

“DON’T DO IT. EXPECT LAWSUITS.”

An excerpt from *Seed Money: Monsanto’s
Past and Our Food Future*

BY BARTOW J. ELMORE



Photos: Bryce Gray/St. Louis Post-Dispatch via AP

Farmers in the American South may not be able to see the invisible menace as it spreads from field to field, but a chemical vapor has been quietly drifting in the hot summer air over the past few years, damaging everything from fruit orchards to soybean crops. Many Southern growers—especially in Arkansas, one of the epicenters for this problem—are red-hot mad about it. They’ve begun to fight back, calling for the EPA, state officials, or really anybody to step in. For now, dangerous droplets continue to billow into the atmosphere and drift as the wind blows, threatening, as one federal court put it, to “tear the social fabric of farming communities” asunder. Excerpted from my new book, Seed Money: Monsanto’s Past and Our Food Future (W. W. Norton), this is the story of how this chemical storm came to be. It’s a historical account that shows how genetic engineering firms sold farmers a food future that is actually a toxic past. That past, of course, is not even past. —BJE

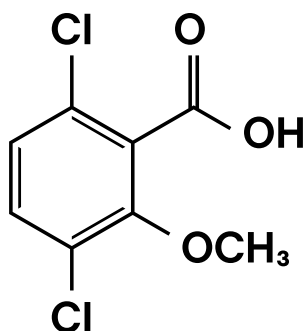
BLACK SUVS VEERED INTO THE parking lot of the Rush Hudson Limbaugh Sr. US Courthouse in Cape Girardeau, Missouri. “It looked like the feds showing up,” recalled Bev Randles, an attorney with the Kansas City firm Randles & Splittgerber. Then in her late forties, Bev was a native of the Show-Me State. She had grown up on a farm just thirty miles from Cape Girardeau. In a way, coming to the courthouse was coming back home.

Thick fog enveloped the area as more than a dozen dark-suited corporate attorneys for German chemical and pharmaceutical companies BASF and Bayer filed out of their vehicles and into the sleek courthouse—a “palace,” Bev called

it—along the banks of the Mississippi River. They were there to meet federal judge Stephen N. Limbaugh Jr., grandson of the famed Missouri attorney for whom the courthouse was named and first cousin to the conservative talk show host most people know. This was Limbaugh country, a little over an hour south of St. Louis in the fertile farmland just north of what Missourians call the “bootheel” of the state.

Something big was going down in this small town, though only a handful of reporters were there to document what was happening. It was January 27, 2020, the start of the *Bader Farms v. Monsanto and BASF* jury trial, and Bev Randles and her husband, Billy, were getting ready to start the biggest case of their lives.

The Randles were representing Bill Bader, a Missouri peach farmer who filed this case back in 2016—roughly a year and a half before Bayer bought Monsanto in a mega-merger that made headlines across the globe. Around that time, Bev Randles had been running for lieutenant governor on the GOP ticket, hoping to become the first Black politician elected to statewide office, when she visited Bader’s farm for a photo op. She had spent enough time around farms to know that Bader’s peaches did not look right. They had curled leaves, and many looked like they were dying. When Bader told



ABOVE: Chemical structure for dicamba, C₈H₆Cl₂O₃; OPPOSITE: Peaches too small to pick are left to wither on the tree at Bader Farms in Dunklin County, MO, August 2016.



Bill Bader surveys his peach trees for damage, August 2016.

her that he believed an herbicide sold by BASF and Monsanto was to blame, Bev told him she wanted to help.

The herbicide was dicamba, and it was used to fix a problem created years before. Back in the mid-1990s, Monsanto had introduced Roundup Ready technology that made commodity crops—such as soybeans, corn, and cotton—genetically engineered (GE) to be resistant to its blockbuster herbicide, Roundup, which was first commercialized in the 1970s and contained a powerful weed-killing chemical called glyphosate. Farmers had loved the system because it allowed them to spray Roundup throughout the growing season, keeping fields clean of unwanted plants. But within a few years weeds started developing resistance to Monsanto's herbicide, which is why the company started working feverishly to create crops that would tolerate Roundup *and*

dicamba, another powerful herbicide that had been around since the 1960s. In 2007, Monsanto acquired from the University of Nebraska the gene sequence that bestowed dicamba resistance to plants, and eight years later Monsanto commercialized its first dicamba-tolerant seeds—branded Roundup Ready Xtend—beginning with cotton in 2015 and then soybeans in 2016.

