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Toxic Tale: An 'Enviro' Learns Why We Need Tighter Controls On Home Pesticide Use

She had her house sprayed for fleas and then suffered a severe autoimmune reaction to the chemicals. Now she argues for tighter controls.

BY SUE EISENFELD

Last winter, despite my instincts telling me otherwise—a low-level warning beacon in my gut that I ignored—I hired a company to apply a chemical flea treatment in our house. Not wanting to waste time on home remedies that might not work, I thought, "Let's just get it over with."

I decided to trust "the system"—which was created to protect consumers, after all. I made this decision despite the fact that I'd been a "ban lawn-care pesticides from our campus" activist in college and had spent nearly my entire professional life as a communications consultant to the Environmental Protection Agency (EPA), writing materials for the public about environmentally sound behavior. As an environmentalist, I've been a pro-organic vegetarian. I also avoid processed foods with ingredients whose names I can't pronounce; use reusable tote bags at the farmers' market; avidly recycle; and drive a low-emissions car.

On the eve of my decision, I looked at my poor kitty. He'd been licking himself raw during the past four months—the pink flesh of his belly and inner thighs showing through bald spots in his soft orange fur, tufts of hair all over the floor. I had to take some kind of action, and fast.

My reaction was maternal, a way to alleviate my "child's" suffering. It was visceral, a way to make those blood-sucking creepy-crawlies go away. And it seemed reasonable: an aerosol flea spray would be applied directly to the floor; it wasn't some kind of flea bomb or fogger. I assumed that if there were risks or warnings or precautions I should know about, the pest control company, which we'd used for years to treat the exterior of our house against ants, would tell me.

The next morning a man came to the house with two aerosol cans of a pesticide and targeted our hardwood floors and rugs, as well as the cement floor in the basement. The pesticide—in the form of a mist designed to fall quickly to the floor—contained chemicals to kill insects and an insect growth regulator that interrupts the life cycle of fleas.

The technician didn't tell us to remove the dishes sitting out on the drying rack. He didn't instruct us to cover the cutting board or the fruits and vegetables on the counter. He didn't advise us to leave the windows open or use fans for ventilation. His only instruction was to stay out of the house, with our cat, for three to four hours, until the product had dried.

What we found after driving around with our cat for six hours, waiting to come home, was exasperating: big wet drops all over the floors. That wasn't supposed to happen. When we called the company that had applied the flea treatment, the manager was perplexed. He recommended that we mop up the residue, then throw the sponge away.

Illustration by Brett Ryder

While my husband did the mopping, I wrote an instant message to a friend: "This is a disaster," I typed. "Don't worry about it," he wrote back. "It's no big deal."

From Yellow Jackets To Hot Lava

The morning after the pesticide treatment, although both my husband and cat felt fine, I awoke to an odd headache in the back right quadrant of my skull—a fleeting but intense shooting pain every few seconds. I felt a bit woozy and off balance and thought I was coming down with a cold. By evening, my arms were buzzing with an odd, electric energy.

The next day, my left side felt as if it had been coated with Ben-Gay. My icy-hot arm and leg magnified the feeling of a cold touch, but I couldn't feel the warmth of a heating pad. My torso reacted to cold as if it were being stung by yellow jackets.

In another twenty-four hours, my fatigue was so intense that even if the house had been on fire, I couldn't have peeled myself out of bed.

And in another day or two, my right side lost much of its strength. Moving my limbs felt like pushing through mud. I struggled to brush my teeth, write, type, and lift a fork. Standing up in the shower and lathering my hair became two things I could no longer do at once. The foot on my cold side began to feel like lava.

Two trips to the hospital emergency room ruled out a stroke and a brain tumor. The doctors and nurses who ordered tests and took blood told me I had some kind of weird neurological problem that would probably take months to figure out. The magnetic resonance imaging (MRI) showed a lesion inside my neck, on my cervical spinal cord. This scar or defect had chewed away some of the protective myelin that coats nerves and transmits messages in the nervous system. Thus, the damage there was scrambling messages being sent around my body, messages about temperature and pain and strength and balance.

