

Contaminated Wells, Odor Problems Sometimes Result from Exterminator Treatments

RICHFIELD—Tommy and Robin Rogers weren't surprised when they smelled a strong chemical odor around their home after a trip to the beach last spring. After all, an exterminator had treated their house for termites the week before. They were surprised, however, when they drank some water from their faucets.

"We could smell it in the water almost immediately," says Tommy Rogers, who lives about five miles outside the town of Richfield in Stanly County. It was a sweet, sickly smell. I thought, 'Surely, it's not in our water.'"

The next day, they called the county health department, which took water samples from the well. But the Rogers family kept on using their water—until they heard from a state investigator one month later. "He said, 'Do not drink any of that water,'" says Robin Rogers, Tommy's wife. "He scared me to death."

Tests had detected unsafe levels of a pesticide in their well water. The pesticide was a product called Dursban (chlorpyrifos), the same chemical the exterminator used to treat their home. As a result, the state Division of Environmental Management sent a notice of violation to the exterminator, Paul Clinton Miller Jr. of Love Bug Exterminating Co. in Mount Pleasant. Miller says he did everything by the book when treating the Rogers' home.

"What bothers me the most is it's still unclear to me how it happened," Miller says. "Our closest application was about 52 feet from the well." Rogers, as well, doesn't blame the exterminator for the problems. He says the problem probably was caused by the construction of his well, which is 305 feet deep but is cased only for the top 42 feet. A cased well is lined and sealed to prevent contaminants from entering it. "I was here when he did the application," Rogers says. "He was very thorough. As far as I can tell, everything was done according to the regulations."

State records show that exterminators have the second-highest violation rate among the various types of pesticide applicators. (For a detailed discussion of violations by applicator types, see the article, "Enforcement of Pesticide Regulations in North Carolina," on pp. 32-60.) But officials with the N.C. Department of Agriculture, which regulates exterminators, say that such well contamination incidents are unusual. Preliminary results from a statewide groundwater monitoring program have detected pesticide contamination in about 6 percent of 97 wells tested so far. (For more details, see the article, "Pesticide Taints Neighborhood's Drinking Water," on pp. 11-13.)

The most common problem with structural pest control applications, agriculture officials say, is extermina-

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—TOMMY ROGERS OF RICHFIELD,
HOMEOWNER WITH WELL
CONTAMINATED BY PESTICIDE



Myron Dowell

Tommy Rogers and his daughter stand next to his well, which was contaminated by a pesticide used to treat his home for termites.

tors who don't apply enough pesticides to kill termites and other insects that can destroy homes. But officials in the state Department of Environment, Health, and Natural Resources have a different perspective. They have investigated a number of cases where structural pest applications have caused serious problems—ranging from noxious fumes to contaminated wells. At a minimum, such problems can inconvenience homeowners, temporarily forcing them to leave their homes or stop drinking their water. In more serious cases, exposures to toxic pest control chemicals can pose potential health hazards, such as breathing problems and nerve damage.

In one case, Kevin Long of Garner says an exterminator mistakenly drilled through the foundation of his home, soaking the basement walls with pesticide. The fumes were so bad that his family had to move out of the house for a week. "It was pretty rough," he says. "We got open sores in our mouths and on our faces and lips." But the family apparently has suffered no lasting health problems, Long says, and the company replaced all of

the wallboard in his basement.

State health officials say the most common problem they encounter with exterminators is the contamination of private wells by pesticides used to control termites and other structural pests. "This is an underestimated problem," says Dr. Ken Rudo, a toxicologist with the state Division of Epidemiology. "I've seen this happen a couple of dozen times over the past few years. And these are just the cases we know about. There could be hundreds of other cases we never hear about."

