

# VANITY FAIR

INVESTIGATION

## Monsanto's Harvest of Fear

Monsanto already dominates America's food chain with its genetically modified seeds. Now it has targeted milk production. Just as frightening as the corporation's tactics—ruthless legal battles against small farmers—is its decades-long history of toxic contamination.

by **Donald L. Barlett and James B. Steele** May 2008



No thanks: An anti-Monsanto crop circle made by farmers and volunteers in the Philippines.  
*By Melvyn Calderon/Greenpeace HO/A.P. Images.*

Gary Rinehart clearly remembers the summer day in 2002 when the stranger walked in and issued his threat. Rinehart was behind the counter of the Square Deal, his “old-time country store,” as he calls it, on the fading town square of Eagleville, Missouri, a tiny farm community 100 miles north of Kansas City.

The Square Deal is a fixture in Eagleville, a place where farmers and townspeople can go for lightbulbs, greeting cards, hunting gear, ice cream, aspirin, and dozens of other small items without having to drive to a big-box store in Bethany, the county seat, 15 miles down Interstate 35.

Everyone knows Rinehart, who was born and raised in the area and runs one of Eagleville's few surviving businesses. The stranger came up to the counter and asked for him by name.

"Well, that's me," said Rinehart.

As Rinehart would recall, the man began verbally attacking him, saying he had proof that Rinehart had planted Monsanto's genetically modified (G.M.) soybeans in violation of the company's patent. Better come clean and settle with Monsanto, Rinehart says the man told him—or face the consequences.

Rinehart was incredulous, listening to the words as puzzled customers and employees looked on. Like many others in rural America, Rinehart knew of Monsanto's fierce reputation for enforcing its patents and suing anyone who allegedly violated them. But Rinehart wasn't a farmer. He wasn't a seed dealer. He hadn't planted any seeds or sold any seeds. He owned a small—a *really* small—country store in a town of 350 people. He was angry that somebody could just barge into the store and embarrass him in front of everyone. "It made me and my business look bad," he says. Rinehart says he told the intruder, "You got the wrong guy."

When the stranger persisted, Rinehart showed him the door. On the way out the man kept making threats. Rinehart says he can't remember the exact words, but they were to the effect of: "Monsanto is big. You can't win. We will get you. You will pay."

Scenes like this are playing out in many parts of rural America these days as Monsanto goes after farmers, farmers' co-ops, seed dealers—anyone it suspects may have infringed its patents of genetically modified seeds. As interviews and reams of court documents reveal, Monsanto relies on a shadowy army of private investigators and agents in the American heartland to strike fear into farm country. They fan out into fields and farm towns, where they secretly videotape and photograph farmers, store owners, and co-ops; infiltrate community meetings; and gather information from informants about farming activities. Farmers say that some Monsanto agents pretend to be surveyors. Others confront farmers on their land and try to pressure them to sign papers giving Monsanto access to their private records. Farmers call them the "seed police" and use words such as "Gestapo" and "Mafia" to describe their tactics.

When asked about these practices, Monsanto declined to comment specifically, other than to say that the company is simply protecting its patents. "Monsanto spends more than \$2 million a day in research to identify, test, develop and bring to market innovative new seeds and technologies that benefit farmers," Monsanto spokesman Darren Wallis wrote in an e-mailed letter to *Vanity Fair*. "One tool in protecting this investment is patenting our discoveries and, if necessary, legally defending those patents against those who might choose to infringe upon them." Wallis said that, while the vast majority of farmers and seed dealers follow the licensing agreements, "a tiny fraction" do not, and that Monsanto is obligated to those who do abide by its rules to enforce its patent rights

on those who “reap the benefits of the technology without paying for its use.” He said only a small number of cases ever go to trial.

Some compare Monsanto’s hard-line approach to Microsoft’s zealous efforts to protect its software from pirates. At least with Microsoft the buyer of a program can use it over and over again. But farmers who buy Monsanto’s seeds can’t even do that.

### **The Control of Nature**

For centuries—millennia—farmers have saved seeds from season to season: they planted in the spring, harvested in the fall, then reclaimed and cleaned the seeds over the winter for re-planting the next spring. Monsanto has turned this ancient practice on its head.

Monsanto developed G.M. seeds that would resist its own herbicide, Roundup, offering farmers a convenient way to spray fields with weed killer without affecting crops. Monsanto then patented the seeds. For nearly all of its history the United States Patent and Trademark Office had refused to grant patents on seeds, viewing them as life-forms with too many variables to be patented. “It’s not like describing a widget,” says Joseph Mendelson III, the legal director of the Center for Food Safety, which has tracked Monsanto’s activities in rural America for years.

Indeed not. But in 1980 the U.S. Supreme Court, in a five-to-four decision, turned seeds into widgets, laying the groundwork for a handful of corporations to begin taking control of the world’s food supply. In its decision, the court extended patent law to cover “a live human-made microorganism.” In this case, the organism wasn’t even a seed. Rather, it was a *Pseudomonas* bacterium developed by a General Electric scientist to clean up oil spills. But the precedent was set, and Monsanto took advantage of it. Since the 1980s, Monsanto has become the world leader in genetic modification of seeds and has won 674 biotechnology patents, more than any other company, according to U.S. Department of Agriculture data.

