weakest. And so the food and agrichemical industries have been hiring lobbyists with ties to Democrats, such as former U.S. Senator Blanche Lincoln,²²² Former U.S. Congressman Vic Fazio,²²³ and former top Gephardt staffer Steve Elmendorf.²²⁴ This trend may reverse since Republicans will control Congress in 2015; in December 2014, the Grocery Manufacturers Association hired as its top lobbyist Denzel McGuire, who had been a senior aide to incoming Senate Majority Leader Mitch McConnell.²²⁵

The Grocery Manufacturers Association's lobbying campaign to oppose GMO labeling has been so effective that the Capitol Hill newspaper *The Hill* named it one of the "Top 10 lobbying victories of the year."²²⁶

Massive expenditures against state ballot initiatives for GMO labeling

In the 2012, 2013 and 2014 elections, the agrichemical and food industries and their allies spent more than \$103 million to defeat four statewide ballot initiatives for labeling of genetically engineered food.

In effect, this money is a tax on consumers imposed by the agrichemical and food companies to obliterate consumers' rights to know what is in our food.

In California, the agrichemical and food companies and their allies spent \$46 million to defeat Proposition 37, a 2012 ballot initiative for labeling of genetically engineered food.²²⁷

218 See, for example, Michael Birnbaum, "[At Trade Talks, U.S., E.U. Ready for Fight on Genetically Modified Crops.](#)" *Washington Post*, May 17, 2013. Anthony Faiola, "[Free Trade with U.S.? Europe Balks at Chlorine Chicken, Hormone Beef.](#)" *Washington Post*, December 4, 2014. Fiona Harvey, "[EU Under Pressure to Allow GM Food Imports from US and Canada.](#)" *Guardian*, September 5, 2014. Andreas Geiger, "[American Agriculture, GMOs and Europe.](#)" *The Hill*, October 21, 2013. Mute Schimpf, Karen Hansen-Kuhn, "[EU-US Trade Deal: A Bumper Crop for 'Big Food'?](#)" Friends of the Earth Europe and the Institute for Agriculture and Trade Policy, October 2013. James Trimarco, "[Will a Secretive International Trade Deal Ban GMO Labeling?](#)" *Yes!* magazine, October 18, 2013.

219 U.S. Department of State, [web page](#) on biotechnology for the Office of Agriculture, Biotechnology and Textile Trade Affairs.

220 Center for Responsive Politics, campaign finance [profile](#) of Rep. Mike Pompeo. [Opensecrets.org](#).

221 Libby Foley, "[The Anti-Label Lobby.](#)" Environmental Working Group, September 3, 2014. Carey Gilliam, "[GMO Labeling Foes Triple U.S. Spending In First Half Of The Year Over 2013.](#)" *Reuters*, September 3, 2014.

222 See Lincoln Policy Group [lobbying disclosure report](#) for client Monsanto.

223 See Akin Gump Strauss Hauer & Feld [lobbying disclosure report](#) for Monsanto.

224 See Elmendorf Ryan [lobbying disclosure report](#) for client Grocery Manufacturers Association.

225 "[GMA Hires Denzel McGuire as EVP of Government Relations.](#)" Grocery Manufacturers Association news release, December 1, 2014.

226 Megan R. Wilson, "[Top 10 Lobbying Victories of the Year.](#)" *The Hill*, December 11, 2014.

227 California Secretary of State, [campaign finance filings](#) for "No on 37: Coalition Against The Deceptive Food Labeling Scheme, Sponsored By Farmers And Food Producers."



In Washington State, these industries spent \$20 million to defeat I-522, a 2013 ballot measure for GMO labeling in Washington. This is large expenditure in a state with less than 4 million registered voters.²²⁸ According to the *Seattle Post-Intelligencer*, merely \$600 of this money came from within Washington.²²⁹

In 2014, these industries spent \$20 million to defeat Oregon ballot Measure 92 and \$16 million to defeat Colorado Proposition 105, for labeling of genetically engineered foods in those states.²³⁰

Grocery Manufacturers Association accused of record-breaking money laundering effort to defeat GMO labeling

In Washington State, the agrichemical and food industries used extraordinary – if not illegal – means to defeat a 2013 GMO labeling ballot initiative. The industries' tactics were so extreme that Washington State Attorney General Bob Ferguson filed a lawsuit against the Grocery Manufacturers Association for money laundering.²³¹ The suit asked for an injunction against money laundering as well as civil penalties.

On November 20, 2013, Attorney General Ferguson amended his complaint against the Grocery Manufacturers Association, charging that it had laundered not merely \$7.2 million but actually \$10.6 million. According to the Attorney General's office, "This is the largest amount the state has ever addressed in a campaign finance concealment case."²³²

On June 13, 2014 Thurston County Superior Court Judge Christine Schaller ruled against the GMA's motion to dismiss the suit, and has allowed the case against the GMA to proceed to trial.²³³

In a notable show of arrogance, the GMA retaliated against Washington State by countersuing to strike down Washington's money laundering and anti-corruption laws. As Washington State Attorney General Bob Ferguson explained about the GMA: "They did not just say 'We haven't broken the law.' What they're saying is some of your campaign finance laws are unconstitutional. That raises the stakes."²³⁴ Among other things, this is an effort to deter future attorneys general from

228 Washington Secretary of State, voter registration data [web page](#).

229 Joel Connelly, "Grocery Manufacturers Fail to Squelch Money-Laundering Lawsuit." *Seattle Post-Intelligencer*, June 13, 2014.

230 Carey Gillam, "GMO Labeling Measures Fail in Colorado, Look Lost in Oregon." *Reuters*, November 5, 2014.

231 State of Washington v. Grocery Manufacturers Association. State of Washington, Thurston County Superior Court, No. 13-2-02156-8. Filed October 16, 2013. See Washington State Attorney General Bob Ferguson's [complaint](#) and [news release](#). See also Carey Gillam, "Washington State Sues Lobbyists Over Campaign Against GMO Labeling." *Reuters*, October 16, 2013.

232 See [amended complaint](#), "AG Amends Lawsuit Against Grocery Manufacturer's Association to Reflect Millions More in Campaign Contributions Concealed From Voters." Washington State, Office of the Attorney General, news release, November 20, 2013.

233 See Judge Schaller's July 25, 2014 [order](#) in State of Washington v. Grocery Manufacturers Association, and "Attorney General's Enforcement Case Against Grocery Manufacturers Association Continues to Trial." Washington State, Office of the Attorney General, news release, June 13, 2014. See also Joel Connelly, "Grocery Manufacturers Fail to Squelch Money-Laundering Lawsuit." *Seattle Post-Intelligencer*, June 13, 2014.

234 Jim Brunner, "Grocery Group Claims Its Civil Rights Violated By Washington Campaign-Finance Laws." *Seattle Times*, January 13, 2014.

enforcing campaign finance laws against the GMA.

Court stripping and pre-empting litigation: the “Monsanto Protection Act”

In the United States, we are supposed to live under rule of law. This means that all persons and corporations are subject to the law, and to its penalties. It means that we are supposed to have a “government of laws and not of men,” to use John Adams’s phrase. The idea’s origins lie in the Magna Carta. No one and no thing – no person, elected official, organization or corporation – is supposed to be above the law.

Now imagine what would happen if bank robbers lobbied to successfully strip the courts of any ability to bring them to trial. Or perpetrators of fraud. Imagine the damage that would be done to our system of justice, to rule of law.

In essence, this is similar to what Monsanto did – successfully. In an affront to the separation of powers, Monsanto lobbied its home state senator, Roy Blunt (R-MO), to insert an appropriations rider²³⁵ to render genetically engineered crops immune from challenge in the federal courts.²³⁶ It pre-empted federal judicial review of them. This effort at court-stripping required the Secretary of Agriculture to continue to allow genetically engineered crops to be cultivated, even if a federal court had ruled that they were a potential risk to human health, other crops or the environment.

235 Section 735 of [H.R. 933](#), the Consolidated and Further Continuing Appropriations Act, 2013. The text of the rider reads: “In the event that a determination of non-regulated status made pursuant to section 411 of the Plant Protection Act is or has been invalidated or vacated, the Secretary of Agriculture shall, notwithstanding any other provision of law, upon request by a farmer, grower, farm operator, or producer, immediately grant temporary permit(s) or temporary deregulation in part, subject to necessary and appropriate conditions consistent with section 411(a) or 412(c) of the Plant Protection Act, which interim conditions shall authorize the movement, introduction, continued cultivation, commercialization and other specifically enumerated activities and requirements, including measures designed to mitigate or minimize potential adverse environmental effects, if any, relevant to the Secretary’s evaluation of the petition for non-regulated status, while ensuring that growers or other users are able to move, plant, cultivate, introduce into commerce and carry out other authorized activities in a timely manner: Provided, That all such conditions shall be applicable only for the interim period necessary for the Secretary to complete any required analyses or consultations related to the petition for non-regulated status: Provided further, That nothing in this section shall be construed as limiting the Secretary’s authority under section 411, 412 and 414 of the Plant Protection Act.”

236 David Rogers, “[Big Agriculture Flexes Its Muscle](#).” *Politico*, March 25, 2013. See also Zoë Carpenter, “[How Congress Just Stuck It to Monsanto](#).” *The Nation*, October 17, 2013.



SOURCE: CONGRESS WHITE HOUSE (PETE SOUZA)

Consumer advocates dubbed Senator Blunt’s rider the “Monsanto Protection Act.” President Obama signed the “Monsanto Protection Act” rider into law on March 26, 2013. It remained in effect until the end of the federal government’s 2013 fiscal year, on September 30, 2013. The rider was not renewed, so it is no longer in effect.

Grocery Manufacturers Association litigates against the consumer’s right to know

On May 8th, 2014, Vermont became the first state to enact a law requiring labeling of genetically engineered food.²³⁷ The law does not go into effect for two years.

In response, on June 12th, the Grocery Manufacturers Association, Snack Food Association, International Dairy Foods Association and the National Association of Manufacturers filed a lawsuit in federal court to block the Vermont GMO labeling law from taking effect.²³⁸

In addition, on September 11th, the GMA filed for a preliminary injunction to stop Vermont from carrying out its GMO labeling law, until the courts have decided whether the law will survive the GMA challenge.²³⁹

237 Dana Ford and Lorenzo Ferrigno, “[Vermont Governor Signs GMO Food Labeling into Law](#).” CNN, May 8, 2014. Connecticut and Maine have also passed GMO labeling laws, but they contain trigger clauses that require other states to pass similar laws before they can take effect.

238 See [initial complaint](#) in Grocery Manufacturers Association et al. v. Sorrell et al.,

239 Elaine Watson, “[GMA et al Seek Injunction to Stop Vermont Implementing GMO Labeling Law Until Legal Dispute Is Resolved](#).” *Food Navigator*, September 15, 2014.



The GMA's litigation is expected to be costly to the state of Vermont. While the actual costs are unknown at this time, *USA Today* estimated that Vermont's legal fees would be \$5-8 million if it lost the litigation.²⁴⁰

The GMA's litigation against Vermont serves at least six functions. First, of course, to strike down the law itself. Second, to deter citizens from trying to pass GMO labeling laws in other states. Third, to inflict financial retribution against a state that has acted against the interests of the agrichemical industry. Fourth, to signal that it may inflict similarly costly retribution against other states that pass GMO labeling laws. Fifth, to discourage legislators – especially fiscal conservatives – from voting for similar legislation in other states. Sixth, to drain money from efforts to win other state GMO labeling laws into defensive efforts to protect the Vermont labeling law.

Knocking down international resistance to GMOs via secretive international trade treaties.

