

Chemical Trespass

Poison from above falls on rural Oregon

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When a helicopter flies over Cedar Valley, residents tend to assume it's searching for illegal pot operations in the nearby forest. That's what Curry County neighbors John Burns and Kathryn Rickard thought when they heard the blades whirring over their rural homes. They didn't think the helicopter flying overhead would be raining toxic chemicals upon their homes, their farms and their bodies.

Rickard was inside studying when she heard the chopper. Shortly after, she walked out on her deck to give her eyes a break from her computer screen, and "instantly, I was not feeling good." She smelled something heavy and oily, she says. Her chest hurt. She went back inside and tried to continue with her work. She got tired, had a severe headache and felt nauseous with a burning nose and throat. Her husband, Eric, came home and worked outside beneath the deck for a while and then he too came inside and complained of feeling sick. The family's dogs, which had been outside during the spray, were eating grass and vomiting and wouldn't eat dinner.

It took a couple days for Burns, Rickard and other neighbors to realize they were all sickened by what had fallen from the helicopter, which was spraying pesticides on private forests surrounding Cedar Valley. Eric Rickard's vision was affected. Kathryn Rickard now needs surgery for a chronic sinus infection that started after the exposure. One of her dogs is now dying, she says. She went to the county health clinic and was told to call the Oregon Department of Agriculture (ODA). Soon she and other Curry County residents found themselves down a rabbit hole of government agencies and given no information on what they were sprayed with or how to stop it from happening again.

More than 30 people in Curry County say they got sick from pesticides from a helicopter that was spraying private timberlands on Oct. 16. Aerial timber sprays in Oregon use a variety of pesticides mixed together in a toxic soup, and it's unclear what the consequences of that mixing are on humans. It's taken five months to finally find out what the chemicals were that hit them. Even more frustrating for the people of Cedar Valley, and all around rural Oregon, is that residents don't know exactly when a spray will happen or what chemicals will actually be in the spray. While aerially sprayed toxics are not supposed to hit their homes and farms, there is no buffer to protect them and only small buffers for some streams.

Toxic Soup

While the ODA testing says that the toxics were found at relatively low levels in Cedar Valley, Lisa Arkin, executive director of Beyond Toxics, says what isn't taken into account is the synergy of these mixed chemicals. It's known that the effects of pesticides can be cumulative — some pesticide labels recommend the chemical be sprayed only once or twice a year to prevent too much of the chemical from building up. But pesticides can also have synergistic effects, and how this impacts human health has not been well studied. In other words, while an individual chemical might not pose a health risk, the way that a pesticide interacts with other pesticides and ingredients in the "tank mix" sprayed from a helicopter could increase the effects of those chemicals, even at low levels.



John Burns says, "Each one of the herbicides by brand name and application is tolerable if applied by label laws, but the problem is when you mix two or three together and add the adjuvants. I know one of them is a crop oil." Adjuvants are substances that are added to a spray tank or pesticide mixture to modify it. Surfactant adjuvants reduce surface tension in the droplets so the pesticides can disperse more easily. Activator adjuvants can increase the toxic's ability to penetrate plant tissue. Crop oil is a petroleum-based

product added to increase the effectiveness of the pesticide. Some pesticide labels suggest simply mixing in a couple gallons of diesel fuel.

Mike Odenthal, pesticide investigator with ODA, said in an April 8 conference call on the results of the Curry County investigation that “Many times manufacturers test mix different products together” in order to assess their efficacy for target plants and for the safety of plants you are not trying to kill. In most forestry sprays, the goal is to kill leafy trees and shrubs such as pin oak and not affect the conifers that are being grown for timber.

Odenthal says that very little in the way of toxicology studies on tank mixes have been done as far as health goes. He adds, “Some of that study is beginning to take place but not much.”

The few studies done on mixing pesticides give pause. One 2008 study on how pesticides affect endangered Pacific salmon showed that several combinations of organophosphate pesticides “were lethal at concentrations that were sublethal in single-chemical trials.” According to the Northwest Fisheries Science Center, “This deadly synergy made those particular pesticide combinations more harmful than the sum of their parts.”