Farmers who buy Monsanto’s patented Roundup Ready seeds are required to sign an agreement promising not to save the seed produced after each harvest for re-planting, or to sell the seed to other farmers. This means that farmers must buy new seed every year. Those increased sales, coupled with ballooning sales of its Roundup weed killer, have been a bonanza for Monsanto.

This radical departure from age-old practice has created turmoil in farm country. Some farmers don’t fully understand that they aren’t supposed to save Monsanto’s seeds for next year’s planting. Others do, but ignore the stipulation rather than throw away a perfectly usable product. Still others say that they don’t use Monsanto’s genetically modified seeds, but seeds have been blown into their fields by wind or deposited by birds. It’s certainly easy for G.M. seeds to get mixed in with traditional varieties when seeds are cleaned by commercial dealers for re-planting. The seeds look identical; only a laboratory analysis can show the difference. Even if a farmer doesn’t buy G.M. seeds and

doesn't want them on his land, it's a safe bet he'll get a visit from Monsanto's seed police if crops grown from G.M. seeds are discovered in his fields.

Most Americans know Monsanto because of what it sells to put on our lawns—the ubiquitous weed killer Roundup. What they may not know is that the company now profoundly influences—and one day may virtually control—what we put on our tables. For most of its history Monsanto was a chemical giant, producing some of the most toxic substances ever created, residues from which have left us with some of the most polluted sites on earth. Yet in a little more than a decade, the company has sought to shed its polluted past and morph into something much different and more far-reaching—an “agricultural company” dedicated to making the world “a better place for future generations.” Still, more than one Web log claims to see similarities between Monsanto and the fictional company “U-North” in the movie *Michael Clayton*, an agribusiness giant accused in a multibillion-dollar lawsuit of selling an herbicide that causes cancer.



Monsanto brought false accusations against Gary Rinehart—shown here at his rural Missouri store. There has been no apology. *Photographs by Kurt Markus.*

Monsanto's genetically modified seeds have transformed the company and are radically altering global agriculture. So far, the company has produced G.M. seeds for soybeans, corn, canola, and cotton. Many more products have been developed or are in the pipeline, including seeds for sugar beets and alfalfa. The company is also seeking to extend its reach into milk production by marketing an artificial growth hormone for cows that increases their output, and it is taking aggressive steps to put those who don't want to use growth hormone at a commercial disadvantage.

Even as the company is pushing its G.M. agenda, Monsanto is buying up conventional-seed companies. In 2005, Monsanto paid \$1.4 billion for Seminis, which controlled 40 percent of the U.S. market for lettuce, tomatoes, and other vegetable and fruit seeds. Two weeks later it announced the acquisition of the country's third-largest cottonseed company, Emergent Genetics, for \$300 million. It's estimated that Monsanto seeds now account for 90 percent of the U.S. production of soybeans, which are used in food products beyond counting. Monsanto's acquisitions have fueled explosive growth, transforming the St. Louis-based corporation into the largest seed company in the world.

In Iraq, the groundwork has been laid to protect the patents of Monsanto and other G.M.-seed companies. One of L. Paul Bremer's last acts as head of the Coalition Provisional Authority was an order stipulating that "farmers shall be prohibited from re-using seeds of protected varieties." Monsanto has said that it has no interest in doing business in Iraq, but should the company change its mind, the American-style law is in place.

To be sure, more and more agricultural corporations and individual farmers are using Monsanto's G.M. seeds. As recently as 1980, no genetically modified crops were grown in the U.S. In 2007, the total was 142 million acres planted. Worldwide, the figure was 282 million acres. Many farmers believe that G.M. seeds increase crop yields and save money. Another reason for their attraction is convenience. By using Roundup Ready soybean seeds, a farmer can spend less time tending to his fields. With Monsanto seeds, a farmer plants his crop, then treats it later with Roundup to kill weeds. That takes the place of labor-intensive weed control and plowing.

Monsanto portrays its move into G.M. seeds as a giant leap for mankind. But out in the American countryside, Monsanto's no-holds-barred tactics have made it feared and loathed. Like it or not, farmers say, they have fewer and fewer choices in buying seeds.

And controlling the seeds is not some abstraction. Whoever provides the world's seeds controls the world's food supply.

### **Under Surveillance**

After Monsanto's investigator confronted Gary Rinehart, Monsanto filed a federal lawsuit alleging that Rinehart "knowingly, intentionally, and willfully" planted seeds "in violation of Monsanto's patent rights." The company's complaint made it sound as if Monsanto had Rinehart dead to rights:

*During the 2002 growing season, Investigator Jeffery Moore, through surveillance of Mr. Rinehart's farm facility and farming operations, observed Defendant planting brown bag soybean seed. Mr. Moore observed the Defendant take the brown bag soybeans to a field, which was subsequently loaded into a grain drill and planted. Mr. Moore located two empty bags in the ditch in the public road right-of-way beside one of the fields planted by Rinehart, which contained some soybeans. Mr. Moore collected a small amount of soybeans left in the bags which Defendant had tossed into the public right-of-way. These samples tested positive for Monsanto's Roundup Ready technology.*

Faced with a federal lawsuit, Rinehart had to hire a lawyer. Monsanto eventually realized that “Investigator Jeffery Moore” had targeted the wrong man, and dropped the suit. Rinehart later learned that the company had been secretly investigating farmers in his area. Rinehart never heard from Monsanto again: no letter of apology, no public concession that the company had made a terrible mistake, no offer to pay his attorney’s fees. “I don’t know how they get away with it,” he says. “If I tried to do something like that it would be bad news. I felt like I was in another country.”