Across the planet, there is widespread concern about the health and environmental impacts of genetically engineered food and crops. And so it is not surprising that, according to the Center for Food Safety, 64 countries have laws requiring mandatory labeling of genetically engineered food.²⁴¹

240 Elizabeth Weise, "Vermont's GMO Labeling Rule Likely Won't Affect Stocks in the Near-Term." *USA Today*, April 24, 2014.

241 Center for Food Safety web page on "International Labeling Laws."

In an effort to demolish this international resistance, the agrichemical companies are using their functional control over U.S. trade policy as a battering ram against other countries trade barriers.

U.S. negotiators for the Transatlantic Trade and Investment Partnership for Europe and the Trans-Pacific Partnership for Asia are employing both treaties to eliminate resistance to genetically engineered food and crops.²⁴²

Constitutionalizing the GMO

The agrichemical and agribusiness industries are promoting state constitutional amendments in support of the "right to farm," including the right to farm genetically engineered crops. North Dakota approved such an amendment in 2012 to protect "modern farming practices," as did Missouri in 2014. *Bloomberg Businessweek* explains, "Much of the drive behind the amendments has come from big corporations. Members of Missouri Farmers Care [a key supporter] include Cargill—one of the nation's

242 See, for example, Fiona Harvey, "EU Under Pressure to Allow GM Food Imports from US and Canada." *Guardian*, September 5, 2014. Michael Birnbaum, "At Trade Talks, U.S., E.U. Ready for Fight on Genetically Modified Crops." *Washington Post*, May 17, 2013. Anthony Faiola, "Free Trade with U.S.? Europe Balks at Chlorine Chicken, Hormone Beef." *Washington Post*, December 4, 2014. Andreas Geiger, "American Agriculture, GMOs and Europe." *The Hill*, October 21, 2013. Mute Schimpf, Karen Hansen-Kuhn, "EU-US Trade Deal: A Bumper Crop for 'Big Food'?" Friends of the Earth Europe and the Institute for Agriculture and Trade Policy, October 2013. James Trimarco, "Will a Secretive International Trade Deal Ban GMO Labeling?" *Yes!* magazine, October 18, 2013. See also the Institute for Agriculture and Trade Policy's [web page](#) on GMOs.

largest processors of beef, pork, and turkey—and Monsanto, as well as a long list of state agricultural industry associations.”²⁴³

The American Legislative Exchange Council (ALEC) has long been promoting a similar idea. According to *Bloomberg Businessweek*, in 1996, ALEC

came up with model legislation that would expand existing right-to-farm laws to grant wide-ranging legal rights to farms of all sizes. ALEC’s bill, intended as a template for state politicians, voided local farm ordinances and made it harder to lodge complaints about animal mistreatment, pollution, and noise. Supporters and opponents of the amendments see them as the evolution of those efforts, taking farm protection, for better or worse, to the next level.²⁴⁴

The purchase of judicial influence

According to a study by the Center for Public Integrity, Dow Chemical is one of our nation’s leading “sponsors” of controversial expense-paid judicial “educational seminars” attended by federal judges between 2008-12. It sponsored 47 of these judicial “seminars,” trailing only the Charles G. Koch Charitable Foundation (109), the Searle Freedom Trust (54), ExxonMobil (54), Shell (54), Pfizer (54), State Farm Insurance (54) and the Lynde and Harry Bradley Foundation (51). “Sponsors pick up the cost of judges’ expenses, which often include air fare, hotel stays and meals,” the Center for Public Integrity reports. “Since the 1990s,” it continues, “critics have complained that many of the privately funded conferences serve state and federal judges a steady dose of free-market, anti-regulation lectures that could influence judges’ rulings from the bench.”²⁴⁵



243 Brooke Jarvis, “[A Constitutional Right to Industrial Farming?](#)” *Bloomberg Businessweek*, January 9, 2014. See also Julie Bosman, “[Missouri Weighs Unusual Addition to Its Constitution: Right to Farm.](#)” *New York Times*, August 2, 2014.

244 Brooke Jarvis, “[A Constitutional Right to Industrial Farming?](#)” *Bloomberg Businessweek*, January 9, 2014.

245 Chris Young, Reity O’Brien and Andrea Fuller, “[Corporations, Pro-business Nonprofits Foot Bill for Judicial Seminars.](#)” Center for Public Integrity, March 28, 2013.

The Monsanto/Indonesia bribery scandal

In a corrupt effort to relax Indonesia’s environmental regulations on genetically engineered cotton crops, Monsanto gave an Indonesian official an “envelope stuffed with hundred-dollar bills,” according to the *New York Times*, and “Monsanto was also caught concealing the bribe with fake invoices.”²⁴⁶ The U.S. Securities and Exchange Commission charged that from “1997 to 2002, Monsanto inaccurately recorded, or failed to record, in its books and records approximately \$700,000 of illegal or questionable payments made to at least 140 current and former Indonesian government officials and their family members.”²⁴⁷ Monsanto admitted to violating the Foreign Corrupt Practices Act, and paid a \$1 million fine.²⁴⁸

#9: Half of the Big Six agrichemical firms can’t even grow their GMOs in their own home countries

It is a sign of the character of the agrichemical companies that those who know them best don’t trust them.

Three of the Big Six agrichemical companies are banned from growing their genetically engineered crops in their own home countries. These countries have powerful economic incentives to promote the products of their own corporations. And yet, in this case, they do the opposite.

Syngenta is headquartered in Basel, Switzerland. In 1995, Switzerland adopted

246 Eric Lichtblau, “[In Justice Shift, Corporate Deals Replace Trials.](#)” *New York Times*, April 9, 2008.

247 “[SEC Sues Monsanto for Paying a Bribe.](#)” U.S. Securities and Exchange Commission, Litigation Release No. 19023, Accounting and Auditing Enforcement, Release No. 2159, January 6, 2005. See also [SEC complaint](#) in SEC v. Monsanto Company.

248 “[Monsanto Company Charged With Bribing Indonesian Government Official: Prosecution Deferred For Three Years.](#)” U.S. Department of Justice news release, January 6, 2005.



regulations requiring labeling of genetically engineered food. It was one of the first countries to do so.²⁴⁹ In November 2005, Swiss voters approved a referendum, with 55.7% support, endorsing a five-year ban on the planting of genetically engineered crops.²⁵⁰ In 2010, the Swiss parliament extended the ban for three more years.²⁵¹ In December 2012, the Swiss parliament extended the ban through the end of 2017.²⁵²



Bayer is headquartered in Leverkusen, Germany; and BASF in Ludwigshafen, Germany. E.U. regulations require labeling of genetically engineered food. And the E.U.'s restrictions on growing GMO crops are among the toughest in the world.²⁵³ In practice, at this time, only one GMO crop is commercially cultivated in Europe: Monsanto's MON 810 corn.²⁵⁴ However, Germany banned MON 810 as well.²⁵⁵ Consequently, in Germany – home of Bayer and BASF – no GMO crops are grown.



Germany's Agriculture Minister, Christian Schmidt, is forthright on German distrust of Bayer and BASF's genetically engineered crops. As he said in 2014: "One thing is clear: Our citizens do not want genetically-modified plants in the fields and want no gene-

technology products on shop shelves."²⁵⁶

In 2012, BASF withdrew its efforts to even attempt to sell genetically its engineered products in Europe. According to BASF board member Stefan Marcinowski, "There is still a lack of acceptance for this technology in many parts of Europe – from the majority of consumers, farmers and politicians....Therefore, it does not make business sense to continue investing in products exclusively for cultivation in this market."²⁵⁷

On November 11, 2014, the EU parliament approved a plan to allow EU nations to ban the farming of genetically engineered crops on their lands. It awaits final action by the parliament and EU nations, but appears likely to become law.²⁵⁸ Given the unpopularity of genetically engineered crops in Germany, this increases the likelihood that the ban on cultivation of Bayer and BASF genetically engineered crops will continue indefinitely.

In general, outside the United States, there is great skepticism about genetically engineered food. According to the Center for Food Safety, 64 countries require labeling of genetically engineered food.²⁵⁹

That skepticism of genetically engineered food has been adopted by international organizations and treaties as well. The international food standards organization, Codex Alimentarius, specifically allows for GMO labeling because of health risks and other concerns.²⁶⁰ In addition, two international treaties treat GMOs as presenting either potential health or environmental risks, and therefore as matters of concern. These treaties include the Convention on Biological Diversity and its Cartagena Protocol on Biosafety, and the International Plant Protection Convention.²⁶¹

249 Franz Xaver Perrez, "Taking Consumers Seriously: The Swiss Regulatory Approach to Genetically Modified Food." *N.Y.U. Environmental Law Journal*, 2000, Vol. 8, Issue 3.

250 Tom Wright, "Swiss Ban Genetically Modified Crops." *International Herald Tribune*, November 27, 2005.

251 "GMO Moratorium Extended for Three Years." *Swissinfo*, March 10, 2010.

252 Swiss Expert Committee for Biosafety, web page on "Marketing of genetically modified organisms." January 20, 2014.

253 John Davidson, "GM Plants: Science, Politics and EC Regulations." *Plant Science*, February 2010, Vol. 178, Issue 2, pp. 94-98. DOI: 10.1016/j.plantsci.2009.12.005

254 European Commission, web page on "New EU approach" to GMO cultivation. "EU Moves Step Closer to Law on National GMO Crop Bans." *Reuters*, November 11, 2012.

255 "Germany to Ban Cultivation of GMO Maize-Minister." *Reuters*, April 14, 2009.

256 "German Govt Still Undecided on GMO Policy, Minister Tells Paper." *Reuters*, March 17, 2014.

257 James Kanter, "BASF to Stop Selling Genetically Modified Products in Europe." *New York Times*, January 16, 2012.

258 "EU Moves Step Closer to Law on National GMO Crop Bans." *Reuters*, November 11, 2012. "EU Deal Gives Countries Opt-out on Growing Approved GM Crops." *Reuters*, December 4, 2014.

259 "Genetically Engineered Food Labeling Laws Map." Center for Food Safety, April 2, 2013.

260 Jerry Hagstrom, "Biotech Foods Clear for Own Label." *Agweek*, July 11, 2011. "Consumer Rights Victory as US Ends Opposition to GM Labeling Guidelines." *Consumers International*, July 5, 2011.

261 See, for example, Hilary Weiss, "Genetically Modified Crops: Why Cultivation Matters." *Brooklyn Journal of International Law*, 2014. 39 *Brooklyn Journal of International Law* 875. Phil Bereano, "A Primer on GMOs and International Law." Council for Responsible Genetics.

#10: Monsanto supported GMO labeling in the UK but opposes it in the USA

In the late 1990's, Monsanto ran advertisements in the United Kingdom in support of labeling of genetically engineered food. In the UK, there is mandatory labeling of genetically engineered food. According to one Monsanto ad in Britain, "Before you buy a potato, or any other food, you may want to know whether it's the product of food biotechnology...We have complete confidence that our food crops are as safe and nutritious as the standard alternatives. Recently you may have noticed a label appearing on some of the food in your supermarket. This is to inform you about the use of biotechnology in food. Monsanto fully supports UK food manufacturers and retailers in their introduction of these labels. We believe you should be aware of all the facts before making a purchase."²⁶²

FOOD LABELLING.

IT HAS MONSANTO'S
FULL BACKING.



Before you buy a potato, or any other food, you may want to know whether it's the product of food biotechnology.

Monsanto is a leading biotechnology company. Our potato, corn and soybean seeds are adapted to produce better yields through better control of pests and weeds. In a step on from traditional cross-breeding, a naturally-occurring beneficial gene has been inserted into the plants' genetic make-up.