But there was a problem, and it was a serious one: dicamba was volatile—much more so than Roundup. When soybean and cotton farmers sprayed their fields, this chemical often vaporized—especially in hot temperatures—drifting onto adjacent farms and ecosystems, damaging everything from watermelons to sycamore trees. Farmers without dicamba-tolerant GE crops were incensed, especially fruit farmers like Bill Bader who had no way to avoid damage when

farmers nearby sprayed dicamba on their own fields. After all, there was no such thing as a dicamba-tolerant peach tree.

“This is the nastiest litigation I’ve ever been involved in,” Billy Randles said of the trial, which was saying a lot, considering the fact that he had been involved in legal suits where he represented Philip Morris back when cigarette companies were still selling doubt about the link between smoking and cancer. An alumnus of Harvard Law School, Randles had been in practice for thirty years and had even run for governor of Missouri. He was comfortable speaking in front of big audiences, including at the Kansas City church where he moonlighted as a preacher. Nevertheless, Randles and his wife, Bev, had never been lead lawyers for a case this big.

Bayer, now the owner of Monsanto’s technology, was clearly sending its top litigation specialists to Cape Girardeau

to battle a husband-and-wife team whose lawsuit could do real damage to the firm. Recognizing the stakes, Jan Miller, Bayer/Monsanto’s lead attorney, appealed to Judge Limbaugh before the trial to put a gag order in place that would prevent Bader’s legal team from talking to the press. Limbaugh honored the request.

Observers in the gallery may well have been surprised by the judge’s order, but when Billy Randles took to the podium to deliver his opening statement, it quickly became clear why Miller had made his move. As Bev sat pensively at the plaintiff’s desk next to the farmer she had promised to help roughly four years prior, her husband began to lay out a series of internal memoranda and documents that no corporation would want exposed.

“Don’t do it. Expect lawsuits,” concluded a Monsanto employee in a document

Workers sort peaches for packing at Bader Farms, August 2016.



summarizing the findings of an advisory panel to Monsanto that Randles cited in the first moments of trial. Monsanto had created the academic review committee in an attempt to get frank feedback about its dicamba system, and the panel had concluded that Monsanto's seeds were going to wreak havoc, especially for "specialty crop" farmers growing fruits and vegetables. Steve Smith, a tomato grower Monsanto had asked to serve on the panel, claimed dicamba-tolerant crops were the "most serious threat to specialty crops of anything I had seen." He fired off a blistering email to Monsanto managers saying, "While I know you are hearing the comments I and others are making, I'm not sure you are HEARING."

Documents showed that Monsanto knew dicamba's tendency to drift off-target could help them make money. After all, vaporized dicamba could also harm soybean and cotton farmers that did not use Monsanto's Roundup Ready Xtend traits. If they wanted to protect their crops from dicamba drift, they were going to have to use the company's new seeds that made crops resistant to both Roundup and dicamba. In 2013, as Monsanto prepared to launch its new product, a company slideshow coached salespeople on how to convince commodity crop growers who were not troubled by Roundup-resistant weeds to buy the new dicamba-tolerant seeds. "Why should I pay for something I don't need?" a farmer might ask. Push " 'protection' from your neighbor," one slide said, revealing that the firm's officials were not only aware of the implications of drift for neighboring farms and ecosystems but were thinking of it as an asset that would force farmers to purchase company seeds.

In 2013, Monsanto did not have its own dicamba herbicide. German chemical company BASF was the main distributor of dicamba brands, but the Environmental

Protection Agency (EPA) did not grant approval for these BASF-made herbicides to be used on dicamba-tolerant crops during the hot growing season, in part because of concerns about volatility. Not until 2017 would Monsanto introduce an EPA-approved dicamba formulation, called XtendiMax® with VaporGrip®, which it claimed was much less volatile than older dicamba brands.