Gary Rinehart is actually one of Monsanto’s luckier targets. Ever since commercial introduction of its G.M. seeds, in 1996, Monsanto has launched thousands of investigations and filed lawsuits against hundreds of farmers and seed dealers. In a 2007 report, the Center for Food Safety, in Washington, D.C., documented 112 such lawsuits, in 27 states.

Even more significant, in the Center’s opinion, are the numbers of farmers who settle because they don’t have the money or the time to fight Monsanto. “The number of cases filed is only the tip of the iceberg,” says Bill Freese, the Center’s science-policy analyst. Freese says he has been told of many cases in which Monsanto investigators showed up at a farmer’s house or confronted him in his fields, claiming he had violated the technology agreement and demanding to see his records. According to Freese, investigators will say, “Monsanto knows that you are saving Roundup Ready seeds, and if you don’t sign these information-release forms, Monsanto is going to come after you and take your farm or take you for all you’re worth.” Investigators will sometimes show a farmer a photo of himself coming out of a store, to let him know he is being followed.

Lawyers who have represented farmers sued by Monsanto say that intimidating actions like these are commonplace. Most give in and pay Monsanto some amount in damages; those who resist face the full force of Monsanto’s legal wrath.

### **Scorched-Earth Tactics**

Pilot Grove, Missouri, population 750, sits in rolling farmland 150 miles west of St. Louis. The town has a grocery store, a bank, a bar, a nursing home, a funeral parlor, and a few other small businesses. There are no stoplights, but the town doesn’t need any. The little traffic it has comes from trucks on their way to and from the grain elevator on the edge of town. The elevator is owned by a local co-op, the Pilot Grove Cooperative Elevator, which buys soybeans and corn from farmers in the fall, then ships out the grain over the winter. The co-op has seven full-time employees and four computers.

In the fall of 2006, Monsanto trained its legal guns on Pilot Grove; ever since, its farmers have been drawn into a costly, disruptive legal battle against an opponent with limitless resources. Neither Pilot Grove nor Monsanto will discuss the case, but it is possible to piece together much of the story from documents filed as part of the litigation.

Monsanto began investigating soybean farmers in and around Pilot Grove several years ago. There is no indication as to what sparked the probe, but Monsanto periodically

investigates farmers in soybean-growing regions such as this one in central Missouri. The company has a staff devoted to enforcing patents and litigating against farmers. To gather leads, the company maintains an 800 number and encourages farmers to inform on other farmers they think may be engaging in “seed piracy.”

Once Pilot Grove had been targeted, Monsanto sent private investigators into the area. Over a period of months, Monsanto’s investigators surreptitiously followed the co-op’s employees and customers and videotaped them in fields and going about other activities. At least 17 such surveillance videos were made, according to court records. The investigative work was outsourced to a St. Louis agency, McDowell & Associates. It was a McDowell investigator who erroneously fingered Gary Rinehart. In Pilot Grove, at least 11 McDowell investigators have worked the case, and Monsanto makes no bones about the extent of this effort: “Surveillance was conducted throughout the year by various investigators in the field,” according to court records. McDowell, like Monsanto, will not comment on the case.

Not long after investigators showed up in Pilot Grove, Monsanto subpoenaed the co-op’s records concerning seed and herbicide purchases and seed-cleaning operations. The co-op provided more than 800 pages of documents pertaining to dozens of farmers. Monsanto sued two farmers and negotiated settlements with more than 25 others it accused of seed piracy. But Monsanto’s legal assault had only begun. Although the co-op had provided voluminous records, Monsanto then sued it in federal court for patent infringement. Monsanto contended that by cleaning seeds—a service which it had provided for decades—the co-op was inducing farmers to violate Monsanto’s patents. In effect, Monsanto wanted the co-op to police its own customers.

In the majority of cases where Monsanto sues, or threatens to sue, farmers settle before going to trial. The cost and stress of litigating against a global corporation are just too great. But Pilot Grove wouldn’t cave—and ever since, Monsanto has been turning up the heat. The more the co-op has resisted, the more legal firepower Monsanto has aimed at it. Pilot Grove’s lawyer, Steven H. Schwartz, described Monsanto in a court filing as pursuing a “scorched earth tactic,” intent on “trying to drive the co-op into the ground.”

Even after Pilot Grove turned over thousands more pages of sales records going back five years, and covering virtually every one of its farmer customers, Monsanto wanted more—the right to inspect the co-op’s hard drives. When the co-op offered to provide an electronic version of any record, Monsanto demanded hands-on access to Pilot Grove’s in-house computers.

Monsanto next petitioned to make potential damages punitive—tripling the amount that Pilot Grove might have to pay if found guilty. After a judge denied that request, Monsanto expanded the scope of the pre-trial investigation by seeking to quadruple the number of depositions. “Monsanto is doing its best to make this case so expensive to defend that the Co-op will have no choice but to relent,” Pilot Grove’s lawyer said in a court filing.