We have complete confidence that our food crops are as safe and nutritious as the standard alternatives.

Recently you may have noticed a label appearing on some of the food in your supermarket. This is to inform you about the use of biotechnology in food.

Monsanto fully supports UK food manufacturers and retailers in their introduction of these labels. We believe you should be aware of all the facts before making a purchase.

262 Dana Hull, "Monsanto, Which Is Fighting Efforts to Label Genetically Engineered Food in California, Supported Labeling Such Food in Britain." *San Jose Mercury News*, September 1, 2012.

However, in the United States, Monsanto has spent tens of millions of dollars in opposition to labeling of genetically engineered food.

Monsanto is an American company. It was founded in St. Louis, Missouri in 1901. It is still based in St. Louis.

Apparently, this is Monsanto's peculiar vision of corporate patriotism: it believes that the British deserve stronger consumer rights than Americans do.

#11: The pesticide treadmill breeds profits, so it will likely intensify

More than half a century ago, in her landmark book *Silent Spring*, Rachel Carson predicted the phenomenon called the "pesticide treadmill" or the "pesticide trap." Carson explained that the use of pesticides, by natural selection, will ensure that the most pesticide-resistant insects and weeds flourish, therefore requiring ever greater dousings of pesticides to control. As Carson wrote, "Darwin himself could scarcely have found a better example of the operation of natural selection than is provided by the way the mechanism of [pesticide] resistance operates."²⁶³ In other words, the pesticide treadmill is an evolutionary imperative.

It is less noticed, but also important, that the pesticide treadmill is also a financial imperative. It is in the economic interest of the agrichemical industry to make the pesticide treadmill spin as fast as possible.

That is to say, the agrichemical industry will profit the most from ever more grave infestations of ever more pesticide-resistant superweeds and superpests, which will drive the use of ever larger quantities of more expensive pesticides. Hardier pests bring higher revenues.

263 Rachel Carson, *Silent Spring*. (Boston: Houghton Mifflin, 1962), p. 272. See also Robert van den Bosch, *The Pesticide Conspiracy*. (Garden City, NY: Doubleday & Co., 1978). Robert Wuliger, "Robert Van Den Bosch: Stop the Pesticide Conspiracy." *Mother Earth News*, July/August 1979.



In some ways, the pesticide treadmill is merely a type of planned obsolescence in agricultural products.

The pesticide treadmill is akin to drug addiction: the more pesticides you use, the more you need.

It is also in the financial interest of the agrichemical companies to scare farmers about the existence of newer and harder pests, to convince them to buy more genetically engineered seeds and the pesticides that accompany them.

Call it the pesticide paradox. While the agrichemical industries trumpet their supposed efforts to improve crop yields, in fact it is strongly in their financial interest to promote the growth of the superweeds and superpests that detract from crop yields.

So, if we continue to follow the products and prescriptions of the agrichemical industry, the future of agriculture may well be plagued by superlative superweeds and superpests, controlled only temporarily by inundations with the latest, most expensive or most toxic pesticides. And, of course, continued high profits for the agrichemical industry.

This is, in fact, what appears to be happening. Dow AgroSciences is selling new crops of corn

and soybeans, called Enlist, that are resistant to the Enlist Duo herbicides glyphosate and 2,4-D, a component of the infamous Vietnam war defoliant Agent Orange.²⁶⁴ The crops are supposed to help farmers control weeds that are resistant to glyphosate alone, because those superweeds would hopefully be killed by the 2,4-D. The U.S. Department of Agriculture has approved the crops for commercial farming. In its analysis, the USDA estimated that the use of the crops would increase the amount of 2,4-D used in the United States by 200 to 600 percent by 2020.²⁶⁵ Similarly, at the time of this writing, Monsanto is nearing regulatory approval for dicamba-resistant soybeans and cotton.²⁶⁶ That is great news for Dow and Monsanto, and yet another turn of the pesticide treadmill.

#12: GMO science is for sale

It is presumed by many that science proceeds like an arrow straight towards the discovery of truth, without bending due to any economic forces that may bear upon it.

In fact, sometimes the opposite is true.

Science is for sale. Powerful corporations can procure it in many ways, some subtle, some not. But in the aggregate, they can have a powerful effect on what is known and what is not known. That appears especially true for the agrichemical industry.

What follows is a discussion of a few ways that science can be swayed, bought or biased by the agrichemical industry. It is outside the scope of this report to recount all of instances in which these tactics have been used. Rather, this is merely an effort to sketch the tactics that have been employed by the agrichemical industry.²⁶⁷

264 See the Dow AgroSciences [website](#) for Enlist.

265 Andrew Pollack, "Altered to Withstand Herbicide, Corn and Soybeans Gain Approval." *New York Times*, September 17, 2014. See also Bill Freese, "Going Backwards: Dow's 2,4-D-Resistant Crops and a More Toxic Future." *Food Safety Review*, Center for Food Safety, Winter 2012.

266 "USDA Paves the Way for Planting of Two More Pesticide Promoting Genetically Engineered (GE) Crops." Center for Food Safety, December 12, 2014.

267 See, for example, Dan Fagin, Marianne Lavelle and the Center for Public Integrity, *Toxic Deception: How the Chemical Industry Manipulates Science, Bends the Law and Endangers Your Health*. (Secaucus, NJ: Carol Publishing Group, 1996.).

Suppression of adverse findings

We have already discussed how industry can suppress adverse studies and findings, with some examples from the pharmaceutical industry. Similar things appear to have happened in the agrichemical industry. According to *Scientific American*, “In a number of cases, experiments that had the implicit go-ahead from the seed company were later blocked from publication because the results were not flattering.”²⁶⁸ For example, University of California, Berkeley Professor Tyrone Hayes explains:

“I was approached by the manufacturer [Syngenta] and asked to study the effects of atrazine, the herbicide, on frogs. And after I discovered that it interfered with male development and caused males to turn into females, to develop eggs, the company tried to prevent me from publishing and from discussing that work with other scientists outside of their panel.”²⁶⁹

Here’s another example: after Ohio State University plant ecologist Allison Snow uncovered preliminary evidence that a genetically engineered sunflower could make wild sunflowers grow like weeds, Pioneer Hi-Bred and Dow AgroSciences “blocked a follow-up study by refusing to allow the team access to either the transgene or the seeds from the earlier study,” according to a report in *Nature*.²⁷⁰ “It is very frustrating,” Snow told *Nature*. “We want to do good science. But this is keeping us from answering questions we want to ask.”

The *New York Times* reported on how Syngenta stymied the work of University of Minnesota entomology Professor Ken Ostlie. Dr. Ostlie

said he had permission from three companies in 2007 to compare how well their insect-resistant corn varieties fared against the rootworms found in his state. But in 2008, Syngenta, one of the three companies, withdrew its permission and

the study had to stop.

“The company just decided it was not in its best interest to let it continue,” Dr. Ostlie said.²⁷¹

In another case, university scientists working on a GMO corn variety found that it was decimating beneficial lady beetles that had been fed the corn. According to an article in *Nature Biotechnology*,

When the researchers presented their results to Pioneer, the company forbade them from publicizing the data. “The company came back and said ‘you are under no circumstances able to publicize this data in any way’,” says a scientist associated with the project, who asked to remain anonymous. Because the product had not yet been commercialized, the research agreement gave Pioneer the right to prevent publication of their results.²⁷²

In the realm of pharmaceuticals, activists have worked hard to compel industry to produce a registry of all clinical trials, to ensure transparency of scientific results. As the *New York Times* explains, “Until recently, the idea that companies should routinely hand over detailed data about their clinical trials might have sounded far-fetched. Now, the onus is on the industry to explain why it shouldn’t.”²⁷³

In particular, prospective registration of safety testing is a good remedy to ensure transparency and to prevent suppression of findings of health or environmental risks of genetically engineered food or crops.

Regarding health or environmental risks, there is no compelling reason why the agrichemical industry should be able to keep its research findings secret. When human health or the environment is at stake, there should be a strong predisposition to transparency, and to releasing scientific results – published or not – into the public domain.

Currently, there is at no registry of scientific experiments on the health or environmental effects of genetically engineered crops.

268 “Do Seed Companies Control GM Crop Research?” *Scientific American*, July 20, 2009.

269 “Silencing the Scientist: Tyrone Hayes on Being Targeted by Herbicide Firm Syngenta.” *Democracy Now*, February 21, 2014. See also Rachel Aviv, “A Valuable Reputation.” *New Yorker*, February 10, 2014.

270 Rex Dalton and San Diego, “Superweed Study Falts as Seed Firms Deny Access to Transgene.” *Nature*, October 17, 2002. 419, 655. doi:10.1038/419655a.

271 Andrew Pollack, “Crop Scientists Say Biotechnology Seed Companies Are Thwarting Research.” *New York Times*, February 19, 2009.

272 Emily Waltz, “Under Wraps.” *Nature Biotechnology* 27, 880-882 (2009). doi:10.1038/nbt1009-880.

273 Katie Thomas, “Breaking the Seal on Drug Research.” *New York Times*, June 29, 2013.



So, there is no way to discover whether the agrichemical industry has suppressed any other such experiments. The record of the pharmaceutical industry suggests that suppression of adverse results is likely to occur in the agrichemical industry.

Harming the careers of scientists who produce adverse findings

We have discussed how the agrichemical industry and its allies have repeatedly attacked scientists who have produced findings adverse to its interests, including Tyrone Hayes,²⁷⁴

274 Rachel Aviv, "[A Valuable Reputation](#)," *New Yorker*, February 10, 2014. Clare Howard, "[Syngenta's Campaign to Protect Atrazine, Discredit Critics](#)," *Environmental Health News*, June 17, 2013. "[Silencing the Scientist: Tyrone Hayes on Being Targeted by Herbicide Firm Syngenta](#)," *Democracy Now*, February 21, 2014.

Ignacio Chapela,²⁷⁵ Arpad Pusztai,²⁷⁶ Gilles-Eric Seralini,²⁷⁷ Manuela Malatesta,²⁷⁸ and Emma Rosi-Marshall.²⁷⁹

Funding shapes what research is conducted

The agrichemical companies are unlikely to support research that may undermine their financial interests. Meanwhile, there is a declining amount of public funds available for agricultural research. As Cornell Professor Elson Shields explains, "In my 30 years as a public scientist, there's been a dramatic erosion of public funding. And that makes science more dependent on private funding."²⁸⁰ That means less funding for independent studies to assess health and environmental risks of genetically engineered food and crops.

