Each summer as the grapes clinging to their vines turn the purple of a deep bruise, Juan Rios feels like he is being poisoned. His head aches, he feels dizzy and nauseous, and his nose won’t stop running. A farmworker who moved to this agricultural valley from Mexico, Rios sprays pesticides at a winery from 3 am to 3:30 pm, five days a week. The pesticides protect the grapes from insects, but Rios suspects that these chemicals are making him sick.

"I remember the first time I worked with the pesticides, I was wearing a full mask while we were spraying, but my nose, it wouldn't stop bleeding. I was worried," says Rios, 39, sitting beneath a portrait of Cesar Chavez and a Mexican flag that hang proudly here in the United Farm Workers union local. "I went to the doctor but he didn’t do anything; he just told me to stop working with the pesticides."

For a while he worked in the fields picking instead, but he soon returned to his old job. As a pesticide handler at a unionized winery, Rios, the father of two young girls, makes $10 an hour, $3 more than the average Washington farmworker who picks asparagus or thins apples. Plus, he says with a shrug, as long as he works in agriculture, he is exposed to the chemicals. "I know that the only way things will change is if I stop working in the fields," says Rios, "but agriculture is a huge force here--there really are no other options." Rios is not alone. As many as 300,000 farmworkers are injured annually by pesticides, and of these as many as 1,000 die, according to the most recent available estimate from the Bureau of Labor Statistics.

While relatively little has been done to study the long-term effects of pesticides, the research that does exist suggests that farmworkers and their children are vulnerable to a painful array of illnesses. California farmworkers have elevated levels of leukemia and stomach, uterine and brain cancer, according to a study published by the American Journal of Industrial Medicine in 2001. Four-to-five-year-old children in Mexico who were exposed to pesticides suffer giant lags in development--they had more trouble catching a ball, drawing pictures of people or performing simple tasks involving memory and neuromuscular skills, according to research by Elizabeth Guillette, now a University of Florida anthropologist. Other studies link pesticide exposure to infertility, neurological disorders and birth defects.

But most farmworkers have few options for other employment. The vast majority are recent, non-English speaking immigrants. Since more than half are undocumented, and a slim slice are unionized, relatively few complain to state or federal agencies for fear of losing their job or being deported, according to a 2000 General Accounting Office report. Furthermore, many such workers are more concerned with such immediate problems as finding adequate housing, feeding their families and providing health insurance and education for their children.

Even if they were speaking up about pesticide exposure, fighting for protection is an uphill battle. In 1939 there were thirty-two pesticide products registered in the United States; there are now more than 20,000, and farmers use an estimated 1.2 billion pounds of pesticides annually. This industry is big business with large political clout: Agricultural chemical companies made more than $1.6 million in campaign contributions in 2001-02. The average farmworker made $8,750 in 1999-2000.

This disparity of wealth and power helps explain why the federal government has long ignored the plight of farmworkers, creating what has been called one of the more shameful environmental- health stories in this country’s history. "Despite the fact that farmworkers do extremely hard work and conduct utterly essential tasks, they are the most ignored, exploited and vulnerable population in this country. Their health needs are entirely subordinated by the government’s need to make money for big companies," says Shelley Davis, co-executive director of the Farmworker Justice Fund, a Washington, DC-based nonprofit. "When you compare the political power of industry with the power of farmworkers there’s no contest."

The waiting room at the Yakima Valley Farm Workers Clinic in Toppenish, Washington, is packed with dark-haired children who spill out of chairs to play on the floor, young men reading Spanish-only newspapers next to an old woman adorned with dark Jackie O. sunglasses and a fuchsia scarf around her head. Everyone wears the same tired and impatient look reserved for hospital waiting rooms. In a back hall of the three-building complex, past a series of bilingual signs, Dr. Paul Monahan talks about the challenges of diagnosing and treating pesticide poisoning.

The symptoms are vague. Most farmworkers aren’t told what chemicals they are exposed to, or about the long-term health effects.
That means nine out of ten sick farmworkers won't even mention pesticide exposure as a concern, says Monahan, an internist for more than thirty years at the clinic. Furthermore, the medical community and the government have done a poor job of studying the problem. "There's not much in the textbooks about pesticide exposure in farmworkers; it's not in the medical journals, and there are no diagnostic tests. Few people are studying this because there's not a lot of money in it. If you were going to give a lecture on the world of pesticides, there would be a lot of blank slides," he says. "It's the perfect Catch-22: If you can't find it, it must not be there."

In fact, he says, pesticide poisoning is a big problem--pesticides are the only things besides war gases that we intentionally put into the environment to harm things--but because of regulatory failures, exposure continues unabated. When the EPA registers new pesticide products it balances safety and health concerns with economics. Yet without the studies that determine cancer and other risks, critics say, the assessment easily errs on the side of economics. Plus, in the past several years, the Agricultural Re-entry Task Force, a group formed by chemical companies, developed new methodologies for determining the health risks. Even though these methodologies, which systematically underestimate the amount of worker exposure, were not vetted by the EPA's scientific advisory panel, and a panel of scientists selected and paid by industry conducted the peer review, the EPA has begun to use them to evaluate risks.

"This process allows industry more control than usual," says Richard Fenske, a professor of health sciences at the University of Washington who served on the industry panel. "It's a mixture of science and politics."

---

**About Rebecca Clarren**

Rebecca Clarren is a freelance writer living in Portland, Oregon. She is a 2009 Alicia Patterson Fellow. *(more...)*