According to Odenthal, ODA did not test the water in the area affected by the sprays because “usually an application does not impact a deep water well quickly, nor do we have authority to look at that or enforce it.” He says ODA doesn’t like to sample running water because by the time the agency gets there, it’s gone. Instead, he says, they test nearby plants that hang over the waterway.



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The chemicals triclopyr and 2,4-D were found on John Burn’s apple trees. The ODA also tested for glyphosate, imazapyr, metsulfuron-methyl and sulfometuron-methyl, but found them at levels less than 10 parts per billion, according to test results that were released to the homeowners on April 4. The documents say those test results came in on Nov. 26. ODA says there is also possibly one more unknown chemical that was sprayed as well.

According to ODA’s investigation, what is certain is that pesticide products fell on properties “other than the intended site.” Tests showed the chemicals on properties along the route that the pesticide-filled helicopter flew over eight times, three of them with a full load of chemicals. ODA says the pesticides on the properties did not come from pesticide drift but can’t say how they got there.

Rickard points out that the testing wasn’t done until days after the spray, and she questions why it took so long to get the test results. Residents were originally told only glyphosate (Roundup) was sprayed based on what the applicator, Steve Owen of Pacific Air

Research, told investigators. According to ODA, the delay in providing information was related to making sure nothing compromised the investigation and because Owen was not forthcoming with accurate information. Katy Coba, ODA’s executive director, says that Owen was “not cooperative” and “provided false information.” Owen has not been responding to media inquiries.

Rickard questions how a doctor is supposed to treat someone for a chemical exposure when no one will tell you what you got sprayed with. Burns and other Cedar Valley area residents want to know as well. One horse has gone blind in one eye, another lost hundreds of pounds. Children are having nosebleeds, Burns says, and so is his wife, Barb Burns, a retired emergency room nurse. She says her nose bled for 45 minutes. “It’s not a money thing,” Barb Burns says of her pursuit of the spray issue. “We are into it to change the laws so they will stop doing this.” She adds, “We understand that they feel they have to spray, but not where people live and not in our drinking water.”

According to Coba, veterinarians and health officials do have access to the records of what was supposed to be sprayed, but she says that one of the lessons from the investigation was the need to make that clear to health professionals and residents alike. Arkin points out that what a spray notice says might be sprayed is not necessarily what is sprayed. In the situation with Owen, the problem was compounded by his failure to give correct information on what he used.

According to Nick Hennemenn of the Oregon Department of Forestry (ODF), aerial spraying in Oregon is a three-part system. The

Environmental Protection Agency (EPA) approves pesticides and labels them for specific use. Oregon requires the pesticides to be registered with the ODA, which licenses application and enforces pesticide control laws. ODF requires a notification of what will be possibly be sprayed.

Rural residents have long criticized the ODF notification system: It's done on paper, the time frame of when a spray will happen ranges from a couple months to as long as a year, and in some cases, with a waiver, the notification can be as short as 15 days. According to ODF, "They are obligated to put in a start or end date; we don't have any way of forcing them to tell us a specific day or month."

Arkin says that the Oregon Forest Practices Act, which governs private forests, does not provide a process for public or agency review of pesticide application plans, allows application records to remain private, and permits the private records to be destroyed after three years. After the recent public ruling from the state attorney general on the Curry County case, it appears those records might now be public records.

Rickard says she's from a third-generation logging family and worked on logging shows herself. She's been a choker setter and dug fire trail. She says, "I don't want to vilify the timber companies because it's very important to our economy." But it's only private lands that get aerially sprayed — the federal government hasn't done it in 20 years, she points out, calling aerial sprays the "lazy man's way" of doing it.

When answers were not forthcoming from government agencies, the frustrated rural residents turned to Eugene-based Beyond Toxics. The groups teamed up and began filing petitions — to the Centers for Disease Control, to the EPA — and getting media attention and even the support of members of Congress. Beyond Toxics filed public records requests and appealed them to the state attorney general, and still the months dragged on. And while the people of Cedar Valley now know what hit them, they also worry about how to keep it from happening again and what the long-term effects are of what is essentially a chemical soup.

