

Pesticide Wars: When Agriculture and Public Health Collide

tompaine.com 1/29/2002

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Editor's Note: This is the second article in a series on pesticide poisoning in Florida. To view the first, on Omar Shafey, an epidemiologist who lost his job after blowing the whistle on the poisonings, [click here](#).

Kathy Rink was home going about her business one Saturday in mid-June 1997 when she got caught up in Florida's most recent war against a despised agricultural pest. Her life has not been the same since.

That sweltering afternoon, a woman in jeans, a long-sleeved flannel shirt, work boots, gloves, a mask, and safety glasses appeared in the backyard of Rink's Sarasota home. Rink, a petite blonde with bright blue eyes and an earnest demeanor, says the woman was there to spray the fruit trees with malathion (an organophosphate insecticide and nerve toxin) as part of the battle to wipe out the Mediterranean fruit fly. Numerous medflies had been found in and around Tampa and were threatening Florida's \$21 billion horticulture industry.

Rink had seen the television announcements about the medfly campaign and went outside to ask the woman what she was spraying. She says the woman described it as "a little bit of molasses syrup mixed with a tiny, tiny bit of pesticide." Despite the fact that Rink was out there in shorts, the woman didn't stop. She sprayed Rink directly on the leg.

Rink says she went inside and started feeling dizzy almost immediately. She vaguely remembers sitting down and calling a friend but has no memory of the rest of the day, or even the exact date. Later that evening, her youngest son Adam, then 12, went out and climbed an orange tree in the backyard. Though neither Rink nor her son had any preexisting health complaints before that first exposure, both have had serious medical problems since.

Immediately after the spraying, Adam became very weak, wouldn't eat, and slept 12-18 hours a day for weeks. Rink says he also threw up every time sprayers returned that summer. After several visits and disturbing blood test results, his pediatrician didn't know what to make of his condition. So she set up an urgent appointment for them with a children's oncologist in Saint Petersburg.

The oncologist gave Adam another blood test and reviewed the results right then. Instead of sending them home, Rink says the doctor told them he needed to take bone marrow. "When I asked why, he said 'leukemia.' He told me to hang in there." Leukemia was ruled out, but the source of Adam's illness was never fully identified. Eventually he was diagnosed with elliptocytosis, a mild, hereditary form of anemia which could have made him more susceptible to the pesticide exposure. His health has improved, but he gets sick much more easily than before, and she worries about the long-term consequences.

Aside from memory loss, Rink herself developed numbness and tingling in her hands and feet, sensitivity to common household chemicals, and migraine headaches—some serious enough to land her in the emergency room.

The night I met her at an environmental scientist's home in Sarasota in July 2001, mosquito control trucks fogged the neighborhood with synthetic pyrethroids, a class of pesticides that disrupt the endocrine system and promote the growth of breast cancer cells in laboratory studies. Rink was concerned since she, like many people who have been previously poisoned by pesticides, report adverse health reactions to subsequent exposures. The next day she reported another debilitating cluster migraine. "Before I was sprayed, I didn't even know what a migraine was," she laments. "Now I have to take migraine medication just to function."

The Rinks were not the only people to get sick in the cross-fire of Florida's crusade against the medfly. One of the most tragic cases is Barbara McFarland, a former security guard at a Tampa car dealership.

McFarland, then 66, was making her rounds checking the cars, as she did each night, when she saw a very low flying plane approach and fly directly over, dousing her with "a whole face full" of the spray. McFarland finished her rounds but not before the plane came back and drenched her again. She started vomiting immediately and went home. A little later, she says she could barely breathe.

The next day McFarland tried to get to her doctor but had to return home because she was too weak to walk the length of the parking lot into his office. The following day she went back to the doctor with her husband and ended up in the hospital for seven days, where she was given inhalers and oxygen, which she still needs. Other than occasional asthma, McFarland didn't have any preexisting health complaints, but now she says the doctors tell her she will never get better.

