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[STRATHMORE, Calif.](#) — On Grandparents Day, Domitila Lemus accompanied her 8-year-old granddaughter to school. As the girls lined up behind Sunnyside Union Elementary, a foul mist drifted onto the playground from the adjacent orange groves, witnesses say.

Lemus started coughing, and two children collapsed in spasms, vomiting on the blacktop.

She and the little girls have since recovered without apparent lasting effects.



Gary Kazanjian / AP

Domitila Lemus, left, and her granddaughter Ashley are shown in front of Sunnyside Union Elementary School in Strathmore, Calif. When foul clouds wafted onto the playground from the adjacent orange groves in November, two children collapsed in spasm, vomiting on the blacktop.

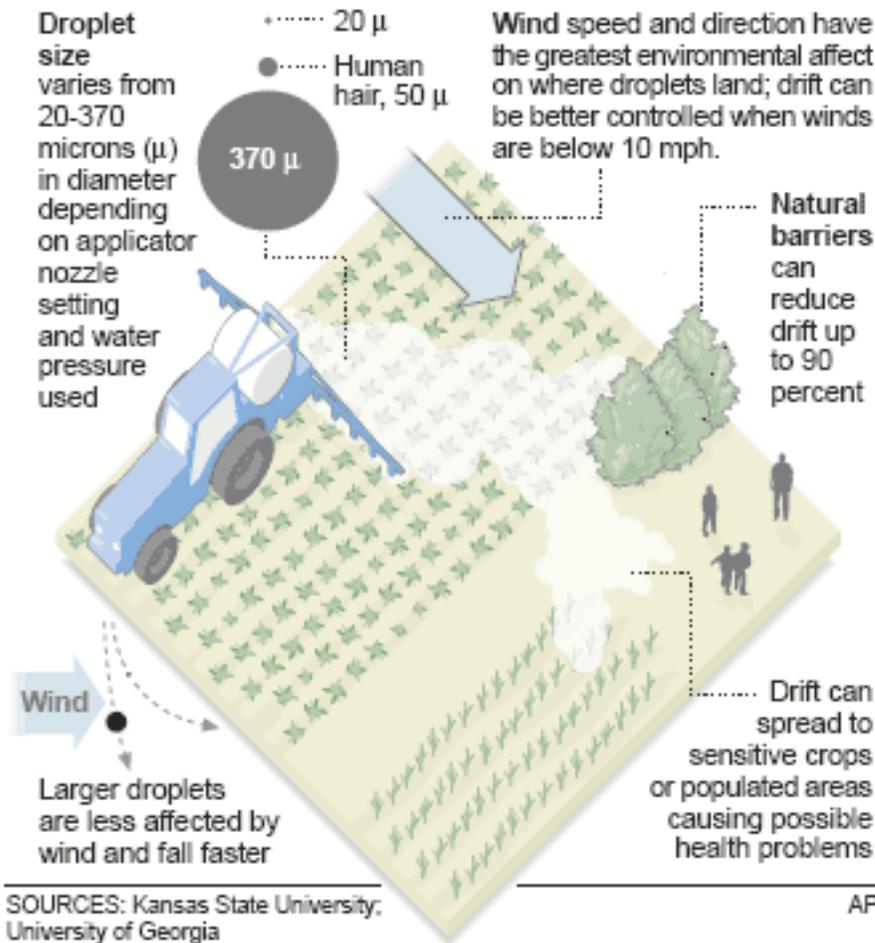
But an Associated Press investigation has found that over the past decade, hundreds, possibly thousands, of schoolchildren in California and other agricultural states have been exposed to farm chemicals linked to sickness, brain damage and birth defects. The family of at least one California teenager suspects pesticides caused her death.

There are no federal laws specifically against spraying near schools, and activists say California and the seven other states that have laws or policies creating buffer zones around schools to protect them from pesticides don't do enough to enforce them.