So when Monsanto first sold its dicamba-tolerant cotton seeds in 2015 and soybeans in 2016, there was no EPA-approved dicamba herbicide that could be

Monsanto kept promoting its Roundup Ready Xtend system, treating the drift problem as a way to sell seeds.

used on these crops during the growing season. Monsanto put pink labels on its seed bags warning farmers not to spray dicamba over their dicamba-tolerant crops, but internal communications revealed that company employees knew what was going to happen. "I . . . get to work with a group of renegades that . . . thinks one sticker is going to keep us out of jail," said an Xtend team member in a 2015 email. "Let's face reality," said Boyd Carey, Monsanto's point person for dicamba complaints, "Regardless of whether it's legal or not there will probably be guys who spray dicamba." BASF had little doubt: "Dicamba demand spike with DT [dicamba-tolerant] traits" read the sales report in 2016.

The eight jurors in the case, mainly working-class people from Missouri, were taking it all in. As Billy Randles said

in closing statements, they were now the “most informed people in the world” on the dicamba issue, having “seen company documents no one else has ever seen.”

And that included records showing how Monsanto tried to block university access to XtendiMax data. Internal correspondence from 2015 showed that the firm had decided to “pull back some of this academic testing with Xtend and XtendiMax formulations to ensure that these formulations keep a ‘clean’ slate” when going through EPA review. Carey later testified that preventing university weed scientists from analyzing the volatility of a herbicide was extremely rare, maybe a once-in-thirty-year occurrence. Publicly, the company claimed that this was because “of the difficulty in producing quantities that would allow for broad testing.” But internally, that logic was considered a joke. “Ha ha ha,” laughed a Monsanto official in a 2015 email, “Difficulty in producing enough product for field testing. Ha ha ha. Bullshit.”

Plaintiff Bill Bader looked mad. The only man before the judge without a tie, he sat and listened as Randles read confidential company correspondence that showed how the firm planned to deal with his complaints. Bader had called Monsanto when his problems started getting bad in 2015 and 2016, but the company refused to send anyone to come look at what was happening on his farm.

It was all part of the plan. “Do not visit a driftee inquiry if the driftee is not a [Monsanto] customer,” said Carey in a 2017 directive marked highly confidential. Because the company was publicly denying that dicamba drift was really a problem, Carey was careful to write: “Note ‘driftee’ is meant as an internal term only.” It was now all so clear to Bill Bader. Monsanto never intended to respond to his requests for help.

Randles went on, citing another

confidential email in which a Monsanto official joked that a “decent lawyer will have a field day with Mr. Bader” if his case went to trial. The plan was to “point the finger at disease,” which is exactly what Monsanto’s team did, focusing on root rot and other pests on Bader’s farm as key culprits causing peach damage. “Deny, deny, deny,” Carey exclaimed in another Monsanto document. The company had made a policy never to admit that it had a serious drift problem.

But BASF, Monsanto’s partner in this dicamba system, knew how bad things were. Randles put a 2016 company report before the jury: “There must be a huge cloud of dicamba blanketing the Missouri Bootheel,” the report stated. “That ticking time bomb finally exploded. The scope of damage is on a massive scale, and fingers are pointing in all directions from grower to grower.”

Even as the damage got worse, Monsanto kept promoting its Roundup Ready Xtend system. As Randles showed, the firm continued to treat the drift problem as a way to sell seeds. John Cantwell, a Monsanto employee, outlined the strategy in a confidential email: “I think we can significantly grow business and have a positive effect on the outcome of 2017 if we reach out to the driftee people. . . . Most driftee people were interested in the technology and can be . . . turned into new users.”

There was a lot of money to be made in all this. A 2017 Monsanto sales meeting ended with plaudits: “Xtend-deli-cious, invigorating, success, Xtendiful, cha ching.”