Supporting academic departments and scientists who produce positive findings

"He who pays the piper calls the tune," the old saying goes. According to Food & Water Watch's report on corporate funding of university agriculture research, "Public Research, Private Gain," by 2010 private contributions supplied nearly one-quarter of all agriculture research funding at U.S. land grant universities.²⁸¹

Such funding likely brings many benefits to the agrichemical industry. For example, in a survey of over 3,000 scientists, 16% admitted to "changing the design, methodology or results

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- 275 George Monbiot, "[The Fake Persuaders](#)," *Guardian*, May 14, 2002. Andrew Rowell, "[Immoral Maize](#)," GMWatch.
- 276 Andrew Rowell, "[The Sinister Sacking of the World's Leading GM Expert and the Trail That Leads to Tony Blair and the White House](#)," *Daily Mail*, July 7, 2003, "[Why I Cannot Remain Silent: Interview with Dr. Arpad Pusztai](#)," *GM-Free*, August/September, 1999. Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World's Food Supply*. (New York: New Press, 2010), pp. 178-187. Marion Nestle, *Safe Food: Bacteria, Biotechnology, and Bioterrorism*. (Berkeley, CA: University of California Press, 2004), pp. 186-9.
- 277 Adriane Fugh-Berman and Thomas G. Sherman, "[Rounding Up Scientific Journals](#)," *Bioethics Forum*, January 10, 2014. "[Controversial Seralini Study Linking GM to Cancer in Rats Is Republished](#)," *Guardian*, June 24, 2014. Barbara Casassus, "[Paper Claiming GM Link with Tumours Republished](#)," *Nature*, June 24, 2014. doi:10.1038/nature.2014.15463.
- 278 See interview with Manuela Malatesta in Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of the World's Food Supply*. (New York: New Press, 2010), pp. 176-177.
- 279 Emily Waltz, "[GM Crops: Battlefield](#)," *Nature*, September 2, 2009, 461, 27-32. doi:10.1038/461027a.
- 280 Nathaniel Johnson, "[Genetically Modified Seed Research: What's Locked and What Isn't](#)," *Grist*, August 5, 2013.
- 281 "[Public Research, Private Gain: Corporate Influence Over University Agriculture Research](#)," Food & Water Watch, April 2012.

of a study in response pressure from a funding source” within the previous three years. Among mid-career scientists, 21% admitted to this.²⁸²

In 2011, a study in the journal *Food Policy* reviewed 94 articles about health risks or nutritional values of GMOs. It found that “the existence of either financial or professional conflict of interest was associated to study outcomes that cast genetically modified products in a favorable light,” and that “a strong association was found between author affiliation to industry (professional conflict of interest) and study outcome.”²⁸³

This is an old phenomenon in the pesticide industry. More than fifty years ago, in *Silent Spring*, Rachel Carson wrote that the chemical companies were “pouring money into universities to support research on insecticides.” She asked, of academic scientists funded by the chemical industry: “Can we then expect them to bite the hand that literally feeds them?” She continues, “But knowing their bias, how much credence can we give to their protests that insecticides are harmless?”²⁸⁴

There appear to be many close parallels with pharmaceutical industry, because of the size and scope of its grants to academic institutions and individual scientists. In her famous essay, “Is Academic Medicine For Sale,” then-editor-in-chief of the *New England Journal of Medicine* (and now senior lecturer at Harvard Medical School) Marcia Angell asks: “Why shouldn’t clinical researchers have close ties to industry?” She answers:

One obvious concern is that these ties will bias research, both the kind of work that is done and the way it is reported... there is now considerable evidence that researchers with ties to drug companies are indeed more likely to report results that are favorable to the products of those companies than researchers without such ties. That does not conclusively prove that researchers are influenced by their

financial ties to industry. Conceivably, drug companies seek out researchers who happen to be getting positive results. But I believe bias is the most likely explanation, and in either case, it is clear that the more enthusiastic researchers are, the more assured they can be of industry funding.... It is that close and remunerative collaboration with a company naturally creates goodwill on the part of researchers and the hope that the largesse will continue. This attitude can subtly influence scientific judgment in ways that may be difficult to discern.²⁸⁵

Financial incentives for scientists encourage positive results for the agrichemical industry

If scientists who produce positive results for the agrichemical industry are financially rewarded with grants and other career-enhancements, and those who produce adverse results are attacked in serious and potentially career-threatening ways, then this likely predisposes some scientists to work with industry and to produce positive results for them.

This likely shapes what studies are proposed and carried out, what results are published, and therefore what is “known” about genetically engineered crops and the pesticides with which it is grown.

Positive studies are more likely to be published than adverse ones. It is well understood that there is “publication bias” regarding clinical trials of pharmaceuticals. As Ben Goldacre explained it in the *New York Times*,

Trials with positive or flattering results, unsurprisingly, are about twice as likely to be published — and this is true for both academic research and industry studies.

If I toss a coin, but hide the result every time it comes up tails, it looks as if I always throw heads. You wouldn’t tolerate that if we were choosing who should go first in a game of pocket billiards, but in medicine, it’s accepted as the norm.²⁸⁶

Given the parallels between the pharmaceutical

282 Brian C. Martinson, Melissa S. Anderson, Raymond de Vries, “Scientists Behaving Badly.” *Nature*, June 9, 2005. 435, 737-738, DOI: 10.1038/435737a.

283 Johan Diels, Mario Cunha, Célia Manaia, Bernardo Sabugosa-Madeira, Margarida Silva, “Association of Financial or Professional Conflict of Interest to Research Outcomes on Health Risks or Nutritional Assessment Studies of Genetically Modified Products.” *Food Policy*, April 2011. Vol. 36, Issue 2, pp. 197-203. DOI: 10.1016/j.foodpol.2010.11.016.

284 Rachel Carson, *Silent Spring*. (Boston: Houghton Mifflin, 1962), pp. 258-59.

285 Marcia Angell, “Is Academic Medicine For Sale?” *New England Journal of Medicine*, May 18, 2000. 342:1516-1518. DOI: 10.1056/NEJM200005183422009.

286 Ben Goldacre, “Health Care’s Trick Coin.” *New York Times*, February 1, 2013.

and agrichemical industries, and their generous funding of scientific experimentation, such “publication bias” may well be the norm in studies of the health risks of genetically engineered food.

Is there any independent US-based testing of health of environmental risks of GMOs?

The agrichemical companies hold intellectual property rights to the genetically engineered crops that they produce. Any use of those crops – for farming, scientific experiment, or anything else – in the U.S. is only by permission of the companies that own the intellectual property.

So, in that important sense, research on these foods and crops is not truly independent of the agrichemical companies.

Research findings about health or environmental risks of genetically engineered food and crops would be more convincing if it were fully independent of the agrichemical companies that produce them, i.e., if it were not necessary to receive their permission to study their products. As a remedy, *Scientific American* has proposed that “Going forward, the EPA should also require, as a condition of approving the sale of new seeds, that independent researchers have unfettered access to all products currently on the market.”²⁸⁷

Scientists have criticized the agrichemical industry for denying access to their seeds and crops. According to a 2009 editorial in *Scientific American*,

Unfortunately, it is impossible to verify that genetically modified crops perform as advertised. That is because agritech companies have given themselves veto power over the work of independent researchers....

• • •

“It is important to understand that it is not always simply a matter of blanket denial of all research requests, which is bad enough,” wrote Elson J. Shields, an entomologist at Cornell University, in a letter to an official at the Environmental Protection Agency...“but selective denials and permissions based on industry

perceptions of how ‘friendly’ or ‘hostile’ a particular scientist may be toward [seed-enhancement] technology.”

• • •

when scientists are prevented from examining the raw ingredients in our nation’s food supply or from testing the plant material that covers a large portion of the country’s agricultural land, the restrictions on free inquiry become dangerous.²⁸⁸

The agrichemical industry responded to the scientists’ criticism by loosening some restrictions on research uses of its seeds. But some restrictions still seem to remain. For example, academic scientists still can’t perform experiments on seeds before they are released on the market.

Some scientists are still skeptical of the ways that industry still controls research on their crops. According to Professor Elson Shields of Cornell, “Each company has to decide how many universities to make those [research] agreements with...What justification they have and why they pick one over the other, that’s above my pay grade. It may be that they know there’s a scientist whose work they don’t like, so they don’t choose that university.”²⁸⁹

Conflicts of interest have tainted scientific reviews of genetically engineered food

There are at least two prominent cases in which conflicts of interest have marred the outcomes of scientific reviews of genetically engineered foods.

Twelve days before California voted on the ballot initiative Proposition 37, for labeling of genetically engineered food, the board of directors of the American Academy for the Advancement of Science released a statement that genetically engineered crops “pose no greater risk than the same foods made from crops modified by conventional plant breeding techniques,” and that mandatory labeling of GMOs could therefore “mislead and falsely

287 “Do Seed Companies Control GM Crop Research?” *Scientific American*, July 20, 2009.

288 “Do Seed Companies Control GM Crop Research?” *Scientific American*, July 20, 2009. See also Andrew Pollack, “Crop Scientists Say Biotechnology Seed Companies Are Thwarting Research.” *New York Times*, February 19, 2009.

289 Nathaniel Johnson, “Genetically Modified Seed Research: What’s Locked and What Isn’t.” *Grist*, August 5, 2013.



alarm consumers.”²⁹⁰

However, at the time the AAAS board released its statement, its chair was Nina Federoff, who has close ties to the biotechnology industry. For five years, she was a member of the scientific advisory board of Evogene, an Israeli biotechnology company.²⁹¹ She was a “long-time member” of the board of directors of the biotechnology firm Sigma-Aldrich.²⁹² In her role as “science and technology advisor” to the State Department and U.S. Agency for International Development, the Pesticide Action Network called her “literally the U.S. ambassador for GE.”²⁹³ She even endorsed a campaign statement by opponents of Proposition 37, offering that she was “passionately opposed to labeling” of

genetically engineered food.^{294 295} In response, a group of scientists and physicians, including “many long-standing members” of AAAS, rejected the AAAS statement on GMOs, because it “tramples the rights of consumers to make informed choices.”²⁹⁶

In a similar case, a study conducted for the National Academy of Sciences²⁹⁷ was tainted because the “study director,” Michael J. Phillips, left his position midway for position at the Biotechnology Industry Organization.²⁹⁸ Phillips later became vice-president of the Biotechnology Industry Organization.²⁹⁹ Environmental and consumer groups also pointed out numerous other conflicts of interest among those who produced the

290 “[AAAS Board of Directors: Legally Mandating GM Food Labels Could ‘Mislead and Falsely Alarm Consumers.’](#)” American Academy for the Advancement of Science news release, October 25, 2012. “[Statement by the AAAS Board of Directors on Labeling of Genetically Modified Foods.](#)” American Association for the Advancement of Science, October 20, 2012.

291 “[Professor Nina V. Fedoroff, the U.S. Secretary of State’s New Science and Technology Adviser, Resigns from Evogene’s Scientific Advisory Board.](#)” Evogene news release, July 22, 2007.

292 “[Sigma-Aldrich Board Member Nina Federoff Resigns to Become Science and Technology Adviser to U.S. Secretary of State.](#)” Sigma-Aldrich news release.

293 Heather Pilatic, “[20 Yrs Later, the Biotech Brigade Marches on...](#)” Pesticide Action Network North America, May 31, 2012.

294 “[Coalition Against the Deceptive and Costly Food Labeling Proposition says Scientists and Academic Community Oppose Ballot Measure Mandating Labeling of Genetically Engineered Foods.](#)” Coalition Against the Deceptive and Costly Food Labeling Proposition news release, June 13, 2012.

295 For background on Federoff’s ties to the agrichemical and biotechnology industries, see for example Tom Philpott, “[U.S. Foreign Policy: GMO All the Way.](#)” *Grist*, August 26, 2008 Michele Simon, “[Is a Major Science Group Stumping for Monsanto?](#)” *Grist*, October 30, 2012. Russell Mokhiber, “[AAAS Captured from the Top Down.](#)” *Corporate Crime Reporter*, November 1, 2012. See also Charlie Cray, “[California Prop 37: The Right to Know.](#)” Greenpeace, October 31, 2012.

296 Patricia Hunt et al., “[Yes: Food Labels Would Let Consumers Make Informed Choices.](#)” *Environmental Health News*.

297 *Genetically Modified Pest-Protected Plants: Science and Regulation*. (Washington, DC: National Academy Press, 2000).

298 Melody Petersen, “[Biotech Expert’s New Job Casts a Shadow on Report.](#)” *New York Times*, August 16, 1999.

299 “[People.](#)” *Nature Biotechnology*, 21, 1401 (2003). doi:10.1038/nbt1103-1401.