As I disintegrated day by day, I began to wonder if I would ever work, drive, or hike again. Who would take care of me? And had I made the biggest mistake of

my life three months earlier by leaving my environmental consulting job, and giving up disability insurance? I'd done so to pursue my writing career so I could feel I was living my life to the fullest when I turned forty later in the year. I'd trusted that I could, for the first time in my life, "wing it"—see what life would offer me, go wherever the universe would lead me.

Where it had led was taking one stair at a time, bundling up in fleece pajamas and wool socks to keep my coldness at bay, sitting on a bench in the shower, being waited on by my husband, and wondering what I had done to deserve this fate. I'd never heaved such woeful, breathless sobs of despair.

Process Of Elimination

A week after my symptoms began, a neurologist diagnosed me with "transverse myelitis," an inflammation of the spinal cord. Until my spinal tap and blood test results came back, he couldn't tell me the cause.

Transverse myelitis can be the result of a viral infection like chickenpox, shingles, herpes, flu, HIV, hepatitis A, or rubella. It can also be caused by abnormal immune system reactions or by insufficient blood flow through the vessels in the spinal cord. And it can be a complication of syphilis, measles, or Lyme disease. The neurologist said my symptoms could also be caused by multiple sclerosis, lupus, thyroid disorder, tuberculosis, or other diseases.

"What about pesticide exposure?" I asked. My doctor listened to the story of the chemical flea treatment and the coincidental timing of my exposure and the onset of symptoms, and then he rushed out of the room to call the manufacturer. When he came back, he reported that the medical staff at the pesticide company said no one there had ever heard of the symptoms I had resulting from their product.

"It's concerning, however," my doctor said. "And I sure wouldn't use that stuff myself."

To treat my symptoms, he put me on a megadose of intravenous steroids for five days, then steroid pills for another week. My icy-hot sensation began to fade, and my strength began to return, although my full recovery took several months. Soon my test results started streaming in.

Lyme disease: negative. Lupus: negative. Meningitis: negative. Tuberculosis: negative. Cancer cells: negative. Negative, negative, negative, negative. But four tests involving the cerebrospinal fluid that are often used as indicators of multiple sclerosis came up positive—stunningly unpleasant news that made my mind swirl.

"But we can't know for sure about multiple sclerosis," my neurologist explained, "until you get a follow-up MRI in four to five months, to see whether the lesion is still there or if there are any new ones." A definitive diagnosis, he explained, requires either two "episodes" like the one I had experienced, or two or more lesions on the spinal cord. I would have a long time to think, come to terms with my situation, and wait.

Freedom Of Information Sets Me Free

My months-long recovery involved physical therapy, occupational therapy, exercise, and rest. My old mantra of "need information to understand and heal" finally kicked in, and so my recuperation also required research. And given that I was the only mammal in my house seemingly affected by the pesticide product, I wanted to know whether I was just an odd specimen or if this pesticide had ever harmed anyone else.

My first task was to find the pesticide label online, with information about how to use the product properly. What this told me was that I hadn't been adequately protected from exposure—my first piece of evidence linking my problems to the pesticide. The label instructs users to cover all food-processing surfaces, utensils, and exposed food prior to spraying. *We weren't told to do that.* It directs pesticide applicators to avoid thoroughly wetting the surfaces being sprayed. *Yet there were wet drops of the chemical on the floor six hours later.* It also says that the sprayed area should be ventilated after treatment. *News to us.*

When I finally got the strength to call and write the pesticide manufacturer and the company that had applied the chemical to report my incident—in between slow-paced, wobbly walks around the block followed by naps—neither claimed to know anything about the possibility that the product could have caused symptoms such as mine. The pest control company said that an experienced technician had done the work. The manufacturer declared that information about previous reports of health effects from the public is proprietary.

So I filed a Freedom of Information Act request with the EPA, the government agency responsible for regulating pesticides. It was the only action I knew to take. Although incident reports made to the manufacturer may be proprietary, they must also be released to the EPA. Additionally, the EPA receives incident reports from astute members of the public who know to contact it, as well as from other government agencies and nongovernmental organizations.

The Freedom of Information Act report I received helped me survive the long, anxious wait until my follow-up MRI because once I read through the data—full of other people's symptoms that were quite similar to mine—I knew I didn't have multiple sclerosis.