The physical and financial dependence on others since the spraying incident has been particularly hard for McFarland. "I worked ten hours a night and took care of all my own housekeeping, and now I can't even sweep my floors," she sighs. "I do some cooking, but there are days I can't even do that."

Big Citrus

In 1997, the first year of what turned out to be a two-year outbreak, the Florida Department of Health was inundated with complaints from people reporting that the spraying had made them sick. The following year, department epidemiologist, Dr. Omar Shafey, confirmed 123 cases of pesticide poisoning from the medfly eradication program in 1998. Confirming poisonings is a tricky, time-consuming task, and most doctors aren't trained to do it. So it is likely that many more poisonings occurred that were not counted. More than a million people, mainly in the urban and suburban neighborhoods from Tampa to Sarasota, had been repeatedly sprayed.

Shafey later recommended that the department prohibit the Florida Department of Agriculture and Consumer Services from spraying urban areas for medfly. But he was informed that such a recommendation was not within the realm of "political reality" in the state's fight against the medfly. He was subsequently sacked after intimidation

from his bosses failed to get him to change his recommendation.

Citrus is, by far, the state's largest primary industry product. In 2000, Florida growers sold \$1.67 billion worth of oranges, grapefruit, and other citrus fruits, generating 24 percent of the state's agricultural cash sales.

Besides producing nearly all of the nation's orange juice, Florida also supplies most of the eastern U.S. with vegetables in the winter. According to a 1997 study, more than 130,000 Floridians are employed in the state's fruit and vegetable sector, which grows over 100 economically significant crops. Though agriculture is good for Florida's economy, the state's warm climate and multitude of crops also makes it a delectable haven for the medfly. This tiny fly is one of the most detested pests in agriculture, because females can lay their eggs in more than 250 different crops—turning some of them to mush.

If medflies are discovered in an agricultural area, an immediate quarantine results, preventing growers from selling their fresh produce. University of Florida citrus economist Tom Spreen says a horticultural state like Florida simply can't afford to let the medfly become established. "It's not a matter of losing the European market or this market or that market," he says. "You are basically going to lose every market you sell into."

The discovery of one mated female medfly in any given area is enough to trigger a "medfly emergency," which most often means teams of people, spray trucks and aircraft dousing the specified area with malathion. The detection of 70 medflies in and around Tampa within a week of May 28, 1997, when the first medfly was found, put Florida agriculture officials on the highest alert. Spraying began June 5, 1997.

Rick Martinez, a Tampa organic farmer who also travels the globe certifying organic farmers, points out that the medfly is endemic throughout much of the world, including countries like Brazil that have thriving agricultural export trades. (In fact, Brazil is Florida's biggest citrus competitor.) Still, Spreen's assertion that the establishment of the medfly would automatically wipe out markets is the conventional wisdom in agriculture circles.

During the medfly war, agriculture officials repeatedly claimed in television and full page newspaper ads that malathion was safe and the spraying was no cause for concern. This resulted in unnecessary exposures because proper precautions to avoid the spray were not taken.

Stories such as McFarland's and the Rinks' tend to fall on deaf ears in the agriculture community. Walt Boland, a grower representative with Florida Citrus Mutual, the Sunshine state's main citrus industry trade association, doesn't believe that anybody could get sick from the spraying, and that anybody claiming that they are sick is just "selfish" and "trying to get attention" in order to stop the spraying.

"Every chemical like malathion that's been used has been tested any and every way it could be by the EPA and the USDA for the harmful effects it might have," he says. When I asked him how he knew that, he replied that public health and agriculture officials said it was "very, very safe" at public meetings. "That's what the public

meetings were about—to try to convince the general public that [the spraying] was safe and necessary," he said, adding that "safe and necessary are two essential words."

In fact, EPA and USDA don't routinely test pesticides. They simply depend on data provided by the manufacturers. Many scientists, including an expert panel at the National Academy of Sciences, dispute the level of protection that people, particularly children, get from this regulatory scheme. Since the late 1980s, Congress has twice mandated a re-evaluation of pesticide safety, but EPA—under intense pressure from farmers and pesticide manufacturers—is years behind in completing it.