“The regulations are inadequate. In the vast majority of cases, people who didn’t follow the laws received at best a \$400 fine,” said Margaret Reeves, a scientist with the Pesticide Action Network, a nonprofit organization based in San Francisco.

Drifting pesticides can pose health risks

Chemicals sprayed on crops to manage pests and weeds can drift up to miles away from their intended targets causing possible health threats and damage to other crops.



The pesticide industry says it is committed to safety, and regulators say they are doing their best to enforce the laws.

“Everyone wants to protect children,” said California Department of Pesticide Regulation spokesman Glenn Brank. He said his agency is doing what it can to enforce the law with a shortage of agricultural inspectors.

In the Strathmore incident last November, grandparents said the spraying was being done less than 150 feet from the children. Tulare County authorities fined an unlicensed pest removal company \$1,100 for spraying a restricted weed killer that morning. But no action was taken over what witnesses said happened to the children.

Because no one reported the incident as a case of pesticide drift, county agricultural inspectors never swabbed the jungle gym or took grass samples, making it impossible to establish whether pesticide had, in fact, drifted onto the playground.

The Environmental Protection Agency does not keep comprehensive national figures on students and teachers sickened by drifting pesticide.

In California, the No. 1 farm states and the one with the best records, there were 590 pesticide-related illnesses at schools from 1996 to 2005, according to figures given to the AP by the state. More than a third of those were due to pesticide drift, the figures show. Activists say that those numbers are low and that many cases are never even reported.

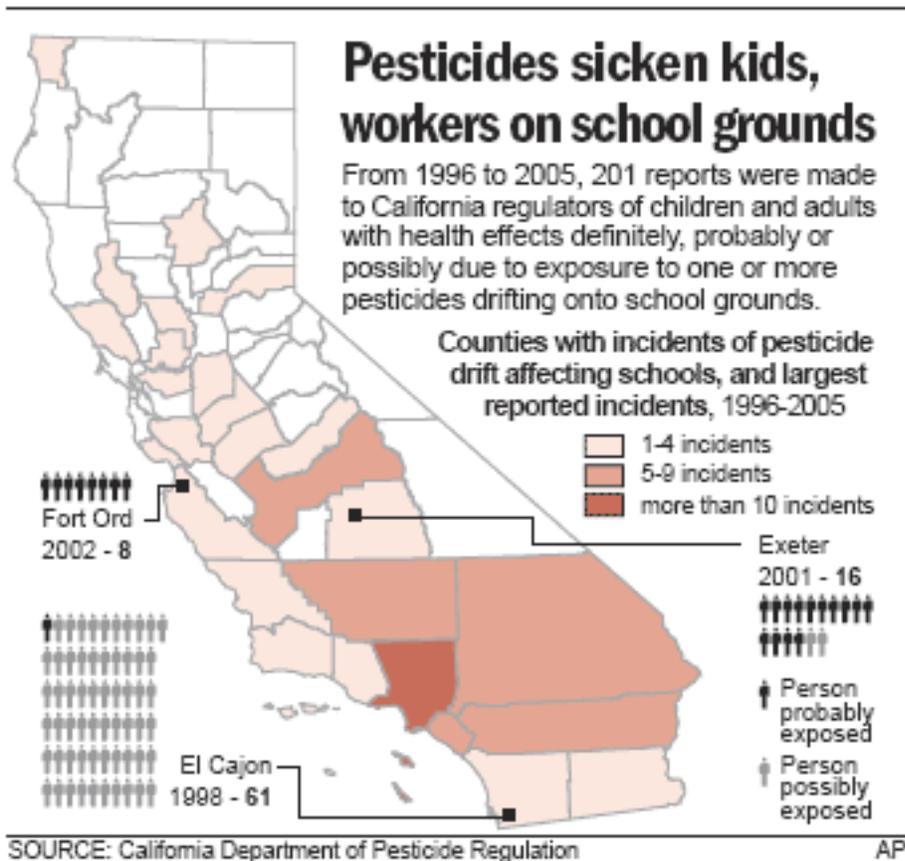
In California's long, flat interior, spraying season lasts seven months, from March through September. When citrus trees blossom and grapevines climb trellises, Lemus prays to the Virgin Mary that her granddaughter won't come home with her eyes watering and head pounding, unable to breathe.