This is chemical trespass, Burns says. "No one has the right to come over my property and me, and drop poison on me or anybody else."

Burns says he doesn't think this incident would have happened in other states where the mix of chemicals would have been monitored and there are larger buffers to protect homes and waterways. While Oregon's 60-foot buffers for aerial sprays are supposed to protect fishbearing streams, there are no buffers for people. Washington protects its waterways better — it requires buffers of 100 to 150 feet for fishbearing streams as well as buffers along non-fishbearing or intermittent streams.

"We are so far behind other states" when it comes to laws on aerial sprays, Burns says. "We're driving a Model T, and they are driving Ferraris."

Investigations

Coba of ODA says the Curry County investigation is the toughest she has encountered. For Arkin, the investigation is remarkable in that it actually found any wrongdoing.

However, ODA is not saying the helicopter spray led to the illnesses. Coba says, "We have no ability to say how sick they were or what caused their illness."

Arkin says, "Beyond Toxics has been organizing rural residents for six or seven years now and taking their calls when they have been sprayed. In almost all cases except for one, ODA has come back with a negative finding after people have experienced property loss and illness."

One case in point is Triangle Lake on Highway 36 west of Eugene. Rural dwellers there have complained for years of illnesses from toxic sprays on nearby private timberlands. In 2010, the residents asked scientist Dana Barr, an expert in environmental toxicant exposures who spent more than 20 years at the Centers for Disease Control, to test their urine. She found that all of the residents had measurable levels of 2,4-D and metabolites of the herbicide atrazine in their urine.

Atrazine is an endocrine disruptor, according to Rosemarie Fiorillo, an attorney with a background in studying pesticides such as atrazine. She worked on a case in Illinois where her firm represented a community water system, which had to filter atrazine out of the drinking water, in state and federal court. They sued Syngenta, which manufactures atrazine, for the costs of filtering the water and settled for \$105 million.

Atrazine has also been shown in lab tests by scientist Tryone Hays to “feminize” frogs — basically turn them into males with uteruses. Atrazine and other endocrine disruptors are also believed to be linked to hypospadias, a condition in which the urethra is not located at the tip of the penis. Fiorillo says she is working on another case in alleging that atrazine has caused hypospadias in a boy from Illinois.

One of the chemicals that was found in the Curry County case, 2,4-D, is possibly also linked to endocrine disruption. According to a 2,4-D technical factsheet from the National Pesticide Information Center, “Because 2,4-D has demonstrated toxic effects on the thyroid and gonads following exposure, there is concern over potential endocrine-disrupting effects.”

Fiorillo says that in order to pursue a case, “the first thing one would have to establish is exposure.” In the case of Triangle Lake, the urinary metabolite testing proves exposure. Barr’s testing results have led to a state and federal investigation at Triangle Lake. The Triangle Lake/Highway 36 Exposure Investigation, as it is called, is slowgoing. Triangle Lake resident Eron King says, “Not much has happened.” She says she was told the Oregon Health Authority is putting out the final public health assessment very soon and “to me that marks the end of the investigation.” She asks, “What came of it? A whole lot of hot air, as people just talked about it, with little help to remedy the situation.”

One result of the investigation is that EPA will be putting up air samplers in the area to test for pesticide drift.

Burns, who is an assistant fire chief in Cedar Valley and was sickened by the spray, says the issue is not with the timber industry, noting that “we need that economy in our state.” The problem, he says, is the way they do the spraying.

“This happens all over the state. Nine other counties including ours have had problems with this.” Burns says that there needs to be more regulations and monitoring, and it needs to be done properly.

“Our civil and constitutional rights have been violated.”

According to ODA, there are monetary penalties on the state and federal levels for violations in pesticide sprays that the applicator may face. Despite the current findings, the law allows the applicator to keep spraying.

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