With Pilot Grove still holding out for a trial, Monsanto now subpoenaed the records of more than 100 of the co-op's customers. In a "You are Commanded ..." notice, the farmers were ordered to gather up five years of invoices, receipts, and all other papers relating to their soybean and herbicide purchases, and to have the documents delivered to a law office in St. Louis. Monsanto gave them two weeks to comply.

Whether Pilot Grove can continue to wage its legal battle remains to be seen. Whatever the outcome, the case shows why Monsanto is so detested in farm country, even by those who buy its products. "I don't know of a company that chooses to sue its own customer base," says Joseph Mendelson, of the Center for Food Safety. "It's a very bizarre business strategy." But it's one that Monsanto manages to get away with, because increasingly it's the dominant vendor in town.

### **Chemicals? What Chemicals?**

The Monsanto Company has never been one of America's friendliest corporate citizens. Given Monsanto's current dominance in the field of bioengineering, it's worth looking at the company's own DNA. The future of the company may lie in seeds, but the seeds of the company lie in chemicals. Communities around the world are still reaping the environmental consequences of Monsanto's origins.

Monsanto was founded in 1901 by John Francis Queeny, a tough, cigar-smoking Irishman with a sixth-grade education. A buyer for a wholesale drug company, Queeny had an idea. But like a lot of employees with ideas, he found that his boss wouldn't listen to him. So he went into business for himself on the side. Queeny was convinced there was money to be made manufacturing a substance called saccharin, an artificial sweetener then imported from Germany. He took \$1,500 of his savings, borrowed another \$3,500, and set up shop in a dingy warehouse near the St. Louis waterfront. With borrowed equipment and secondhand machines, he began producing saccharin for the U.S. market. He called the company the Monsanto Chemical Works, Monsanto being his wife's maiden name.

The German cartel that controlled the market for saccharin wasn't pleased, and cut the price from \$4.50 to \$1 a pound to try to force Queeny out of business. The young company faced other challenges. Questions arose about the safety of saccharin, and the U.S. Department of Agriculture even tried to ban it. Fortunately for Queeny, he wasn't up against opponents as aggressive and litigious as the Monsanto of today. His persistence and the loyalty of one steady customer kept the company afloat. That steady customer was a new company in Georgia named Coca-Cola.

Monsanto added more and more products—vanillin, caffeine, and drugs used as sedatives and laxatives. In 1917, Monsanto began making aspirin, and soon became the largest maker worldwide. During World War I, cut off from imported European chemicals, Monsanto was forced to manufacture its own, and its position as a leading force in the chemical industry was assured.

After Queeny was diagnosed with cancer, in the late 1920s, his only son, Edgar, became president. Where the father had been a classic entrepreneur, Edgar Monsanto Queeny was an empire builder with a grand vision. It was Edgar—shrewd, daring, and intuitive (“He can see around the next corner,” his secretary once said)—who built Monsanto into a global powerhouse. Under Edgar Queeny and his successors, Monsanto extended its reach into a phenomenal number of products: plastics, resins, rubber goods, fuel additives, artificial caffeine, industrial fluids, vinyl siding, dishwasher detergent, anti-freeze, fertilizers, herbicides, pesticides. Its safety glass protects the U.S. Constitution and the *Mona Lisa*. Its synthetic fibers are the basis of Astroturf.

During the 1970s, the company shifted more and more resources into biotechnology. In 1981 it created a molecular-biology group for research in plant genetics. The next year, Monsanto scientists hit gold: they became the first to genetically modify a plant cell. “It will now be possible to introduce virtually any gene into plant cells with the ultimate goal of improving crop productivity,” said Ernest Jaworski, director of Monsanto’s Biological Sciences Program.

Over the next few years, scientists working mainly in the company’s vast new Life Sciences Research Center, 25 miles west of St. Louis, developed one genetically modified product after another—cotton, soybeans, corn, canola. From the start, G.M. seeds were controversial with the public as well as with some farmers and European consumers. Monsanto has sought to portray G.M. seeds as a panacea, a way to alleviate poverty and feed the hungry. Robert Shapiro, Monsanto’s president during the 1990s, once called G.M. seeds “the single most successful introduction of technology in the history of agriculture, including the plow.”

By the late 1990s, Monsanto, having rebranded itself into a “life sciences” company, had spun off its chemical and fibers operations into a new company called Solutia. After an additional reorganization, Monsanto re-incorporated in 2002 and officially declared itself an “agricultural company.”

In its company literature, Monsanto now refers to itself disingenuously as a “relatively new company” whose primary goal is helping “farmers around the world in their mission to feed, clothe, and fuel” a growing planet. In its list of corporate milestones, all but a handful are from the recent era. As for the company’s early history, the decades when it grew into an industrial powerhouse now held potentially responsible for more than 50 Environmental Protection Agency Superfund sites—none of that is mentioned. It’s as though the original Monsanto, the company that long had the word “chemical” as part of its name, never existed. One of the benefits of doing this, as the company does not point out, was to channel the bulk of the growing backlog of chemical lawsuits and liabilities onto Solutia, keeping the Monsanto brand pure.