National Academy of Sciences study.³⁰⁰

Like the pharmaceutical industry, the agrichemical industry has deployed many tools and techniques to bias science in its favor. Given the history in both of these industries, it is naïve, at best, to believe that science cannot be manipulated in myriad ways, and that is objective regarding matters where corporations and industries have billions of dollars at stake.

#13: There are nearly no consumer benefits of GMOs

Of the approximately 30 traits that are genetically engineered into crops for commercial use, they fall into two distinct classes. Many are either pesticide- or herbicide-resistant (or both), to withstand dousings of potent chemicals, such as glyphosate. Some

300 "[Environmental and Consumer Groups Question Credibility of Controversial NAS Study on Biotech Foods](#)," National Environmental Trust news release, April 5, 2000. See also Meredith Wadman, "[GM Advisory Panel Is Slanted, Say Critics](#)," *Nature*, May 6, 1999. 399, 7. doi:10.1038/19817.

have a pesticide, called Bt toxin, incorporated into them, to withstand pest infestations. Some have both.³⁰¹

To be generous to the agrichemical industry, of all these genetically engineered crops that have been brought to market, only three may have actually provided any benefits to consumers. These are the Flavr Savr tomato, the "Rainbow" papaya and the "Innate" potato.³⁰² In 1994, the company Calgene, marketed the first genetically engineered product, a tomato called the Flavr Savr that was intended to have a longer shelf life.³⁰³ It was withdrawn from the market in 1997, after the company was purchased by Monsanto, which stopped selling the seeds.³⁰⁴ Then there is the Rainbow papaya, which was genetically engineered to

301 "[GM Crops: A Story in Numbers](#)," *Nature*, May 2, 2013. 497, 22-23. doi:10.1038/497022a

302 Though the agrichemical industry touts "golden rice" – GMO rice enriched with beta-carotene – it still hasn't been commercially produced, and appears to be more of a PR stunt than a real way to deliver beta carotene to those who need it. See, for example, Michael Pollan, "[The Great Yellow Hype](#)," *New York Times*, March 4, 2001.

303 Warren E. Leary, "[F.D.A. Approves Altered Tomato That Will Remain Fresh Longer](#)," *New York Times*, May 19, 1994. Belinda Martineau, *First Fruit: The Creation of the Flavr Savr™ Tomato and the Birth of Biotech Food*. (New York: McGraw-Hill, 2001.)

304 "[What Happened to the Flavr Savr?](#)" *Chemical and Engineering News*, April 19, 1999. Kenneth Chang, "[Building a Better Mass-Market Tomato](#)," *New York Times*, August 26, 2013.

withstand the ringspot virus. It is now the most prevalent papaya grown in Hawaii. Finally, there is a new genetically engineered “Innate” potato that may produce less of the toxic chemical acrylamide when fried.³⁰⁵

That’s it. One hasn’t been cultivated in the 21st century, another preserved the cultivation of papayas in Hawaii, and another is entirely new.

Now, let’s examine the rest of the genetically engineered foods and products – that most Americans eat in large amounts. These are corn, soybeans, sugar beets, canola and cotton (think cottonseed oil).

The genetically engineered foods that Americans eat are not healthier, safer or more nutritious than conventional foods. They do not look better, nor do they taste better. They do not have a longer shelf life. Using any measure that consumers actually care about, they are not in any way an improvement over conventional products.

They do, however, confer risks to consumers. There are studies that link genetically engineered foods to allergies, liver and kidney disease and other illnesses.³⁰⁶

Well then, who benefits from genetically engineered food and crops? The agrichemical companies do: they sell the seeds and the pesticides that often go with them. Perhaps some farmers do as well. Consumers do not benefit.

In other words, the agrichemical industry is selling consumers a basket of products in which there appears to be risk but no benefits.

That raises an important question: If there are no benefits to consumers, why should we bear any health risks of genetically engineered food and its pesticides?

305 Andrew Pollack, “U.S.D.A. Approves Modified Potato. Next Up: French Fry Fans.” *New York Times*, November 7, 2014.

306 See, for example, Gilles-Eric Séralini et al., “Genetically Modified Crops Safety Assessments: Present Limits And Possible Improvements.” *Environmental Sciences Europe*, 2011. 23:10. Memorandum from Michael Hansen PhD, senior scientist, Consumer Reports, to the American Medical Association Council on Science and Public Health, “Reasons for Labeling Genetically Engineered Food.” March 19, 2012. “Statement: No Scientific Consensus on GMO Safety.” European Network of Scientists for Social and Environmental Responsibility. October 21, 2013. John Fagan, Michael Antoniou and Claire Robinson, “GMO Myths and Truths.” 2014. Chapter 3.

#14: The FDA and food companies have been wrong before: they have assured us of the safety of products that were not safe

Many people believe that if a food is sold in the U.S. market, it must be safe. This impression is false.

On food safety, the U.S. Food and Drug Administration and food companies have been wrong before – many times. The FDA and food companies have often allowed food products or additives on the market, later to discover they were, in fact, unsafe.

This is important, because it suggests that since the FDA and food companies have been wrong before, they could be wrong again, this time about genetically engineered foods.

(It is curious that many Republicans – who are inclined to distrust the federal agencies, including the FDA – should so readily accept the idea that a food is safe because the FDA allows it on the market.)

What follows is a list of food additives, artificial flavors and sweeteners that were sold in the United States and later removed from the market because they were unsafe.

One could make a parallel list of FDA-approved pharmaceuticals that were subsequently pulled from the market, such as Vioxx, Bextra, Baycol, Propulsid, Rezulin, Lotronex, Trasyolol and many others.³⁰⁷ But this is a report about food, so we will keep our focus there.

Agene (nitrogen trichloride) was a widely used bleaching agent for wheat flour between 1924-49.³⁰⁸ In 1948, according to the *New York Times*, 90% of all white flour was agenized.³⁰⁹

307 See, for example, “Update on Withdrawals of Dangerous Drugs in the U.S.” *Worst Pills, Best Pills*, Public Citizen Health Research Group, January 2011.

308 Clyde E. Stauffer, *Functional Additives for Bakery Foods*. (New York: Van Nostrand Reinhold, 1990) p. 7.

309 Jane Nickerson, “News of Food.” *New York Times*, March 18, 1948.



Agene was banned in 1949,³¹⁰ after it was discovered to have caused “running fits” and “hysteria” in dogs.³¹¹

Cinnamyl anthranilate was an artificial flavor. It produces an imitation grape or cherry flavor. It was found to cause liver in mice,³¹² and was banned in 1985.³¹³

Cobalt salts were added to beer as a foam stabilizer. In 1966, cobalt salts were linked to thirty-seven deaths due to cardiomyopathy,³¹⁴ and later that year the FDA banned them.³¹⁵

Coumarin is a vanilla flavoring, a product of the tonka bean. According to the *New York*

Times, it was “widely used in ice creams, candy, baked goods, soft drinks and products using chocolate, for many years.”³¹⁶ It is toxic to the liver, and was banned by the FDA in 1954.³¹⁷

Cyclamates are a class of artificial sweeteners. They were popular; about 15 million pounds were used in 1967, mostly in soft drinks.³¹⁸ The FDA banned them in 1969, following evidence that they caused bladder tumors in rats.³¹⁹

Diethyl pyrocarbonate (DEPC) was a fermentation inhibitor and preservative used in wine, beer and fruit drinks. Researchers discovered that it reacts with ammonia to create urethane, a well-known carcinogen.³²⁰

310 “[Stop Order Is Put on Bleaching Flour.](#)” *New York Times*, November 3, 1948.

311 Edward Mellanby, “[Diet and Canine Hysteria: Experimental Production by Treated Flour.](#)” *British Medical Journal*, December 14, 1946; 2(4484): 885-887.

312 International Agency for Research on Cancer, [monograph on cinnamyl anthranilate.](#)

313 21 CFR 189.113.

314 Jane E. Brody, “[A Heart Ailment is Linked to Beer.](#)” *New York Times*, July 26, 1966.

315 21 CFR 189.120.

316 “[Coumarin Withheld as a Danger in Foods.](#)” *New York Times*, May 23, 1953.

317 21 CFR 189.130.

318 Douglas W. Cray, “[Battle Over Sweeteners Turns Bitter.](#)” *New York Times*, June 1, 1969.

319 Harold M. Schmeck, “[Government Officially Announces Cyclamate Sweeteners Will Be Taken Off Market Early Next Year.](#)” *New York Times*, October 19, 1969.

320 Jane E. Brody, “[Drink Preservative Found to Produce a Carcinogen.](#)” *New York Times*, December 21, 1971.

The FDA banned it in 1972.³²¹

Dulcin was an artificial sweetener. The FDA banned it in 1950,³²² because of evidence that it caused liver and bladder cancer in rats.³²³

Green 1 was an artificial color approved for food use in 1922. It was delisted in 1966.³²⁴

Monochloroacetic acid was a preservative for alcoholic and nonalcoholic beverages. It was banned in 1941³²⁵ because it is highly toxic.

Nordihydroguaiaretic acid (NDGA) is an antioxidant. The FDA banned it in 1968³²⁶ because it caused renal cysts and other kidney damage.

Oil of Calamus is a flavoring agent. The FDA banned it in 1968.³²⁷

Orange 1 was an artificial color approved for food use in 1907. According to the FDA, in 1953 it was “probably the most widely used of all food colors, going into soft drinks, confectionary and baking.”³²⁸ According to the *New York Times*, “In 1950, many children became ill after eating Halloween candy containing Orange No. 1 dye, and the F.D.A. banned it after more rigorous testing suggested that it was toxic.”³²⁹ It was delisted (banned) in 1956.

Orange 2 was an artificial color. It was delisted (banned) in 1956.³³⁰

Orange B was an artificial color approved for food use in 1966, for dyeing hot dog and sausage casings. It was found to be toxic in rats. The FDA proposed banning it in 1978, but the manufacturer stopped producing it, and the ban was never finalized.³³¹

321 21 CFR 189.140.

322 21 CFR 189.145.

323 A. Wallace Hayes, ed. *Principles and Methods of Toxicology*. (New York: Informa, 2008), p. 669.

324 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 227.

325 21 CFR 189.155.

326 21 CFR 189.165.

327 21 CFR 189.110.

328 “[U.S. Orders Hearings on 3 Food Colorings](#).” *Associated Press/ New York Times*, December 19, 1953.

329 Gardiner Harris, “[F.D.A. Panel to Consider Warnings for Artificial Food Colorings](#).” *New York Times*, March 29, 2011. See also Deborah Blum, “[A Poisoner’s Tale of Halloween](#).” *Wired*, October 31, 2012.

330 Deborah Blum, “[A Poisoner’s Tale of Halloween](#).” *Wired*, October 31, 2012.

331 Sarah Kobylewski and Michael F. Jacobson, “[Toxicology of Food Dyes](#).” *International Journal of Occupational and Environmental Health*, July-September 2012, 18(3):220-46. doi: 10.1179/1077352512Z.00000000034. S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 227.

P-4000 is an artificial sweetener about 4,000 times sweeter than sucrose. The FDA banned it in 1950³³² due to toxicity in rats.

