

Merchants of Poison. How Monsanto Sold the World on a Toxic Pesticide

A case study in disinformation, corrupted science, and manufactured doubt about glyphosate

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Preface

Ten years ago, pesticide and processed food companies spent \$45 million — roughly \$1 million a day — to defeat a ballot initiative to label genetically modified foods (GMOs) in California. The anti-transparency campaign led by Monsanto, one of the largest producers of GMOs, blitzed the state with misleading messages amplified by a wide range of seemingly independent third parties: from universities, professors, and scientists to many groups that claimed expertise on matters of food, health, nutrition, and science. But investigations would eventually reveal close ties between these so-called neutral groups and the companies fighting transparency.

The following year, 2013, the pesticide companies launched a major public relations salvo to try to win back consumer trust for their GMOs and pesticide products. They soon faced an even bigger PR crisis when the World Health Organization's cancer research panel concluded, in 2015, that glyphosate — the chemical ingredient in the herbicides that most GMO crops have been engineered to tolerate — is a probable human carcinogen. In the wake of that finding, tens of thousands of people sued Monsanto, claiming exposure to glyphosate-based Roundup weed killers caused their cancers. Monsanto and its allies accelerated their PR efforts, engaging many of the same industry-connected third parties and professors who helped them fight labeling, in an all-out battle to defend glyphosate against science raising cancer concerns.

How do these corporate partnerships and disinformation campaigns work? What financial arrangements exist between pesticide companies and the front groups, professional organizations, and academics they depend on to defend their products? My colleague on the pro-labeling campaign, Gary Ruskin, began filing Freedom of Information requests in 2015 at

public universities across the country to investigate these questions. We shared what we were learning about industry influence through the nonprofit research group we co-founded, U.S. Right to Know.

In the years since, U.S. Right to Know has obtained, reported on, and posted online thousands of industry and government documents, including discovery documents released in the Monsanto Roundup cancer trials, and many others acquired through judicial enforcement of public records laws. These once- secret documents provide a rare and invaluable view into how the largest pesticide and food companies work to protect their profits at the expense of public health.

Pulling from these documents — as well as investigative journalism that has exposed elements of this subterfuge — this report showcases the breadth of Monsanto’s deception on glyphosate and adds to the growing literature about how corporations deny science and manufacture doubt about the harm of their products. This report reveals key tactics in the pesticide industry’s disinformation playbook, showing how, like Big Oil and Big Tobacco, they rely on deceptive PR strategies to maintain their “freedom to operate” without meaningful limits — with dangerous consequences for public health and the environment.

The PR effort has been so forceful — especially Monsanto’s efforts to discredit the WHO’s researchers — that some observers have described it as a particularly harsh and aggressive effort to undermine cancer research and prevention.

This report builds on previous reporting I and my colleagues have done on pesticide industry disinformation. This includes a 2015 report, *Spinning Food*, that documents how food and pesticide industry front groups use covert communication tactics to shape the narrative about industrial agriculture and organic and sustainable food production.

Thanks to a long history of writing and research, from Rachel Carson’s *Silent Spring* (1962) to Robert van den Bosch’s *Pesticide Conspiracy* (1989) to David Michael’s *The Triumph of Doubt* (2020); Carey Gillam’s reporting on Monsanto’s herbicide business and the Roundup cancer trials and her two books, *Whitewash* (2017) and *The Monsanto Papers* (2021); the seminal research by Naomi Oreskes and Erik Conway in their book *Merchants of Doubt* (2010), and other investigative journalists and nonprofits working for transparency, there is growing awareness about industry spin and its harms to people and planet. We hope this report — by taking a deep dive into one company’s decades-long disinformation campaign to protect its herbicide, and the sector in general, from regulation — can add to this awareness of industry tactics and convey the urgency of action to address it.

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Introduction

On the morning of April 14, 1994, the House Committee on Energy and Commerce Subcommittee on Health and the Environment swore in seven tobacco executives for a hearing on the regulation of tobacco products. The video from that day⁵ — with executive after executive stating a version of “I don’t believe that nicotine or our products are addictive” — is seared into the collective memory of Big Tobacco’s lies and deception. Indeed, for decades before that testimony, tobacco executives had known that cigarettes cause cancer — and that nicotine is, in fact, addictive.