But Monsanto’s past, especially its environmental legacy, is very much with us. For many years Monsanto produced two of the most toxic substances ever known—polychlorinated biphenyls, better known as PCBs, and dioxin. Monsanto no longer

produces either, but the places where it did are still struggling with the aftermath, and probably always will be.

### **“Systemic Intoxication”**

Twelve miles downriver from Charleston, West Virginia, is the town of Nitro, where Monsanto operated a chemical plant from 1929 to 1995. In 1948 the plant began to make a powerful herbicide known as 2,4,5-T, called “weed bug” by the workers. A by-product of the process was the creation of a chemical that would later be known as dioxin.

The name dioxin refers to a group of highly toxic chemicals that have been linked to heart disease, liver disease, human reproductive disorders, and developmental problems. Even in small amounts, dioxin persists in the environment and accumulates in the body. In 1997 the International Agency for Research on Cancer, a branch of the World Health Organization, classified the most powerful form of dioxin as a substance that causes cancer in humans. In 2001 the U.S. government listed the chemical as a “known human carcinogen.”

On March 8, 1949, a massive explosion rocked Monsanto’s Nitro plant when a pressure valve blew on a container cooking up a batch of herbicide. The noise from the release was a scream so loud that it drowned out the emergency steam whistle for five minutes. A plume of vapor and white smoke drifted across the plant and out over town. Residue from the explosion coated the interior of the building and those inside with what workers described as “a fine black powder.” Many felt their skin prickle and were told to scrub down.

Within days, workers experienced skin eruptions. Many were soon diagnosed with chloracne, a condition similar to common acne but more severe, longer lasting, and potentially disfiguring. Others felt intense pains in their legs, chest, and trunk. A confidential medical report at the time said the explosion “caused a systemic intoxication in the workers involving most major organ systems.” Doctors who examined four of the most seriously injured men detected a strong odor coming from them when they were all together in a closed room. “We believe these men are excreting a foreign chemical through their skins,” the confidential report to Monsanto noted. Court records indicate that 226 plant workers became ill.

According to court documents that have surfaced in a West Virginia court case, Monsanto downplayed the impact, stating that the contaminant affecting workers was “fairly slow acting” and caused “only an irritation of the skin.”

In the meantime, the Nitro plant continued to produce herbicides, rubber products, and other chemicals. In the 1960s, the factory manufactured Agent Orange, the powerful herbicide which the U.S. military used to defoliate jungles during the Vietnam War, and which later was the focus of lawsuits by veterans contending that they had been harmed by exposure. As with Monsanto’s older herbicides, the manufacturing of Agent Orange created dioxin as a by-product.

As for the Nitro plant's waste, some was burned in incinerators, some dumped in landfills or storm drains, some allowed to run into streams. As Stuart Calwell, a lawyer who has represented both workers and residents in Nitro, put it, "Dioxin went wherever the product went, down the sewer, shipped in bags, and when the waste was burned, out in the air."

In 1981 several former Nitro employees filed lawsuits in federal court, charging that Monsanto had knowingly exposed them to chemicals that caused long-term health problems, including cancer and heart disease. They alleged that Monsanto knew that many chemicals used at Nitro were potentially harmful, but had kept that information from them. On the eve of a trial, in 1988, Monsanto agreed to settle most of the cases by making a single lump payment of \$1.5 million. Monsanto also agreed to drop its claim to collect \$305,000 in court costs from six retired Monsanto workers who had unsuccessfully charged in another lawsuit that Monsanto had recklessly exposed them to dioxin. Monsanto had attached liens to the retirees' homes to guarantee collection of the debt.

Monsanto stopped producing dioxin in Nitro in 1969, but the toxic chemical can still be found well beyond the Nitro plant site. Repeated studies have found elevated levels of dioxin in nearby rivers, streams, and fish. Residents have sued to seek damages from Monsanto and Solutia. Earlier this year, a West Virginia judge merged those lawsuits into a class-action suit. A Monsanto spokesman said, "We believe the allegations are without merit and we'll defend ourselves vigorously." The suit will no doubt take years to play out. Time is one thing that Monsanto always has, and that the plaintiffs usually don't.

### **Poisoned Lawns**

Five hundred miles to the south, the people of Anniston, Alabama, know all about what the people of Nitro are going through. They've been there. In fact, you could say, they're still there.

From 1929 to 1971, Monsanto's Anniston works produced PCBs as industrial coolants and insulating fluids for transformers and other electrical equipment. One of the wonder chemicals of the 20th century, PCBs were exceptionally versatile and fire-resistant, and became central to many American industries as lubricants, hydraulic fluids, and sealants. But PCBs are toxic. A member of a family of chemicals that mimic hormones, PCBs have been linked to damage in the liver and in the neurological, immune, endocrine, and reproductive systems. The Environmental Protection Agency (E.P.A.) and the Agency for Toxic Substances and Disease Registry, part of the Department of Health and Human Services, now classify PCBs as "probable carcinogens."

Today, 37 years after PCB production ceased in Anniston, and after tons of contaminated soil have been removed to try to reclaim the site, the area around the old Monsanto plant remains one of the most polluted spots in the U.S.