Boland did admit that spraying in urban areas could be avoided if the growers themselves fumigated their fruit before it moved out of quarantined areas. But that would cost "several hundred dollars per semi load," and because of the thin margins that many growers operate on, the citrus industry had no interest in absorbing that cost. State and federal taxpayers pick up the tab on medfly eradication programs.

CRAM and SCRAM!

The day the spraying began in 1997, Citizens for Responsible Alternatives to Malathion (CRAM) was formed. "We just knew the spraying was wrong," says Thalia Potter, one of the original organizers. Over the next several months, Potter and her group learned more than they ever thought possible about malathion, its health and environmental effects, and the length to which government bureaucracies will go in defending the use of pesticides.

Although Tampa was sprayed repeatedly for three and a half months in 1997, the area was spared aerial applications in 1998, when the epicenter of the medfly outbreak moved south to Manatee and Sarasota counties.

Sarasota contains a large group of chemically sensitive people, many of whom are veterans in ongoing battles to keep their homes, workplaces and children's schools free from pesticide contamination. Like their counterparts in Tampa, concerned citizens in Sarasota and Manatee County organized immediately to stop the spraying and push for safer alternatives to deal with the medfly infestation. Sarasota/Manatee Citizens Rally Against Malathion (SCRAM), like CRAM the year before, diligently monitored the spraying and documented scores of violations, says former SCRAM president, Cheryl Gross, an environmental scientist with the Sarasota County Health Department.

Spray trucks and helicopters showed up without warning during times when a lot of people, including children, were outside. Instructions on the chemical's own label say malathion must be stored at temperatures below 77 degrees Fahrenheit to avoid breaking down into potentially deadly byproducts, such as malaaxon. But tanks of malathion sat in full sun on airport tarmacs in 95 degree Fahrenheit weather for months, and the chemical was not tested before it was sprayed. EPA regulations prohibit spraying malathion over certain bodies of water, but that was routinely ignored. The *Tampa Tribune* reported that malaaxon, a potent neurotoxin that by some estimates is 68 times more toxic than malathion, was found in Tampa's treated drinking water.

A Win-Win Situation

Both SCRAM and CRAM say they were not unsympathetic to the agriculture sector's concerns about medfly. "It wasn't that we just said 'stop, not in our backyard.' We said you can do this, but you can do it safely," said Gross, the former SCRAM president.

Both groups pushed the Florida agriculture department and USDA, the joint operators of the eradication effort, to use a non-toxic biological control program that involves releasing sterile male medflies to breed the medfly population out of existence. Sterile medflies have an excellent track record in California, which has had intermittent battles with medfly since 1975.

The two groups also demanded more monitoring for medflies around Florida; better efforts to detect the pest in ports where they most likely enter the state; safer alternatives for ground spraying, if that was necessary; and much greater efforts to pick up fallen, rotting fruit, since so many of the outbreaks centered around abandoned orchards.

SCRAM and CRAM exerted intense pressure on officials, by organizing public meetings and by bombarding the media and public health officials with research about the risks of and alternatives to pesticides. As a result, a sterile medfly program was introduced covering the Miami, Tampa and Sarasota areas. It seems to be working: no medfly outbreak has since been declared.

Nevertheless, when I visited the MacDill Airforce Base in Tampa, where the sterile medfly program was based, manager Joe Stewart said the \$2.8 million a year program might be axed because of budget pressures. Ironically, the 1997-98 emergency spraying cost about \$35 million.

After the September 11 attacks on the World Trade Center and the Pentagon, MacDill Airforce Base became one of the main command centers for the Bush Administrations's current war, and the sterile medfly release program was asked to leave. The program is currently in the process of relocating to Sarasota and is expected to begin operating in February 2002.

Though the success of the sterile medfly release program should keep it running, its future could be jeopardized if the economy continues to weaken, says Richard Gaskalla, director of the Division of Plant Industry in the Florida agriculture department. Without the preventative sterile medfly releases, a repeat of the emergency eradication spraying is virtually certain. The only question would be when.

Published: Jan 29 2002