MILES AWAY FROM Limbaugh country, in the San Francisco Bay Area, retired schoolyard groundskeeper Dewayne “Lee” Johnson was dying. For years, Johnson had sprayed Monsanto’s glyphosate

on weeds for the Benicia Unified School District just north of Berkeley, and on one occasion, a hose exploded, soaking him in Monsanto's herbicide. In August 2018, Johnson won a landmark case against Monsanto in which a jury determined that Johnson's chronic Roundup exposure was a "substantial contributing factor" to his non-Hodgkin's lymphoma. A California appeals court later reduced the \$289 million verdict to \$20.5 million but did not overturn the lower court's ruling. Thousands of people from all across the country filed similar litigation. By 2020,

During the Vietnam War, Monsanto had been the largest producer of Agent Orange, which had destroyed millions of acres of lush, tropical forest and riddled communities throughout the country with serious health problems.

there were more than 120,000 lawsuits underway or set to be filed.

For Johnson, the outcome was bitter-sweet. A few years earlier, he broke down and cried when he told his young boys that he was diagnosed with cancer. His physicians told him he probably would not make it through 2020. No amount of money would change this fate. But Johnson was hopeful that his case would help others by exposing problems with the world's most widely used herbicide.

During the trial, Johnson's attorneys revealed Monsanto papers that had never before been available to the public. The most damaging documents showed that despite Monsanto officials' claims to the contrary, the firm could not prove its Roundup formulations—now used on more than 90 percent of all soybeans and corn grown in the United States and sprayed over millions of acres of farmland worldwide—were harmless. "You cannot say that Roundup is not a carcinogen," Monsanto toxicologist Donna Farmer said in a 2003 email, "we have not done the necessary testing on the formulation to make this statement." Seven years later, the situation was still the same. "With regards to the carcinogenicity of our formulations," another Monsanto scientist said internally in 2010, "we don't have such testing on them directly."

These in-house memos said internally what other scientists were saying publicly: that despite the copious amount of research done on the health effects of glyphosate, many studies did not consider the chemicals called "surfactants" that helped Roundup penetrate plants. This was concerning, especially considering that Monsanto's own scientists had determined that surfactants (such as polyoxyethylene tallow amine) "are able to increase glyphosate absorption through the skin." Dr. William Heydens, a Monsanto toxicologist that worked closely with Roundup, had wanted to avoid research that would involve surfactants because "of the potential for this work to blow Roundup risk evaluations (getting a much higher dermal penetration than we've ever seen before)."

In 2014, almost twenty years after Roundup Ready technology had been introduced, the World Health Organization's International Agency for Research on Cancer (IARC) announced that it would review glyphosate in its next round

of cancer studies. In internal correspondence, Monsanto officials admitted that there was “vulnerability in the area of epidemiology” and “potential vulnerabilities in the other areas that IARC will consider.” “More than just pure bad luck is working against glyphosate.”

What Monsanto scientists refused to publicly admit was that evidence of a problem went back decades. In 1999, a Monsanto-funded study conducted by University of Wales professor James Parry showed that “glyphosate is capable of producing genotoxicity,” or damage to genetic material, in lab animals. Monsanto was clearly not happy with the finding. Dr. Heydens said that he wanted to “find/develop someone” who would be willing to offer a more positive assessment of glyphosate. “Parry is not currently such a person, and it would take quite some time and \$\$\$/studies to get him there.”

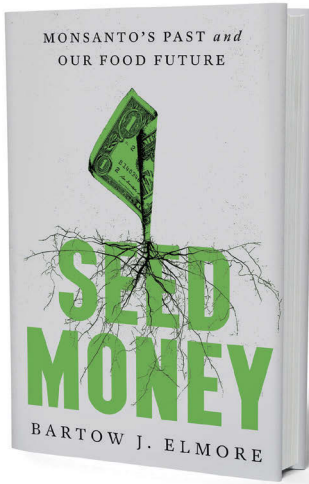
When the IARC announced in March 2015 that it had found enough evidence to classify Roundup as a probable human carcinogen, Monsanto set out to “ghost write” articles to try and save its signature herbicide, but not everyone was on board with this. When Monsanto told an ex-employee and consultant for the firm that the company was going to keep his name off a glyphosate paper he worked on, he said “I can’t be a part of deceptive authorship on a presentation or publication. . . . We call that ghost writing and it is unethical.” But others had no problem with the plan. “Ghost wrote cancer review paper Greim et al.,” explained Monsanto’s Dr. David Saltmiras in a summary report of his 2015 accomplishments.