People in Anniston find themselves in this fix today largely because of the way Monsanto disposed of PCB waste for decades. Excess PCBs were dumped in a nearby open-pit landfill or allowed to flow off the property with storm water. Some waste was poured directly into Snow Creek, which runs alongside the plant and empties into a larger stream, Choccolocco Creek. PCBs also turned up in private lawns after the company invited Anniston residents to use soil from the plant for their lawns, according to *The Anniston Star*.

So for decades the people of Anniston breathed air, planted gardens, drank from wells, fished in rivers, and swam in creeks contaminated with PCBs—without knowing anything about the danger. It wasn't until the 1990s—20 years after Monsanto stopped making PCBs in Anniston—that widespread public awareness of the problem there took hold.

Studies by health authorities consistently found elevated levels of PCBs in houses, yards, streams, fields, fish, and other wildlife—and in people. In 2003, Monsanto and Solutia entered into a consent decree with the E.P.A. to clean up Anniston. Scores of houses and small businesses were to be razed, tons of contaminated soil dug up and carted off, and streambeds scooped of toxic residue. The cleanup is under way, and it will take years, but some doubt it will ever be completed—the job is massive. To settle residents' claims, Monsanto has also paid \$550 million to 21,000 Anniston residents exposed to PCBs, but many of them continue to live with PCBs in their bodies. Once PCB is absorbed into human tissue, there it forever remains.

Monsanto shut down PCB production in Anniston in 1971, and the company ended all its American PCB operations in 1977. Also in 1977, Monsanto closed a PCB plant in Wales. In recent years, residents near the village of Groesfaen, in southern Wales, have noticed vile odors emanating from an old quarry outside the village. As it turns out, Monsanto had dumped thousands of tons of waste from its nearby PCB plant into the quarry. British authorities are struggling to decide what to do with what they have now identified as among the most contaminated places in Britain.

### **“No Cause for Public Alarm”**

What had Monsanto known—or what should it have known—about the potential dangers of the chemicals it was manufacturing? There's considerable documentation lurking in court records from many lawsuits indicating that Monsanto knew quite a lot. Let's look just at the example of PCBs.

The evidence that Monsanto refused to face questions about their toxicity is quite clear. In 1956 the company tried to sell the navy a hydraulic fluid for its submarines called Pydraul 150, which contained PCBs. Monsanto supplied the navy with test results for the product. But the navy decided to run its own tests. Afterward, navy officials informed Monsanto that they wouldn't be buying the product. “Applications of Pydraul 150 caused death in all of the rabbits tested” and indicated “definite liver damage,” navy officials told Monsanto, according to an internal Monsanto memo divulged in the course of a court

proceeding. “No matter how we discussed the situation,” complained Monsanto’s medical director, R. Emmet Kelly, “it was impossible to change their thinking that Pydraul 150 is just too toxic for use in submarines.”

Ten years later, a biologist conducting studies for Monsanto in streams near the Anniston plant got quick results when he submerged his test fish. As he reported to Monsanto, according to *The Washington Post*, “All 25 fish lost equilibrium and turned on their sides in 10 seconds and all were dead in 3½ minutes.”



Jeff Kleinpeter, of Baton Rouge, was accused by Monsanto of making misleading claims just for telling customers his cows are free of artificial bovine growth hormone.

When the Food and Drug Administration (F.D.A.) turned up high levels of PCBs in fish near the Anniston plant in 1970, the company swung into action to limit the P.R. damage. An internal memo entitled “confidential—f.y.i. and destroy” from Monsanto official Paul B. Hodges reviewed steps under way to limit disclosure of the information. One element of the strategy was to get public officials to fight Monsanto’s battle: “Joe Crockett, Secretary of the Alabama Water Improvement Commission, will try to handle the problem quietly without release of the information to the public at this time,” according to the memo.

Despite Monsanto’s efforts, the information did get out, but the company was able to blunt its impact. Monsanto’s Anniston plant manager “convinced” a reporter for *The Anniston Star* that there was really nothing to worry about, and an internal memo from Monsanto’s headquarters in St. Louis summarized the story that subsequently appeared in

the newspaper: “Quoting both plant management and the Alabama Water Improvement Commission, the feature emphasized the PCB problem was relatively new, was being solved by Monsanto and, at this point, was no cause for public alarm.”

In truth, there was enormous cause for public alarm. But that harm was done by the “Original Monsanto Company,” not “Today’s Monsanto Company” (the words and the distinction are Monsanto’s). The Monsanto of today says that it can be trusted—that its biotech crops are “as wholesome, nutritious and safe as conventional crops,” and that milk from cows injected with its artificial growth hormone is the same as, and as safe as, milk from any other cow.

### **The Milk Wars**

Jeff Kleinpeter takes very good care of his dairy cows. In the winter he turns on heaters to warm their barns. In the summer, fans blow gentle breezes to cool them, and on especially hot days, a fine mist floats down to take the edge off Louisiana’s heat. The dairy has gone “to the ultimate end of the earth for cow comfort,” says Kleinpeter, a fourth-generation dairy farmer in Baton Rouge. He says visitors marvel at what he does: “I’ve had many of them say, ‘When I die, I want to come back as a Kleinpeter cow.’”

Monsanto would like to change the way Jeff Kleinpeter and his family do business. Specifically, Monsanto doesn’t like the label on Kleinpeter Dairy’s milk cartons: “From Cows *Not* Treated with rBGH.” To consumers, that means the milk comes from cows that were not given artificial bovine growth hormone, a supplement developed by Monsanto that can be injected into dairy cows to increase their milk output.