Red 1 was an artificial color approved for use in food by the Pure Food and Drug Act of 1906. It was delisted in 1961, because it is a liver carcinogen.³³³

Red 2 was an artificial color approved for use in food by the Pure Food and Drug Act of 1906. It was delisted in 1976, after studies showed that it is a probable carcinogen in rats.³³⁴

Red 4 was an artificial color approved in 1929 for dyeing butter and margarine. It was delisted in 1976 after it was found to be toxic to dogs.³³⁵

Red 32 was an artificial color approved for food use in 1939. It was delisted in 1956, after it was shown to be toxic to rats.³³⁶

Safrole was a flavoring derived from sassafras used in foods and beverages such as root beer. The FDA banned it in 1960 because it causes liver cancer in rats.³³⁷

Thiourea was an antimycotic preservative. The FDA banned it because it causes liver cancer in rats.³³⁸

Violet 1 was an artificial color approved for food use in 1950. It was delisted in 1973 because it was a suspected carcinogen in rats.³³⁹

Yellow 1 was an artificial color approved for food use in 1907. It was delisted in 1959.³⁴⁰

Yellow 2 was an artificial color approved for food use in 1939. It was delisted in 1959.³⁴¹

Yellow 3 and 4 were artificial colors approved for food use in 1918 for coloring margarine. They were found to be toxic to the livers of rats and dogs. They were delisted in 1959.³⁴²

332 21 CFR 189.175.

333 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 231.

334 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 231.

335 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 234.

336 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 234.

337 “[U.S. Food Unit Bars Safrol Flavoring](#).” *New York Times*, December 2, 1960. 21 CFR 189.180.

338 21 CFR 189.190.

339 Richard J. Lewis, Sr., *Food Additives Handbook*. (New York: Chapman & Hall, 1989), p. 16.

340 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 227.

341 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 227.

342 S. S. Deshpande, *Handbook of Food Toxicology*. (New York: Marcel Dekker, 2002), p. 238.



#15: A few other things the agrichemical industry doesn't want you to know about them: crimes, scandals and other wrongdoing

The agrichemical industry's six major firms, Monsanto, Syngenta, Dow, DuPont, Bayer and BASF, have been involved in so many reprehensible activities that documenting them all would require an entire book in itself. In fact, entire books have been devoted to the wrongdoing of two of these companies, while an extensive website documents the misdeeds of a third one.³⁴³

Following is a brief sketch of the crimes, wrongdoing and other reprehensible acts of these companies.

³⁴³ Jack Doyle, *Trespass Against Us: Dow Chemical and the Toxic Century*. (Monroe, Maine: Common Courage Press, 2004). Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption and the Control of our Food Supply*. (New York: New Press, 2010). Regarding Bayer, see the [Coalition Against Bayer Dangers](#) website.

BASF

BASF is the world's largest chemical company.

On September 21, 1921 a BASF fertilizer silo in Oppau exploded, killing at least 550 people.³⁴⁴ It was one of the worst chemical disasters in history.³⁴⁵

The companies BASF, Bayer, Hoescht and three smaller companies founded IG Farben (Interessen-Gemeinschaft Farbenindustrie AG) in 1925. The war crimes of IG Farben are so heinous as to be impossible to capture in a short space. Following the Nuremberg Trials, thirteen of its executives were imprisoned for Nazi war crimes, for producing Zyklon B, the asphyxiating gas used to kill countless Jews and others during the Holocaust, and the use of tens of thousands of slave laborers at Auschwitz, and conducting involuntary "medical" or "scientific" experiments on prisoners.³⁴⁶

On July 28, 1948, an explosion at the BASF plant in Ludwigshafen killed more than 200 people, and injured up to 3,000.³⁴⁷

In 1999, BASF pled guilty to a criminal conspiracy charge and agreed to pay a \$225 million fine for helping to coordinate cartels to illegally fix prices of vitamins in the 1990s.³⁴⁸ Joel Klein, then chief of the antitrust division of the U.S. Department of Justice, called it "the most pervasive and harmful criminal antitrust conspiracy ever uncovered."³⁴⁹ Gary Spratling, head of criminal enforcement of antitrust laws

³⁴⁴ Werner Abelshausen, Wolfgang von Hippel, Jeffrey Allan Johnson and Raymond G. Stokes, *German Industry and Global Enterprise: BASF: The History of a Company*. (Cambridge: Cambridge University Press, 2004), pp. 195-8.

³⁴⁵ See, for example "[Chemical Cock-Ups: The 1921 Oppau Disaster and its Aftermath](#)." BBC. BASF [web page](#) on its corporate history, 1902-24.

³⁴⁶ See, for example, Joseph Borkin, *The Crime and Punishment of I.G. Farben*. (New York, Pocket Books, 1978). Diarmuid Jeffreys, *Hell's Cartel: IG Farben and the Making of Hitler's War Machine*. (New York: Metropolitan Books, 2008.) F. López-Muñoz, P. García-García and C. Alamo, "[The Pharmaceutical Industry and the German National Socialist Regime: I.G. Farben and Pharmacological Research](#)." *Journal of Clinical Pharmacy and Therapeutics*, February 2009. 34: 67-77. doi: 10.1111/j.1365-2710.2008.00972.x

³⁴⁷ Werner Abelshausen, Wolfgang von Hippel, Jeffrey Allan Johnson and Raymond G. Stokes, *German Industry and Global Enterprise: BASF: The History of a Company*. (Cambridge: Cambridge University Press, 2004), p. 351.

³⁴⁸ "[E. Hoffmann-La Roche and BASF Agree to Pay Record Criminal Fines for Participating in International Vitamin Cartel](#)." U.S. Department of Justice news release, May 20, 1999. USA v. BASF Aktiengesellschaft [plea agreement](#), May 20, 1999. "[Four Foreign Executives of Leading European Vitamin Firms Agree to Plead Guilty to Participating in International Vitamin Cartel](#)." U.S. Department of Justice news release, April 6, 2000.

³⁴⁹ David Barboza, "[Tearing Down The Facade of 'Vitamins Inc.'](#)" *New York Times*, October 10, 1999.

at DOJ, explained “Simply put, the vitamin cartel was as bad as they get. Nothing was left to chance — or, more accurately, to competition.”³⁵⁰ In 2001, the European Union fined BASF \$260 million for the same price fixing scheme. “This is the most damaging series of cartels the commission has ever investigated,” said Mario Monti, who was the EU’s competition commissioner at the time.³⁵¹

In 1997, another BASF subsidiary, Knoll Pharmaceutical, paid \$98 million to settle a class-action lawsuit from approximately five million patients over suppressing publication of a study about its drug Synthroid. The study “concluded that health-care costs could be cut by \$356 million a year if cheaper equivalents were used instead of Synthroid.”³⁵²

Bayer

In 1898, Bayer began selling a new medicine called “Heroin.” Bayer promoted it as a cold, cough and “irritation” remedy for children as late as 1912.³⁵³ According to Kenaz Filan’s history of the poppy, “Believing (incorrectly) that heroin produced less respiratory depression than codeine, Bayer presented heroin as a safer children’s cough suppressant. It was also touted as a cure for morphine addiction and a panacea against, among other things, depression, bronchitis, asthma, tuberculosis and stomach cancer.”³⁵⁴

The companies BASF, Bayer, Hoescht and three smaller companies founded IG Farben (Interessen-Gemeinschaft Farbenindustrie AG) in 1925. See BASF profile above.

In the early 1970’s, Bayer’s fungicide Baycovin (diethylpyrocarbonate) was used as a preservative for wine, beer and fruit juices. However, Baycovin was found to produce a potent carcinogen, urethan.³⁵⁵ The FDA banned

Baycovin in 1972.³⁵⁶

In April, 2003, Bayer pled guilty to a criminal charge and agreed to pay \$257 million in fines and damages for defrauding Medicare in a scheme to overcharge for its antibiotic, Cipro. At the time, it was the largest Medicaid fraud settlement in history.³⁵⁷

Bayer is a major producer of neonicotinoid pesticides that have been linked to the decline of bee populations. These pesticides were banned for two years in Europe.³⁵⁸ Bayer has mounted a massive campaign to keep its pesticides on the market, in part by using the classic tobacco industry strategy of pretending to care. “Bayer is strictly committed to bee health,” a Bayer spokesperson told the *New York Times*. Hans Muilerman of Pesticide Action Network Europe explained that Bayer does “almost anything that helps their products remaining on the market. Massive lobbying, hiring P.R. firms to frame and spin, inviting commissioners to show their plants and their sustainability.”³⁵⁹

Dow Chemical

In 1957, a catastrophic nuclear meltdown nearly occurred at the Rocky Flats nuclear weapons facility, near Denver. At the time, Dow Chemical operated the facility for the U.S. Department of Energy.³⁶⁰ The DOE has ranked Rocky Flats as the “most dangerously contaminated site in the nation’s nuclear weapons complex.”³⁶¹

In the 1960’s, as many as 70 inmates at Holmesburg Prison in Philadelphia were given large doses of dioxin, a highly toxic chemical, in experiments for Dow Chemical. The dioxin was spread on the inmates’ skin.³⁶² Nearly 300 inmates sued Dow and others, but courts found

356 21 CFR 189.140.

357 Melody Petersen, “[Bayer Agrees to Pay U.S. \\$257 Million in Drug Fraud.](#)” *New York Times*, April 17, 2003. “[Bayer Agrees to Biggest Medicaid Fraud Settlement.](#)” *Reuters/USA Today*, April 16, 2003.

358 David Jolly, “[Europe Bans Pesticides Thought Harmful to Bees.](#)” *New York Times*, April 29, 2013.

359 Danny Hakim, “[Accused of Harming Bees, Bayer Researches a Different Culprit.](#)” *New York Times*, December 11, 2013. See also Danny Hakim, “[European Agency Warns of Risk to Humans in Pesticides Tied to Bee Deaths.](#)” *New York Times*, December 17, 2013.

360 Andrew Cohen, “[A September 11th Catastrophe You’ve Probably Never Heard About.](#)” *The Atlantic*, September 10, 2012.

361 Tamara Jones, “[U.S. Vows to Lift 30-Year Veil of Secrecy at Weapons Plants.](#)” *Los Angeles Times*, June 17, 1989.

362 William Robbins, “[Dioxin Tests Conducted in 60’s on 70 Philadelphia Inmates, Now Unknown.](#)” *New York Times*, July 17, 1983. See also Allen M. Hornblum, *Acres of Skin: Human Experiments at Holmesburg Prison*. (London: Routledge, 1988).

350 Naftali Bendavid, “[Vitamin Price-fixing Draws Record \\$755 Million in Fines.](#)” *Chicago Tribune*, May 21, 1999.

351 Paul Meller, “[Vitamin Producers Fined \\$752 Million.](#)” *New York Times*, November 22, 2001.

352 Meredith Wadman, “[\\$100m Payout After Drug Data Withheld.](#)” *Nature*, August 21, 1997. See also Thomas H. Maugh II, “[Drug Firm Suppressed Test Data for Years, Doctors Say.](#)” *Los Angeles Times*, April 16, 1997. “[BASF Unit To Pay \\$98 Million To Settle Synthroid Suit.](#)” *New York Times*, August 6, 1997.

353 See, for example, Jim Edwards, “[Yes, Bayer Promoted Heroin for Children — Here Are The Ads That Prove It.](#)” *Business Insider*, November 17, 2011. See also Ian Scott, “[Heroin: A Hundred-Year Habit.](#)” *History Today*, Vol. 48, Issue 6, 1998.

354 Kenaz Filan, *Power of the Poppy: Harnessing Nature’s Most Dangerous Plant Ally*. (Rochester, VT: Park Street Press, 2011), p. 86.

355 Jane E. Brody, “[Drink Preservative Found to Produce a Carcinogen.](#)” *New York Times*, December 21, 1971.



that the statute of limitations had expired.³⁶³

In 1965, Dow Chemical Co. began producing the incendiary agent napalm for use during the Vietnam War. Napalm is akin to jellied gasoline. It sticks to skin, and often burns its victims to death in great pain. For years, Dow was the sole supplier of napalm to the Department of Defense.³⁶⁴ Photos and other descriptions of the impact of napalm horrified Americans, and in response to nationwide protests and boycotts, the company stopped producing napalm in 1969.³⁶⁵

In 1995, Greenpeace released a report arguing

363 Joann Loviglio, "Albert M. Kligman, Dermatologist Who Patented Retin-A, Dies at 93." *Associated Press/Washington Post*, February 22, 2010.