The EPA's eighty-two-page report about the pesticide used in our house showed that from 1992 until early 2010, 156 "minor" human incidents were reported to the agency concerning the product, as well as 24 "moderate" and 515 "major" human incidents.

Moderate and major medical complaints included, in no particular order, dizziness, difficulty breathing, neurological symptoms, difficulty swallowing, muscle weakness, edema (fluid accumulation and swelling), tremors, abdominal pain, lower gastrointestinal bleeding, confusion, memory lapses, disorientation, ataxia (loss of coordination and muscle movement), stumbling, muscle spasm, kidney pain, seizure, liver failure, abnormal heart rhythm, lethargy, numbness, blurred vision, unconsciousness, coma, chills, hematuria (blood in the urine), memory loss, hallucinations, swollen tongue, neurodermatitis, migraines, dilated cardiomyopathy (decreased heart function), blood clots, aspirated pneumonia, inability to walk, respiratory arrest, and heart attack.

In addition, a second Freedom of Information Act request I'd submitted about three of the active ingredients in "my" pesticide revealed that thousands of medical complaints had been filed about these chemicals when used in other pesticide products. For one specific active ingredient used in our home, the American Association of Poison Control Centers' annual data reports for 2008 and 2009 showed that centers nationwide had logged a few hundred poisonings related to it. In addition, more than 22,000 poisonings were reported from a class of active ingredients used in our home, as well as in numerous common, over-the-counter products on the market nationwide.

In each of those years, US poison control centers received more than two million calls to report human poisonings for all substances, which included intentional as well as unintentional misuse by adults and unintentional misuse by children. This number is believed to represent only a fraction of all detrimental exposures that take place, because of underreporting. Pesticides ranked ninth of all substances contributing to poisonings in 2008, with approximately 94,000 reports, and tenth in 2009, with 92,000 reports.

Although many different entities agree that pesticides are, aside from pharmaceuticals, the most well-regulated type of chemical on the market today, people are still getting sick because of them.

What If—And What Could Be

Four months after my neurological episode, when I was finally able to walk in a straight line and not have my right hand buzz every time I bent my head toward my chest, I underwent another MRI. As I had long expected—after weeks of follow-up neurological studies, blood tests, and second opinions—the potential diagnosis of multiple sclerosis was thrown out. My spinal cord lesion had vanished as quickly as it had arrived, chalked up to—as my neurologist put it—"an autoimmune response to pesticide exposure."

Back home, I threw away all our conventional cleaning products and purchased all-natural cleaners from the health-food market. I canceled our quarterly outdoor pesticide treatment against ants. I bought essential-oil bug spray for summertime mosquitoes. I returned to working on the book I wanted to write and the new life I wanted to create for myself.

And I could have left it at that: gratitude, a new beginning, a renewed commitment to health.

But I wanted to know what could be done to prevent an incident like mine—or something far worse—from happening to other people, especially in light of recent reports of bedbug infestations and the resulting hysteria that are sweeping the nation.

At the most basic level, consumers must receive more information about the pesticides being used in their homes. And they need regulatory backup protection.

More Information

If the company applying the flea spray in our home had been required by state or federal law, or a groundswell of consumer demand, to inform me about what the pesticide label said—that is, if the company had handed me a sheet of paper with the label information, or read me the label aloud like Miranda rights—I would have taken precautions to prevent my unnecessary exposure to the aerosol spray. I would have put away the apples and tomatoes, covered the cutting board and dishes, stowed my toothbrush, and, later, opened the windows and set up fans.

Similarly, if, before treating my

house, the company applying the pesticide had been required to provide me with the EPA's very informative and well-written booklet, *Citizen's Guide to Pest Control and Pesticide Safety* (http://www.epa.gov/oppfead1/Publications/Cit_Guide/citguide.pdf)—just as renovation and painting contractors, home sellers, and landlords are required by law to give occupants certain brochures about the hazards of lead-based paint—I might have been encouraged to evaluate less toxic alternatives, ask to see the pesticide label, adequately ventilate my home, and call the appropriate phone numbers to report problems. I might have done the same if the EPA's little-known "Read the Label First!" campaign were revived and more broadly promoted.