After IARC’s ruling, the EPA quickly moved to conduct a reevaluation of Roundup’s active ingredient, issuing a finding in September 2016 that glyphosate was “not likely to be carcinogenic to humans.” But in 2019, the Centers for

Disease Control and Prevention (CDC) did its own review and delivered more nuanced findings. In a section of an issue paper titled “cancer effects,” the CDC noted that “meta-analyses reported positive associations between glyphosate use and selected lymphohematopoietic cancers.” The CDC also cited several studies that “reported risk ratios greater than 1 for associations between glyphosate exposure and risk of non-Hodgkin’s lymphoma or multiple myeloma.” In 2020, there was no definitive proof that Roundup caused California groundskeeper Lee Johnson’s lymphoma or the cancers of other Roundup litigants, but there were clearly a lot of unanswered questions.

In the end, the jury in the Johnson case did not need irrefutable scientific evidence of the link between glyphosate and cancer. They awarded damages to Johnson despite the discrepancies between the IARC’s and the EPA’s findings. One juror admitted that the way Monsanto meddled with science through ghost writing was something that really bothered him: “They were protecting a product that was very important to the corporation’s bottom line.”

And it continued to be so. Despite the jury verdict, Roundup remained an EPA-approved product, and growers continued to spray it on hundreds of millions of farm acres. In 2019, President Donald Trump’s EPA appointee Andrew Wheeler reaffirmed his agency’s approval of glyphosate, saying, “EPA has found no risks to public health from the current registered uses of glyphosate.” USDA secretary and former Georgia governor Sonny Perdue chimed in: “USDA applauds the EPA’s decision.... If we are going to feed 10 billion people by 2050, we are going to need all the tools at our disposal, which includes the use of glyphosate.”



ON THE OTHER side of the world, in the elegant Centec Tower in downtown Ho Chi Minh City, Vietnamese salespeople were hard at work promoting Monsanto's Roundup Ready system. In 2014, Monsanto heard the good news that the Vietnamese government had approved the use of genetically engineered seeds in Vietnamese fields. A few months later, Monsanto celebrated the first harvest of Roundup Ready corn in Vietnam's history. These plants promised big profits. It was yet another triumph in Monsanto's concerted quest to expand its seed empire into developing countries around the world, one that executives might have celebrated over expensive cocktails at the trendy rooftop bar upstairs.

To accomplish this feat, this seed seller had to overcome its historic image as a harbinger of death. During the Vietnam War, Monsanto had been the largest producer of Agent Orange, which had destroyed millions of acres of lush, tropical forest and riddled communities throughout

the country with serious health problems. As Monsanto's corn crops rose from the ground in 2015, the US government was still trying to deal with that toxic history, channeling hundreds of millions of American taxpayer dollars toward an expensive cleanup program for hot spots still contaminated by Agent Orange spills that occurred more than four decades earlier. Few Americans knew this was going on. Even fewer knew that Monsanto spent no money on these remediation efforts, though some Vietnamese people had tried hard to force the company to bear responsibility for its role in causing these pollution problems.

A few blocks away from the Centec Tower, Vietnamese citizens and foreign tourists can still visit the War Remnants Museum and read allegations of human deformity caused by Agent Orange. A blind man tapping keys on an electronic piano welcomes guests as they enter the facility, with a sign adjacent to him implying that American herbicide campaigns during the Vietnam War caused his impairment. Upstairs, visitors find a house of horrors: a whole room devoted to suspected Agent Orange tragedies, including deformed fetuses soaking in formaldehyde and gruesome pictures of disfigured men, women, and children purportedly ravaged by America's chemical storm. Museum curators call war culprits by name, specifically mentioning Monsanto in photographs and display captions.

Back up the street, phones ring as Monsanto salespeople pitch seeds that will bring tremendous volumes of another herbicide, Roundup, to Vietnam. Dicamba will surely follow. 🍷

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