In October 2019, at a House oversight subcommittee hearing on civil rights, Martin Hoffert, a former consultant for Exxon, testified that in the early 1980s, scientists working for the company were already predicting how fossil fuel use would increase carbon dioxide levels, leading to rising temperatures.⁶ Internal documents would show that as far back as 1968, the American Petroleum Institute, an oil industry trade group, had identified the threat of global warming and the role of the companies in their sector in it.⁷

Oil industry executives knew fossil fuel use would cause global warming and yet not only hid the science but actively attacked those who raised alarm. Tobacco executives knew and covered up the health risks of their products.⁸

These industries used now well-documented disinformation tactics to push doubt and denialism.⁹ Big Tobacco’s spin tactics arguably cost millions of lives as regulations emerged long after it was evident that cigarettes cause cancer — and continue to cost lives. (The WHO estimates 8 million people die annually from tobacco use).¹⁰ The fossil fuel sector’s spin pushed science denialism and political inaction that has led to a warming world and is associated with millions of deaths per year,¹¹ with few clear pathways to averting catastrophic climate change.

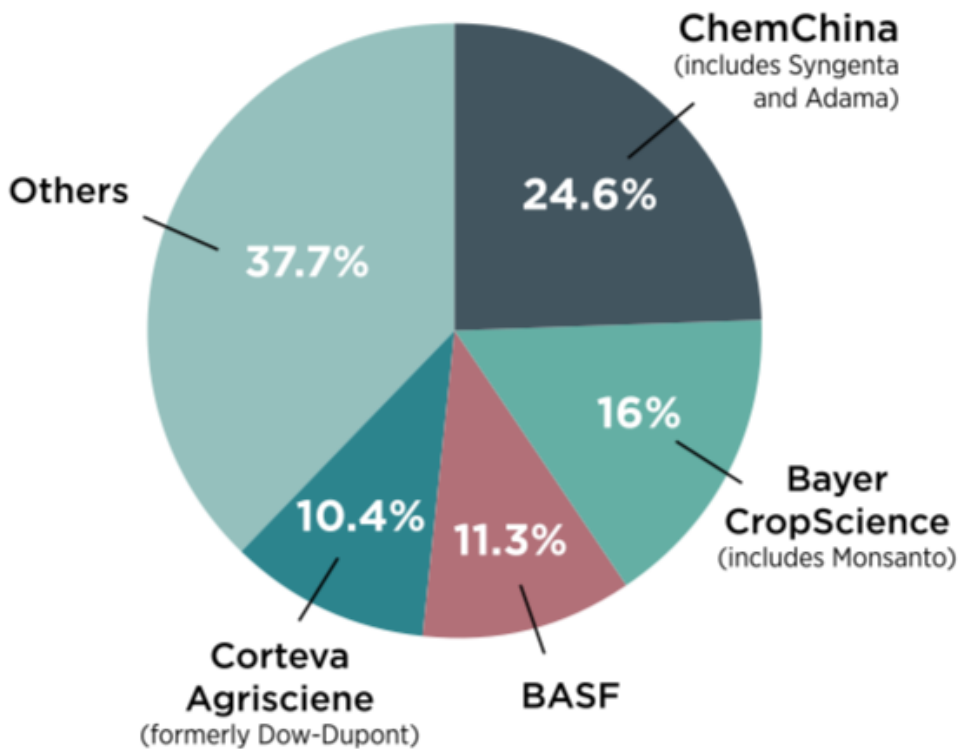
For decades, the pesticide industry has used similarly deceptive communication strategies

to shape the public debate and influence regulators — even manipulating the very science on which policy is made — to distract from the evidence that pesticide-intensive agriculture threatens ecosystems and human health. In this report, we show how pesticide companies not only followed in the footsteps of Big Oil and Big Tobacco, they helped to write the public relations playbook that obscures the dangers of widely used products that science shows are threatening human and environmental health around the globe. This report about Monsanto's campaign to defend glyphosate tells one piece of a broader story: that for decades, pesticide companies have waged expensive PR campaigns to shape the narrative about science and our food system, pushing the twin ideas that pesticides — a term that encompasses insecticides, herbicides, fungicides, and more — are safe and that we need them to feed the world. In recent years, groundbreaking global studies have shown the grave threat agricultural chemicals pose to biodiversity and public health and how they fail to deliver on their promises for greater agricultural productivity, leading to crop loss and weed and pest resistance.¹² Yet despite the mounting evidence, the pesticide industry has doubled down on deceptive messaging.

This report comes at a time of ever greater industry consolidation in the agrichemical and seed sector — much like we've seen across the economy. By 2020, thanks to recent purchases including the Bayer-Monsanto deal, just four companies controlled 62 percent of the global market for agrichemicals and 51 percent of the global market for commercial seeds, according to ETC Group. Bayer's market share of agrichemicals, 16 percent, was second only to ChemChina/Syngenta at 25 percent, followed by BASF with 11 percent of the market and Corteva (the rebranded name of the merged Dow and Dupont company) with 10 percent. For commercial seeds and seed traits, Bayer controls 23 percent of the market, while Corteva has a 17 percent market share, with ChemChina at 7 percent and BASF at 4 percent.¹³