364 See, for example, "Dow Chemical and the Use of Napalm." PBS, September 22, 2005. Robert M. Neer, *Napalm: An American Biography*. (Cambridge, MA: Belknap Press of Harvard University Press, 2013)

365 "Dow Declares It Has Stopped Production of Napalm for U.S." *Associated Press/New York Times*, November 15, 1969. See also Jack Doyle, *Trespass Against Us: Dow Chemical and the Toxic Century*. (Monroe, Maine: Common Courage Press, 2004). Charlie Cray, "Dow: Stealing Our Future." Institute for Agriculture and Technology Policy, April 27, 1997.

that Dow is the "world's largest producer of chlorine and chlorine-based products" and that it is "likely the world's largest root source of dioxin," which is a highly toxic chemical.³⁶⁶

In 2001, Dow Chemical acquired Union Carbide,³⁶⁷ which was responsible for the Bhopal poison gas disaster. On the night of September 2-3, 1984, a Union Carbide pesticide plant exploded in Bhopal, India, releasing over 40 tons of methyl isocyanate gas. It was the world's worst industrial disaster. According to Philip Bowring in the *International Herald Tribune*, the disaster "immediately killed some 2,250 people, and affected as many as 500,000 more. Of that number, it is estimated that between 15,000 and 30,000 people subsequently died as a consequence of the accident and tens of thousands of others remain sick."³⁶⁸ Much of the toxic waste remains in Bhopal, despite the profitability of Dow Chemical.³⁶⁹ For the last thirteen years, Dow has rejected any responsibility for the survivors and victims of the Bhopal disaster. It has repeatedly failed to appear or to respond to Indian court summons for legal proceedings about the Bhopal disaster.³⁷⁰

In 2005, DuPont Dow Elastomers, a subsidiary of both Dow Chemical and DuPont, pled guilty and paid an \$84 million criminal fine for an "international conspiracy to fix the prices of synthetic rubber."³⁷¹

DuPont

In 1995, Federal District Court Judge J. Robert Elliott fined DuPont \$115 million for concealing evidence in a 1993 trial about damage to plants from its fungicide, Benlate. "'Put in layperson's terms,' Judge Elliott wrote, 'Du Pont cheated. And it cheated consciously, deliberately and with purpose. It has committed a fraud against this court.'"³⁷²

366 Jack Weinberg, ed., "Dow Brand Dioxin: Dow Makes You Poison Great Things." Greenpeace, 1995.

367 Union Carbide Corporation [web page](#) on its corporate history.

368 Philip Bowring, "Remembering Bhopal." *International Herald Tribune*, June 16, 2012.

369 Somini Sengupta, "Decades Later, Toxic Sludge Torments Bhopal." *New York Times*, July 7, 2008. See also Suketu Mehta, "A Cloud Still Hangs Over Bhopal." *New York Times*, December 2, 2009.

370 P. Naveen, "Dow Chemical a No-show in Court Hearing over Bhopal Disaster." *Times of India*, November 13, 2014.

371 "DuPont Dow Elastomers to Plead Guilty and Pay \$84 Million Fine for Participating in a Synthetic Rubber Cartel." U.S. Department of Justice news release, January 19, 2005.

372 "Judge Fines Du Pont \$115 Million for Concealing Trial Evidence." *New York Times*, August 22, 1995.

In Pompton Lakes, New Jersey, a DuPont munitions plant “left behind a trail of lead and mercury, contaminated soil and water and a plume of toxic vapor still capable of leaking into at least 450 houses.” According to John Sinisner, a former mayor of Pompton Lakes, “DuPont will try to get away with as much as they can get away with anytime they can.”³⁷³

In 2005, DuPont Dow Elastomers, a subsidiary of both Dow Chemical and DuPont, pled guilty and paid an \$84 million criminal fine for an “international conspiracy to fix the prices of synthetic rubber.”³⁷⁴

On September 3, 2014, the U.S. Department of Justice announced that DuPont and Atlantic Richfield Co. would pay about \$26 million to clean up lead and arsenic contamination of the Calumet residential neighborhood in East Chicago, Indiana.³⁷⁵

Monsanto

The list of reprehensible conduct by the Monsanto Corporation is the subject of a book-length treatment by Marie-Monique Robin, *The World According to Monsanto*.³⁷⁶ What follows is merely a brief recounting of a few key events.

Monsanto began producing the pesticide DDT in 1944, along with about fifteen other companies. In 1962, Rachel Carson released *Silent Spring*, her seminal book on DDT. Carson told the story of how DDT decimated some bird species such as bald eagles and peregrine falcons, because it made the birds’ eggshells too thin, so they would break prematurely. EPA banned DDT in 1972, because of its impacts on the environment and human health. With minor exceptions, in 2004, it was banned worldwide by the Stockholm Convention on Persistent Organic Pollutants.

Monsanto has thrice been found to have produced false advertising related to Roundup and its genetically engineered crops. In 2009, France’s highest court upheld two lower French courts convicting Monsanto of

falsely advertising that its herbicide Roundup is “biodegradable” and that it “left the soil clean.”³⁷⁷ In 1999, the UK Advertising Standards Authority condemned Monsanto for issuing “wrong, unproven, misleading and confusing” claims in its advertising.³⁷⁸ In 1996, the Attorney General of New York State fined Monsanto \$50,000 for false advertising regarding claims that Roundup is “environmentally friendly” and biodegradable.³⁷⁹

In 1999, in a notable instance of public relations trickery, Monsanto helped to pay protesters to conduct a counter-demonstration in support of genetically engineered food. The protest was held in Washington DC, in front of an FDA hearing on genetically engineered crops.³⁸⁰

Recent articles by the *Associated Press* raised questions about the health risks of Monsanto’s Roundup as it is used in Argentina. According to *AP*, Argentine “doctors are warning that uncontrolled pesticide applications could be the cause of growing health problems...”³⁸¹ In response, Monsanto “criticized the AP report as lacking in specifics about health impacts,” the *Associated Press* reported, “though the story cited hospital birth records, court records, peer-reviewed studies, continuing epidemiological surveys, pesticide industry and government data, and a comprehensive audit of agrochemical use in 2008-11 prepared by Argentina’s bipartisan Auditor General’s Office.”³⁸²

Syngenta

Syngenta produces atrazine, one of the most widely used pesticides in the United States. Atrazine was banned in the European Union in October 2003, over concerns about whether it is carcinogenic and an endocrine disruptor.³⁸³ According to the *New York Times*, atrazine “has become among the most common

373 Peter Applebome, “Old Story of Pollution: New Urgency This Time.” *New York Times*, January 31, 2010.

374 “DuPont Dow Elastomers to Plead Guilty and Pay \$84 Million Fine for Participating in a Synthetic Rubber Cartel.” U.S. Department of Justice news release, January 19, 2005.

375 “U.S. and Indiana Enter into Settlement for \$26 Million Cleanup in East Chicago, Indiana.” U.S. Department of Justice news release, September 3, 2014. See also Lauri Harvey Keagle, “Health Concerns at Center of EC Lead, Arsenic Cleanup.” *The Times of Northwest Indiana*, September 4, 2014.

376 Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption and the Control of our Food Supply*. (New York: New Press, 2010).

377 “Monsanto Guilty in ‘False Ad’ Row.” *BBC*, October 15, 2009.

378 John Arlidge, “Watchdog Slams Monsanto Ads.” *Guardian*, February 27, 1999.

379 “In the Matter of Monsanto Company.” Attorney General of the State of New York, Consumer Frauds and Protection Bureau, Environmental Protection Bureau, 1996.

380 Melody Petersen, “Monsanto Campaign Tries to Gain Support for Gene-Altered Food.” *New York Times*, December 8, 1999.

381 Michael Warren and Natacha Pisarenko, “Argentines Link Health Problems To Agrochemicals.” *Associated Press*, October 20, 2013.

382 Michael Warren, “Monsanto Calls Glyphosate ‘Safe’ After AP Report.” *Associated Press*, October 22, 2013.

383 See, for example, Jennifer Beth Sass and Aaron Colangelo, “European Union Bans Atrazine, While the United States Negotiates Continued Use.” *International Journal of Occupational and Environmental Health*, July/September 2006, 12(3): 260-7.

contaminants in American reservoirs and other sources of drinking water” and “Recent studies suggest that, even at concentrations meeting current federal standards, the chemical may be associated with birth defects, low birth weights and menstrual problems.”³⁸⁴

Syngenta is also a major producer of neonicotinoid pesticides, which have been blamed for sharp declines in bee populations across the planet. Europe has banned these pesticides for two years due to their destruction of bee populations.³⁸⁵ According to a 2014 study by the International Union for the Conservation of Nature, neonicotinoids are “causing significant damage to a wide range of beneficial invertebrate species and are a key factor in the decline of bees.”³⁸⁶

Syngenta’s predecessor, Ciba-Geigy,³⁸⁷ produced a pesticide called chlordimeform which was withdrawn from the market because it was a suspected carcinogen.³⁸⁸

Syngenta’s predecessor, Ciba, paid a \$62 million fine, including \$3.5 million in criminal penalties, for “illegally dumping laboratory wastes, polluting groundwater and filing false reports.” In 1992, in a much-polluted state, the head of New Jersey’s environmental prosecutions unit said “This is the biggest environmental case we’ve ever had.”³⁸⁹ A *New York Times* op-ed by Robert Hanley described the “plume of poisons, about a mile square and between 30 and 100 feet deep” produced by Ciba-Geigy near Toms River, New Jersey.³⁹⁰

Ciba-Geigy’s promotion of the drug Ritalin, for which it was the main manufacturer, for use in children with attention deficit hyperactivity disorder, was questioned in a 2013 *New York*

384 Charles Duhigg, “[Debating How Much Weed Killer Is Safe in Your Water Glass.](#)” *New York Times*, August 22, 2009.

385 David Jolly, “[Europe Bans Pesticides Thought Harmful to Bees.](#)” *New York Times*, April 29, 2013. “[Bee Survival in Europe.](#)” *New York Times*, October 25, 2013.

386 “[Systemic Pesticides Pose Global Threat to Biodiversity and Ecosystem Services.](#)” International Union for the Conservation of Nature, June 24, 2014.

387 In 1996, Ciba and Sandoz merged to form Novartis. In 2000, Novartis and AstraZenca merged their agrichemical businesses to create Syngenta. See Syngenta’s [web page](#) describing its company history.

388 See, for example, “[2 Companies Will Stop Sales of Pesticide Used on Cotton.](#)” *New York Times/Associated Press*, September 8, 1988. Third World Network and Monitor staff, “[Trouble Again](#)” and “[The Rap on Ciba-Geigy.](#)” *Multinational Monitor*, 1988.

389 Joseph F. Sullivan, “[Ciba to Pay New Jersey For Illegal Waste Dumping.](#)” *New York Times*, February 29, 1992.

390 Robert Hanley, “[Toxic Levels For an Aquifer Worry E.P.A.](#)” *New York Times*, October 10, 1989.

Times article on the “Selling of Attention Deficit Disorder.”³⁹¹

In 2005, EPA fined Syngenta \$1.5 million for “selling and distributing seed corn that contained an unregistered genetically engineered pesticide called Bt 10.”³⁹² In 2004, The U.S. Department of Agriculture fined Syngenta \$375,000 for selling the unapproved genetically engineered corn seed, Bt 10.³⁹³

Conclusion

The agrichemical industry has enjoyed an unusual ability to shape its environment – and our environment – in so many meanings of the word: political, legislative, economic, public opinion, legal, regulatory, and, of course, the natural environment, which now hosts vast quantities of its genetically engineered crops and the pesticides that accompany them.