No one knows what effect, if any, the hormone has on milk or the people who drink it. Studies have not detected any difference in the quality of milk produced by cows that receive rBGH, or rBST, a term by which it is also known. But Jeff Kleinpeter—like millions of consumers—wants no part of rBGH. Whatever its effect on humans, if any, Kleinpeter feels certain it’s harmful to cows because it speeds up their metabolism and increases the chances that they’ll contract a painful illness that can shorten their lives. “It’s like putting a Volkswagen car in with the Indianapolis 500 racers,” he says. “You gotta keep the pedal to the metal the whole way through, and pretty soon that poor little Volkswagen engine’s going to burn up.”

Kleinpeter Dairy has never used Monsanto’s artificial hormone, and the dairy requires other dairy farmers from whom it buys milk to attest that they don’t use it, either. At the suggestion of a marketing consultant, the dairy began advertising its milk as coming from rBGH-free cows in 2005, and the label began appearing on Kleinpeter milk cartons and in company literature, including a new Web site of Kleinpeter products that proclaims, “We treat our cows with love ... not rBGH.”

The dairy’s sales soared. For Kleinpeter, it was simply a matter of giving consumers more information about their product.

But giving consumers that information has stirred the ire of Monsanto. The company contends that advertising by Kleinpeter and other dairies touting their “no rBGH” milk reflects adversely on Monsanto’s product. In a letter to the Federal Trade Commission in February 2007, Monsanto said that, notwithstanding the overwhelming evidence that there is no difference in the milk from cows treated with its product, “milk processors persist in claiming on their labels and in advertisements that the use of rBST is somehow harmful, either to cows or to the people who consume milk from rBST-supplemented cows.”

Monsanto called on the commission to investigate what it called the “deceptive advertising and labeling practices” of milk processors such as Kleinpeter, accusing them of misleading consumers “by falsely claiming that there are health and safety risks associated with milk from rBST-supplemented cows.” As noted, Kleinpeter does not make any such claims—he simply states that his milk comes from cows not injected with rBGH.

Monsanto’s attempt to get the F.T.C. to force dairies to change their advertising was just one more step in the corporation’s efforts to extend its reach into agriculture. After years of scientific debate and public controversy, the F.D.A. in 1993 approved commercial use of rBST, basing its decision in part on studies submitted by Monsanto. That decision allowed the company to market the artificial hormone. The effect of the hormone is to increase milk production, not exactly something the nation needed then—or needs now. The U.S. was actually awash in milk, with the government buying up the surplus to prevent a collapse in prices.

Monsanto began selling the supplement in 1994 under the name Posilac. Monsanto acknowledges that the possible side effects of rBST for cows include lameness, disorders of the uterus, increased body temperature, digestive problems, and birthing difficulties. Veterinary drug reports note that “cows injected with Posilac are at an increased risk for mastitis,” an udder infection in which bacteria and pus may be pumped out with the milk. What’s the effect on humans? The F.D.A. has consistently said that the milk produced by cows that receive rBGH is the same as milk from cows that aren’t injected: “The public can be confident that milk and meat from BST-treated cows is safe to consume.” Nevertheless, some scientists are concerned by the lack of long-term studies to test the additive’s impact, especially on children. A Wisconsin geneticist, William von Meyer, observed that when rBGH was approved the longest study on which the F.D.A.’s approval was based covered only a 90-day laboratory test with small animals. “But people drink milk for a lifetime,” he noted. Canada and the European Union have never approved the commercial sale of the artificial hormone. Today, nearly 15 years after the F.D.A. approved rBGH, there have still been no long-term studies “to determine the safety of milk from cows that receive artificial growth hormone,” says Michael Hansen, senior staff scientist for Consumers Union. Not only have there been no studies, he adds, but the data that does exist all comes from Monsanto. “There is no scientific consensus about the safety,” he says.

However F.D.A. approval came about, Monsanto has long been wired into Washington. Michael R. Taylor was a staff attorney and executive assistant to the F.D.A. commissioner before joining a law firm in Washington in 1981, where he worked to secure F.D.A. approval of Monsanto's artificial growth hormone before returning to the F.D.A. as deputy commissioner in 1991. Dr. Michael A. Friedman, formerly the F.D.A.'s deputy commissioner for operations, joined Monsanto in 1999 as a senior vice president. Linda J. Fisher was an assistant administrator at the E.P.A. when she left the agency in 1993. She became a vice president of Monsanto, from 1995 to 2000, only to return to the E.P.A. as deputy administrator the next year. William D. Ruckelshaus, former E.P.A. administrator, and Mickey Kantor, former U.S. trade representative, each served on Monsanto's board after leaving government. Supreme Court justice Clarence Thomas was an attorney in Monsanto's corporate-law department in the 1970s. He wrote the Supreme Court opinion in a crucial G.M.-seed patent-rights case in 2001 that benefited Monsanto and all G.M.-seed companies. Donald Rumsfeld never served on the board or held any office at Monsanto, but Monsanto must occupy a soft spot in the heart of the former defense secretary. Rumsfeld was chairman and C.E.O. of the pharmaceutical maker G. D. Searle & Co. when Monsanto acquired Searle in 1985, after Searle had experienced difficulty in finding a buyer. Rumsfeld's stock and options in Searle were valued at \$12 million at the time of the sale.