To bring light to the pesticide industry's PR spin, this report provides a deep dive into one company and one PR campaign: Monsanto, bought in 2018 by German pharmaceutical and agrichemical multinational Bayer AG, and its product defense campaign to promote glyphosate-based herbicides sold under the brand name Roundup, and to protect these products from the threat of regulation. This report builds on a 2015 white paper written by Friends of the Earth's Kari Hamerschlag along with Stacy Malkan and Anna Lappé, which documents some of the messages and tactics of food industry front groups, including the millions of dollars they spend every year to shape the story of our food system.¹⁴

Figure 1: Pesticide Industry Consolidation
Leading companies by agrochemical sales



Source: Food Barons, ETC Group, 2022

Two major developments in recent years prompted further reporting on this topic: First, new scientific evidence, discussed in Part 1, makes clear the urgency of addressing the health and environmental impacts associated with the pesticide industry's products, including glyphosate herbicide formulations. Second, access to new evidence from internal corporate documents, obtained over the past five years via legal actions and public interest investigations, provides new insight into how Monsanto ran its propaganda operations, with the help of the pesticide and processed food industries. Thanks to tens of thousands of pages of internal corporate documents made available by these efforts, the public has unprecedented access to how the industry develops strategies to mislead the public. These documents include the "Monsanto Papers" obtained from litigation over glyphosate-based herbicides, and public records made available through an investigation led by colleagues at U.S. Right to Know. (Many of these documents are available on the U.S. Right to Know website and via the University of California, San Francisco, chemical and food industry documents archives.)¹⁵

This report adds to a growing body of research and reporting on the deceptive tactics of the pesticide industry: The Intercept's reporting on the PR spin pushing neonicotinoids, the class of pesticides driving the "insect apocalypse," and detailing of the tactics industry used to keep the deadly pesticide paraquat on the market for decades; or The New Yorker's reporting on pesticide company Syngenta's attacks on the scientist Tyrone Hayes; or DeSmog Blog's mapping of pesticide industry misinformation outlets. Taken together, this reporting has helped reveal key PR tactics of the pesticide industry and helped expose the myth-making about the safety and necessity of pesticides.

In this report, we add to this research by detailing the spin tactics used to push the most ubiquitous herbicide in the world: glyphosate. We show — using industry’s own words from their own documents — how the largest producer of glyphosate-based herbicides, Monsanto (purchased by Bayer AG in 2018), used stealth tactics to obscure the truth and shape the narrative about this pesticide and our food system more broadly. We detail how the company produced corrupt science. Two major developments in recent years prompted further reporting on this topic: First, new scientific evidence, discussed in Part 1, makes clear the urgency of addressing the health and environmental impacts associated with the pesticide industry’s products, including glyphosate herbicide formulations. Second, access to new evidence from internal corporate documents, obtained over the past five years via legal actions and public interest investigations, provides new insight into how Monsanto ran its propaganda operations, with the help of the pesticide and processed food industries. Thanks to tens of thousands of pages of internal corporate documents made available by these efforts, the public has unprecedented access to how the industry develops strategies to mislead the public. These documents include the “Monsanto Papers” obtained from litigation over glyphosate-based herbicides, and public records made available through an investigation led by colleagues at U.S. Right to Know. (Many of these documents are available on the U.S. Right to Know website and via the University of California, San Francisco, chemical and food industry documents archives.)¹⁵

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Why focus on the PR spin around glyphosate? There are certainly more acutely toxic pesticides in agricultural use. There’s paraquat, where exposure to even a capful can be deadly, and the class of insecticides known as neonicotinoids, which have increased the toxicity of U.S. agriculture for insects by 48- fold in the past 25 years.¹⁶ But while not the most toxic, glyphosate is still toxic to humans and devastating to ecosystems; we discuss in

Part 1 the science linking glyphosate to cancer, reproductive harm, kidney disease, monarch butterfly declines and other health and environmental impacts. And, as the most widespread agricultural chemical in the world, a detailing of how long the company knew about this toxicity, how much it did to spin a different story, and how it continues to push doubt, science denial, and deflection as it faces thousands of lawsuits from farmers and gardeners suffering from cancers related to glyphosate use is critically important. Furthermore, the internal documents paint a clear picture of the PR tactics Monsanto/ Bayer used and the players the company relies on, providing insight into product-defense strategies not used just for glyphosate but across all classes of pesticides.

Finally, this story is important because it is connected to the promotion and defense of genetically engineered crops or GMOs, first commercialized in the mid-1990s. The connection is simple: most GMO crops sold to date have been developed with traits to express an insecticide or tolerate an herbicide or do both, and nearly all have been engineered with the trait of glyphosate tolerance.¹⁷ So, the debates about the risks and rewards of GMOs are intimately linked to the story of the spin around glyphosate safety.

