CHEMICAL TRESPASS

ILLUSTRATION BY JOSEPH HARMON

Poison from above falls on rural Oregon

BY CAMILLA MORTENSEN

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 Kathyrn 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. Kathyrn 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.

Chemical Trespass

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 on Nov. 26. ODA says there is also possibly one more unknown