From the beginning some consumers have consistently been hesitant to drink milk from cows treated with artificial hormones. This is one reason Monsanto has waged so many battles with dairies and regulators over the wording of labels on milk cartons. It has sued at least two dairies and one co-op over labeling.

Critics of the artificial hormone have pushed for mandatory labeling on all milk products, but the F.D.A. has resisted and even taken action against some dairies that labeled their milk "BST-free." Since BST is a natural hormone found in all cows, including those not injected with Monsanto's artificial version, the F.D.A. argued that no dairy could claim that its milk is BST-free. The F.D.A. later issued guidelines allowing dairies to use labels saying their milk comes from "non-supplemented cows," as long as the carton has a disclaimer saying that the artificial supplement does not in any way change the milk. So the milk cartons from Kleinpeter Dairy, for example, carry a label on the front stating that the milk is from cows not treated with rBGH, and the rear panel says, "Government studies have shown no significant difference between milk derived from rBGH-treated and non-rBGH-treated cows." That's not good enough for Monsanto.

### **The Next Battleground**

As more and more dairies have chosen to advertise their milk as "No rBGH," Monsanto has gone on the offensive. Its attempt to force the F.T.C. to look into what Monsanto called "deceptive practices" by dairies trying to distance themselves from the company's artificial hormone was the most recent national salvo. But after reviewing Monsanto's claims, the F.T.C.'s Division of Advertising Practices decided in August 2007 that a "formal investigation and enforcement action is not warranted at this time." The agency found some instances where dairies had made "unfounded health and safety claims," but

these were mostly on Web sites, not on milk cartons. And the F.T.C. determined that the dairies Monsanto had singled out all carried disclaimers that the F.D.A. had found no significant differences in milk from cows treated with the artificial hormone.

Blocked at the federal level, Monsanto is pushing for action by the states. In the fall of 2007, Pennsylvania's agriculture secretary, Dennis Wolff, issued an edict prohibiting dairies from stamping milk containers with labels stating their products were made without the use of the artificial hormone. Wolff said such a label implies that competitors' milk is not safe, and noted that non-supplemented milk comes at an unjustified higher price, arguments that Monsanto has frequently made. The ban was to take effect February 1, 2008.

Wolff's action created a firestorm in Pennsylvania (and beyond) from angry consumers. So intense was the outpouring of e-mails, letters, and calls that Pennsylvania governor Edward Rendell stepped in and reversed his agriculture secretary, saying, "The public has a right to complete information about how the milk they buy is produced."

On this issue, the tide may be shifting against Monsanto. Organic dairy products, which don't involve rBGH, are soaring in popularity. Supermarket chains such as Kroger, Publix, and Safeway are embracing them. Some other companies have turned away from rBGH products, including Starbucks, which has banned all milk products from cows treated with rBGH. Although Monsanto once claimed that an estimated 30 percent of the nation's dairy cows were injected with rBST, it's widely believed that today the number is much lower.

But don't count Monsanto out. Efforts similar to the one in Pennsylvania have been launched in other states, including New Jersey, Ohio, Indiana, Kansas, Utah, and Missouri. A Monsanto-backed group called afact—American Farmers for the Advancement and Conservation of Technology—has been spearheading efforts in many of these states. afact describes itself as a "producer organization" that decries "questionable labeling tactics and activism" by marketers who have convinced some consumers to "shy away from foods using new technology." afact reportedly uses the same St. Louis public-relations firm, Osborn & Barr, employed by Monsanto. An Osborn & Barr spokesman told *The Kansas City Star* that the company was doing work for afact on a pro bono basis.

Even if Monsanto's efforts to secure across-the-board labeling changes should fall short, there's nothing to stop state agriculture departments from restricting labeling on a dairy-by-dairy basis. Beyond that, Monsanto also has allies whose foot soldiers will almost certainly keep up the pressure on dairies that don't use Monsanto's artificial hormone. Jeff Kleinpeter knows about them, too.

He got a call one day from the man who prints the labels for his milk cartons, asking if he had seen the attack on Kleinpeter Dairy that had been posted on the Internet. Kleinpeter went online to a site called StopLabelingLies, which claims to "help consumers by publicizing examples of false and misleading food and other product labels." There, sure

enough, Kleinpeter and other dairies that didn't use Monsanto's product were being accused of making misleading claims to sell their milk.

There was no address or phone number on the Web site, only a list of groups that apparently contribute to the site and whose issues range from disparaging organic farming to downplaying the impact of global warming. "They were criticizing people like me for doing what we had a right to do, had gone through a government agency to do," says Kleinpeter. "We never could get to the bottom of that Web site to get that corrected."

As it turns out, the Web site counts among its contributors Steven Milloy, the "junk science" commentator for FoxNews.com and operator of junkscience.com, which claims to debunk "faulty scientific data and analysis." It may come as no surprise that earlier in his career, Milloy, who calls himself the "junkman," was a registered lobbyist for Monsanto.

**Donald L. Barlett** and **James B. Steele** are *Vanity Fair* contributing editors.