Based on these thousands of pages of internal Monsanto documents and investigative reporting, analyzed together in one place for the first time, this report reveals five pesticide industry disinformation tactics, chronicling how Monsanto worked to:

1. Corrupt the science

We show how Monsanto employees shaped the science on glyphosate, including paying academics, ghostwriting papers, influencing regulatory agencies, and using other covert tactics to shape the scientific and regulatory record;

2. Co-opt academia

We report how Monsanto and other pesticide companies partnered with and paid universities and professors who in turn promoted and defended glyphosate and the GMO seeds designed to tolerate the herbicide. Many of these partnerships were not transparent to the public.

3. Mobilize third-party allies

We describe the large and well-funded third- party echo chamber — the front groups, professional organizations, universities, astroturf campaigns, and others—who disseminated messaging crafted by Monsanto and its PR firms for the purpose of opposing health, safety, and transparency regulations for pesticide industry products.

4. Track and attack scientists, journalists, and influencers

We examine how industry front groups that claim to be “pro-science” — including the Genetic Literacy Project and American Council on Science and Health—targeted the World Health Organization’s cancer researchers, and other scientists and journalists who reported on glyphosate’s links to cancer.

5. Dominate online spaces

We discuss how Monsanto and other companies deployed the same front groups that attacked scientists and journalists in defense of glyphosate to infiltrate online spaces and garner top placement in Google News searches to elevate industry messaging.

This report also documents how the sector's influence campaigns are themselves big business: Together, six of the trade associations named in Monsanto documents for glyphosate defense — the Biotechnology Innovation Organization, CropLife America, American Chemistry Council, the Grocery Manufacturers Association, the National Corn Grower's Association and the American Soybean Association — spent \$1.3 billion over a five-year period (2015-2019) funding marketing, lobbying, and messaging. (See Appendix I) And, just seven of the non-profit organizations named in Monsanto's internal documents as key allies in its product-defense strategy spent up to \$76 million during that same period. (This is all on top of \$206 million Monsanto spent on its reported advertising budget over the three-year period just before the Bayer purchase).¹⁸ While glyphosate defense is only part of what these organizations do — in some cases a small part — the size of their budgets conveys the huge resources available to groups that run product-defense campaigns using the disinformation tactics we describe in this report. These groups are an unquestionable industry unto themselves: their purpose is to protect and defend the chemical-intensive food, products, and processes that are the basis of today's industrial food chain.

As this report goes to press, the European Union is debating whether to reauthorize the use of glyphosate next year. Here in the United States, the Ninth Circuit Court of Appeals ruled in June 2022 that EPA's approval of glyphosate was unlawful.¹⁹ The same month, the U.S. Supreme Court rejected Bayer's bid to dodge a \$25 million jury award to a California man who said decades of exposure to glyphosate-based Roundup caused his non- Hodgkin's lymphoma.²⁰ Largely as a result of the pressures from glyphosate litigation, Bayer announced in July 2021 that it would replace its glyphosate-based products in the U.S. residential "Lawn & Garden" market with new formulations beginning in 2023.²¹ Agricultural use of glyphosate will continue. Numerous other commercial and industrial uses, including on school grounds and in city parks, will also continue. While these uses are still permitted, there is growing public pressure to further regulate the herbicide.

Debates about the future of glyphosate, indeed all formulations of pesticides, should be deliberated in light of what is revealed in this report and in other reporting on pesticide industry public relations spin: The fact that it is now well-documented how the pesticide industry works to shape science and public opinion in order to avoid regulation. In this context, this report raises key questions: How do we expose industry manipulation of the science around pesticides? How do we ensure harmful chemicals like glyphosate are not replaced by even more toxic ones? And, how do we regulate pesticides to protect public health and ecosystems and not remain at the mercy of voluntary action from chemical companies? More broadly, how do we ensure that public officials, not influenced by industry or its third-party allies, make independent policy decisions so critical to our health and the wellbeing of our planet?

In Part 1 we delve into why this matters and what's at stake for our health, the climate, biodiversity and our future. In Part 2, we describe the spin tactics Monsanto used, including what the internal corporate documents reveal about how the company manipulated the scientific record on glyphosate over many years. In Part 3 we discuss actions that policy

makers, media institutions, academics, and everyday people can take to combat industry disinformation tactics like the kinds described here. On pages 76, we provide substantive addendums debunking the myths that pesticides are safe and necessary to feed the world.

Ultimately, the story of deceit this report documents is a story about the pesticide industry's vulnerability: To evade the regulation and transparency that would impact their profitability and market share, the pesticide industry — just like the oil and tobacco industries — are profoundly reliant on the success of PR subterfuge to maintain profitability. Understanding how this subterfuge works is paramount for journalists, policymakers, and public interest groups working to inform the public about the health and environmental risks posed by the increasing use of pesticides and the availability of safer alternatives.

[Click here to read the full study.](#)

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