If the label information, which is regulated by the EPA, provided directions for how to contact my state pesticide regulatory agency to report misuse, I would have called that phone number soon after my problems surfaced, and the agency would have sent an investigator to my house to collect evidence—like a crime-scene investigation—and conduct other research to determine if the company applying the pesticide had broken any laws. Finding pesticide residues on a food preparation surface or on a cat's water bowl "would hang an applicator," one investigator told me. Not obeying the label is a violation of federal law, and in my state of Virginia, the company could be fined up to $5,000, which could motivate it to train its technicians better and provide homeowners with more information.

Better Laws

But basic problems in the federal pesticide regulatory system make me wonder whether I'd be able to trust the label even if the application had been performed correctly. It seems what's really needed to guard against the inherent risk of chemicals designed to kill things is an overhaul in the way pesticide products are regulated, to address the "weaknesses, loopholes, and flaws," as one Natural Resources Defense Council scientist puts it, in the current system.

Specifically, Congress and other policy makers must reform the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1947, which addresses how pesticides are distributed, sold, and used, as well as the EPA regulations designed to implement the act. For example, when chemical manufacturers conduct mandatory safety studies for the EPA's review before their products are allowed on the market, they should be required to test the *combined* effects of multiple pesticides and the effects of the *combination* of pesticides with all of the other common chemicals that people are exposed to each day, such as plastics and drugs. Although pesticide manufacturers are already required to conduct many different types of tests, testing the synergistic and additive effects of mixtures aren't among them.

In addition, manufacturers should be required to tell the EPA and consumers what the "inert" or "other" ingredients are that can make up 95 percent of a pesticide product—some of which can be even more toxic than the active ingredients. These other ingredients, of which there are hundreds, are considered trade secrets. The EPA must be able to assess their safety as well as that of the active ingredients, and consumers have a right to know exactly what they are being exposed to and what the risks are. Reforming the Federal Insecticide, Fungicide, and Rodenticide Act, as well as the Toxic Substances Control Act of 1976, could solve this problem.

Equally important, the federal pesticide law or the EPA must better define what kinds of detrimental effects are unreasonable for people to suffer. Currently, the law requires the EPA to allow pesticides on the market if they will perform their intended function without "unreasonable adverse effects" to human health or the environment, when used according to label instructions. But the law never defines "unreasonable." It says only that to determine "unreasonable risk," the EPA must take into account "the economic, social, and environmental costs and benefits."

In deciding whether to allow a pesticide on the market—or, in other words, whether the risk is reasonable—the EPA conducts risk assessments—which include examining toxicity levels and the manufacturers' safety studies, reviewing potential hazards, and determining how people could be exposed—to determine the likelihood of harm. Then the agency comes up with ways to try to offset the risks, such as requiring certain label instructions or determining, say, that a given pesticide is too risky to be used in the home but may still be used on crops.

The law never requires the EPA to assess whether any alternative, or "green," products could achieve the same results with less risk, but it should. The federal pesticide law should be revamped to require an assessment of alternatives as part of the pesticide approval process, eventually restricting certain chemicals as safer approaches and technologies become available. This idea represents a brand-new way of thinking for policy makers, but it is time for the outdated regulatory approach to pesticides to move into the future. Selling organic produce at the retail level, once a radical idea, is now mainstream. Similarly, we need to change the way homeowners and others think about pest control and the use of chemicals in the environment.

Don't Trust The System

My decision to use a conventional chemical pesticide in my home was a moment of weakness, a test of blind faith in a system that was supposed to protect me from harm. No one knows why I was affected and others in my household weren't, but, thankfully, my own body rescued me from the error of my ways. I am completely recovered.

The human desire for quick, no-fuss ways to get rid of bugs will never fade, however. The current national frenzy over bedbugs surely confirms that. Some states are even requesting that the EPA bring back chemicals that have long been banned for use—substances that aren't even designed to kill bedbugs—to try to get rid of the critters. Without additional protections and policy changes, unwary consumers will continue to turn to chemical products they assume are safe, given their starry-eyed, misplaced trust in the system. They will find that they are protected from bugs but not from harm. ■

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