Many of those wells are tainted by chlordane, Rudo says, even though the U.S. Environmental Protection Agency has banned the chemical since 1988. "We see chlordane at low concentrations in wells all the time," he says. "In the old days, that was the chemical of choice for most exterminators." Dursban, the chemical most often used by exterminators as a replacement for chlordane, also has begun showing up in wells, Rudo says. Such contamination, he says, can show up soon after exterminators treat homes for termites

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Contaminated

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or other pests.

"I've seen it happen in a day," Rudo says. "We saw one woman whose well water literally turned white from the Dursban. It was present in a concentration of about 25 parts per million. You could taste it. The smell was very noticeable."

Tommy and Robin Rogers were relatively lucky. They noticed their contamination soon after it occurred, and the levels of Dursban in their well were not dangerously high. The exterminator also offered to supply the family with bottled water after the contamination was detected, Rogers says. Plus, he treated their well by pumping it out and adding chlorine—which is supposed to neutralize the pesticide—at no cost. Subsequent tests have detected no more of the pesticide.

"Our well, as far as I know, is now clean," Rogers says. "But I am curious as to how it happened and why. And I wonder if it could happen again with something else." The experience also has left Rogers more wary. "I think awareness is the key to it," he says. "Anytime I have something sprayed, especially to the foundation or the soil, I would get the water tested. If it hadn't been for the smell, we'd still be drinking it."

Miller, the exterminator, says it was fortunate that he treated the Rogers' house with Dursban because it can be sensed at minute concentrations—an attribute not shared by other termiticides. "Dursban has such a strong odor that you can smell it or taste it down to 10 parts per billion," he says. "These other products do not have any odor or taste. That's what scares me."

—Tom Mather

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—DR. KEN RUDO, TOXICOLOGIST
N.C. DIVISION OF EPIDEMIOLOGY

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¹⁴ *Ibid.*; also see Ware, note 2 above, pp. 17–19; and National Research Council, *Pesticides in the Diets of Infants and Children*, National Academy Press: Washington, D.C., 1993, pp. 1 & 13.

¹⁵ Ware, note 2 above, p. 19.

¹⁶ See Pimentel, note 10 above, p. 403.

¹⁷ *Ibid.*

¹⁸ Carson, note 1 above, pp. 7–8.

¹⁹ U.S. Environmental Protection Agency, "Unfinished Business: A Comparative Assessment of Environmental Problems," Office of Policy Analysis, February 1987, pp. 84–86.

²⁰ See Pimentel, note 7 above, p. 759.

²¹ See Eugene P. Odum, *Fundamentals of Ecology*, W.B. Saunders Co.: Philadelphia, Pa., 1971, pp. 74–75.

²² See Jim Dean, "Un-Endangered Wildlife," *Wildlife in North Carolina*, Vol. 55, No. 3 (March 1991), p. 36.

²³ For an alternative view on DDT and its effects, see Dixy Lee Ray and Lou Guzzo, *Trashing the Planet*, Regnery Gateway: Washington, D.C., 1990, pp. 68–77.

²⁴ According to the National Research Council, note 14 above, p. 228, wells provide drinking water to 53 percent of the total U.S. population and 97 percent of the rural population. Those percentages are essentially the same for North Carolina, according to the state Division of Environmental Health.

²⁵ See Elizabeth G. Nielson and Linda K. Lee, "The Magnitude and Costs of Groundwater Contamination from Agricultural Chemicals," U.S. Department of Agriculture, Economic Research Service, Report No. 576, October 1987.

²⁶ U.S. Environmental Protection Agency, *National Survey of Pesticides in Drinking Water Wells, Phase I Report*, Office of Pesticides and Toxic Substances, EPA 570/9-90-015, November 1990, Executive Summary, pp. vii–xv.

²⁷ As quoted by Stuart Leavenworth, "Study says some drinking water wells contaminated," *The News & Observer* (Raleigh, N.C.), Jan. 8, 1993, p. 1B.

²⁸ The Interagency Study of the Impact of Pesticide Use on Groundwater in North Carolina is being conducted jointly by the state Department of Agriculture and the Department of