Tulare County, where she lives, is one of the nation's most fertile farm regions, with more than half the schools within a quarter-mile of agricultural fields, according to the nonprofit Center on Race, Poverty and the Environment.

As suburbs push close to farmland, the rate of pesticide poisoning among children nationwide has risen in recent years, according to a 2005 study in the Journal of the American Medical Association. The study found that 40 percent of all children sickened by pesticides at school were victims of drift — pesticide carried on the breeze.

Research on pregnant women exposed to common pesticides has suggested higher rates of premature birth, and poor neurological development and smaller head circumferences among their babies.

The effects on children of small, repeated exposures over a long period of time are unclear, said University of California, Berkeley epidemiologist Brenda Eskenazi.



But acute pesticide poisoning can cause nausea, blurred vision, an abnormally fast heart rate, paralysis and death.

Chrissy Garavito, a 15-year-old high school sophomore, died in Fontana in 1997 of a heart rhythm disturbance her mother believes was triggered by exposure to chemicals sprayed at the school. Authorities never confirmed that pesticides contributed to her death.

‘She was in a stupor’

In 2001, pesticide poisoning nearly killed Elena Dominguez, then a sixth-grader in Wenatchee, Wash.

One day, after playing Frisbee during gym class across the street from an apple orchard, she passed out at her desk.

“She was in a stupor,” said her mother, Cindy Dominguez. “She couldn’t talk, her eyes were rolling back in her head.”

Emergency-room doctors dismissed Elena’s abnormally fast heart rate as a symptom of dehydration, gave her intravenous fluids and sent her home. Three weeks later, it happened again.

“I was at a track meet and all of a sudden I felt really, really tired,” said Elena, now 18. “I made it to the finish line and just fell over.”

Investigators found her clothes were soaked in the pesticide Endosulfan I; it had been picked up from residue on the grass and absorbed into her bloodstream through her skin. Officials later found five other pesticides on school grounds and fined the apple grower for forging his applicator's license.

The Dominguez family sued the orchard owner and the Wenatchee school district, which established rules requiring students to stay inside after a spraying, among other things. State officials believe it is the only district in Washington with such limitations.

But keeping students inside may not be enough. Two years ago, 600 students and staff members were evacuated from an Edinburg, Texas, elementary school after pesticides drifted from a cotton field into the school's air conditioning system. Thirty-nine people developed nausea and headaches.

EPA officials say they have no real idea how often pesticides waft onto school grounds. The EPA must register pesticides before they are sold, but federal law does not restrict where they can be sprayed.

"We implement the laws that Congress gives us," said Ruth Allen, an EPA epidemiologist.

Once the EPA approves a product, federal law requires manufacturers to report any "unreasonable adverse effects on the environment of the pesticide" that their products cause. Activists say industry is essentially allowed to police itself.

CropLife America, a national organization representing suppliers of farm pesticides, said their use near schools is well-regulated.

"We're really committed to public safety," said spokeswoman Donna Uchida. "Any kind of use of a pesticide has a labeling requirement that is imposed to protect human health and the environment."

California has some of the strictest pesticide laws in the nation. Under state law, growers and pest control companies can be fined if pesticide drifts from a field and sickens people.

A 2002 state law allows county authorities to establish a no-spray buffer zone of a quarter-mile around schools. But Tulare County has not done so. State officials said they did not know how many counties have set up such buffer zones.

Lemus and environmentalists are pushing for pesticide-free zones throughout California.

"Why don't they tell us they'll spray beforehand so we can bring our children inside?" Lemus said.

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