Only time will tell what the long-term effects of the agrichemical industry and its GMOs and pesticides really are, whether they are as shining and stellar as the industry’s PR machine would have us believe, or whether that PR is obfuscating something darker.

The history of this industry – and of PR campaigns like the one it is carrying out – suggests that the truth may well be closer to the latter than the former.

There is no basis for entrusting our children, families, other loved ones, and a fair portion of our nation’s food supply, to agrichemical companies whose rapsheets are so extensive and appalling that you need entire books to begin to describe them, and whose business models have depended on concealing their impact on human health and the environment.

As parents, consumers and citizens, we have a right and a duty to demand the truth. We have the right to know what is in our food, and how it affects our health.

391 Alan Schwartz, “[The Selling of Attention Deficit Disorder.](#)” *New York Times*, December 14, 2013.

392 “[EPA Fines Syngenta \\$1.5 Million for Distributing Unregistered Genetically Engineered Pesticide.](#)” U.S. Environmental Protection Agency news release, December 21, 2006.

393 Tom Wright, “[U.S. Fines Swiss Company Over Sale of Altered Seed.](#)” *New York Times*, April 9, 2005.

Appendix A: Agrichemical and food company spending on GMO campaigns

Since 2012, the agrichemical and food industries have spent more than \$103 million to defeat state ballot initiatives in California, Colorado, Oregon and Washington for labeling of genetically engineered foods.

NAME OF CONTRIBUTOR	NO ON 37 (CA)	NO ON 522 (WA)	NO ON 105 (CO)	NO ON 92 (OR)	TOTAL CONTRIBUTIONS
Monsanto Company	\$8,112,867	\$5,374,411	\$3,351,276	\$5,958,750	\$22,797,304
E.I. Dupont De Nemours & Co./Dupont Pioneer	\$5,400,000	\$3,880,159	\$3,000,000	\$4,518,150	\$16,798,309
Pepsico, Inc.	\$2,485,400	\$2,352,966	\$1,650,000	\$2,350,000	\$8,838,366
Coca-Cola North America	\$1,690,500	\$1,520,351	\$1,385,000	\$1,170,000	\$5,765,851
Dow AgroSciences LLC	\$2,000,000	\$591,654	\$300,000	\$1,157,150	\$4,048,804
Kraft Food Group	\$2,000,500		\$1,030,000	\$870,000	\$3,900,500
General Mills, Inc.	\$1,230,300	\$869,271	\$820,000	\$695,000	\$3,614,571
Nestle USA, Inc.	\$1,461,600	\$1,528,206			\$2,989,806
Conagra Foods	\$1,176,700	\$828,251	\$250,000	\$350,000	\$2,604,951
Bayer Cropscience	\$2,000,000	\$591,654			\$2,591,654
BASF Plant Science	\$2,000,000	\$500,000			\$2,500,000
Grocery Manufacturers Association	\$2,002,000		\$2,900	\$169,190	\$2,174,090
Syngenta Corporation	\$2,000,000				\$2,000,000
Land O'lakes, Inc.	\$151,535	\$144,878	\$900,000	\$760,000	\$1,956,414
Kellogg Company	\$790,700	\$322,050	\$250,000	\$500,000	\$1,862,750
Hershey Company	\$518,900	\$360,450	\$380,000	\$320,000	\$1,579,350
The J.M. Smucker Company	\$555,000	\$349,978	\$345,000	\$295,000	\$1,544,978
Mondelez International	\$181,000	\$210,336		\$720,000	\$1,111,336
Bimbo Bakeries USA	\$422,900	\$137,460	\$270,000	\$230,000	\$1,060,360
Campbell Soup Company	\$598,000	\$384,888			\$982,888
Smithfield Foods, Inc.	\$683,900		\$200,000		\$883,900
Del Monte Foods Company	\$674,100	\$125,677			\$799,777
Abbott Nutrition	\$234,500	\$185,025	\$190,000	\$160,000	\$769,525
Hormel Foods Corporation	\$467,900	\$76,803	\$85,000	\$85,000	\$714,703
Flowers Foods, Inc.	\$182,100	\$205,099	\$250,000		\$637,199
Cargill, Inc.	\$233,236	\$143,133	\$135,000	\$111,000	\$622,369
Ocean Spray Cranberries, Inc.	\$409,100	\$80,295	\$80,000	\$35,000	\$604,395
Bumble Bee Foods, LLC	\$420,600	\$52,365	\$50,000	\$45,000	\$567,965
Mccormick & Company, Inc.	\$248,200	\$148,369		\$130,000	\$526,569
Biotechnology Industry Organization	\$500,000		\$15,085	\$10,750	\$525,835
H.J. Heinz Company	\$500,000				\$500,000
Mars Incorporated	\$498,350				\$498,350
Unilever	\$467,100				\$467,100
Pinnacle Foods Group LLC	\$266,100	\$175,425			\$441,525
Dean Foods Company	\$253,950	\$174,553			\$428,503
Council For Biotechnology Information	\$375,000			\$12,827	\$387,827
Bunge North America, Inc.	\$248,600	\$137,896			\$386,496
Hillshire Brands Company	\$85,900	\$282,775			\$368,675

Appendix A (continued)

NAME OF CONTRIBUTOR	NO ON 37 (CA)	NO ON 522 (WA)	NO ON 105 (CO)	NO ON 92 (OR)	TOTAL CONTRIBUTIONS
Sara Lee Corporation	\$343,600				\$343,600
Rich Products Corporation	\$243,537	\$34,911		\$30,000	\$308,448
Welch Foods, Inc.	\$167,000	\$41,893	\$35,000	\$30,000	\$273,893
Knouse Foods Cooperative, Inc.	\$160,309	\$20,946	\$25,000	\$20,000	\$226,255
Sunny Delight Beverages Company	\$134,496	\$30,547	\$25,000	\$25,000	\$215,043
Mead Johnson Nutrition Company	\$80,000		\$50,000	\$50,000	\$180,000
Dole Packaged Foods Company	\$171,262				\$171,262
Clement Pappas & Company, Inc.	\$99,478	\$30,547			\$130,025
Wm. Wrigley Jr. Company	\$116,866				\$116,866
Tree Top, Inc.	\$110,600				\$110,600
Shearers Foods Inc	\$0	\$36,656	\$35,000	\$30,000	\$101,656
Hero North America	\$79,074				\$79,074
Faribault Foods, Inc.	\$76,000				\$76,000
Solae, LLC	\$59,215				\$59,215
Clorox Company	\$39,015	\$17,455			\$56,470
McCain Foods USA, Inc.	\$50,593				\$50,593
Bruce Foods Corporation	\$38,500	\$4,364			\$42,864
Godiva Chocolatier, Inc.	\$41,788				\$41,788
Starlite Media LLC	\$41,785				\$41,785
B&G Foods, Inc.	\$40,000				\$40,000
Goya De Puerto Rico, Inc.	\$35,400				\$35,400
Michael Foods				\$30,000	\$30,000
Bush Brothers & Company		\$23,565			\$23,565
C. H. Guenther & Son, Inc.	\$23,402				\$23,402
Goya Foods Great Lakes	\$21,300				\$21,300
Morton Salt	\$20,275				\$20,275
Hirzel Canning Company	\$14,687				\$14,687
Reily Foods Company	\$13,215				\$13,215
Colorado Farm Bureau			\$11,298		\$11,298
Inventure Foods, Inc.	\$10,846				\$10,846
Nutrition Edge Communications			\$10,300		\$10,300
Niagara Bottling			\$10,000		\$10,000
Snack Food Association	\$10,000				\$10,000
Croplife America	\$9,500				\$9,500
Moody Dunbar, Inc.	\$5,000	\$2,619			\$7,619
Sargento Foods, Inc.	\$7,185				\$7,185
Idahoan Foods, LLC	\$7,182				\$7,182
Colorado Corn Growers Assn.			\$5,870		\$5,870
Post Foods, LLC	\$5,150				\$5,150
Betaseed Inc.				\$5,000	\$5,000
Snyder's-Lance, Inc.				\$5,000	\$5,000
Colorado Legislative Services			\$3,125		\$3,125
Rocky Mountain Food Industry Assn.			2376		\$2,376

Appendix A (continued)

NAME OF CONTRIBUTOR	NO ON 37 (CA)	NO ON 522 (WA)	NO ON 105 (CO)	NO ON 92 (OR)	TOTAL CONTRIBUTIONS
PCS Administration (USA) Inc. (Also Known As 'Potashcorp') Pac (Out Of State Pac)	\$2,000				\$2,000
House-Autry Mills, Inc.	\$1,077				\$1,077
Four K Farms	\$1,000				\$1,000
JMR Farms, Inc.	\$1,000				\$1,000
Tri-Cal Inc.	\$1,000				\$1,000
TOTAL					\$103,816,800

While industry expenditures on state ballot initiatives are well-disclosed (thanks, in part, to legal action by the Washington State Attorney General), the total cost to industry is less clear for other aspects of their campaigns to defend GMOs.

Agrichemical and food companies do not report – nor are they required to by law to report – how much of their federal lobbying or campaign contributions are directly attributable to their interests in any particular issue, such as any issues related to GMOs or the labeling of them. The same problem exists for state lobbying and campaign finance disclosures. However, the Environmental Working Group found that companies opposed to GMO labeling “have disclosed \$27.5 million [in federal lobbying expenses] in the first half of 2014 that made reference to GE labeling– nearly three times as much as they disclosed in all of 2013.”³⁹⁴

Similarly, the agrichemical and food companies keep secret their PR spending on defending GMOs. The same is true for what the agrichemical industry has spent on its GMO Answers PR campaign. However, *Reuters* reported that the Council for Biotechnology Information has “committed to spending millions more annually for several more years on this campaign,” and that it is a “multimillion-dollar campaign.”³⁹⁵

Then there are litigation fees. At this time, it is unknown how much the industry will spend in its lawsuit to defeat the Vermont GMO labeling law. *USA Today* estimated that Vermont’s legal fees would be \$5-8 million if it lost the litigation,³⁹⁶ and that may be a reasonable estimate for industry litigation costs as well.

394 Libby Foley, “[The Anti-Label Lobby](#).” Environmental Working Group, September 3, 2014.

395 Carey Gillam, “[U.S. GMO Crop Companies Double Down on Anti-labeling Efforts](#).” *Reuters*, July 29, 2014.

396 Elizabeth Weise, “[Vermont’s GMO Labeling Rule Likely Won’t Affect Stocks in the Near-Term](#).” *USA Today*, April 24, 2014.



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About the author

Gary Ruskin is the co-founder and executive director of U.S. Right to Know, a new nonprofit organization working on food issues. We expose what food companies don't want us to know about our food. We stand up for the right to know what's in our food. We bring accountability to Big Food and its compliant politicians.

In 2012, Gary was campaign manager for Proposition 37, a statewide ballot initiative for labeling of genetically engineered food in California. For fourteen years, he directed the Congressional Accountability Project, which opposed corruption in the U.S. Congress. For nine years, he was executive director and co-founder of Commercial Alert, which opposed the commercialization of every nook and cranny of our lives and culture. Gary was also director of the Center for Corporate Policy. He has often been quoted in major newspapers across the country and has appeared scores of times on national TV news programs. He received his undergraduate degree in religion from Carleton College, and a master's degree in public policy from Harvard University's John F. Kennedy School of Government.

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Graphic design: Cheri Johnson

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