

# In a Silent Way

Aflatoxin-contaminated kibble responsible for spate of deaths

By Donna Jackel

A few weeks before Christmas 2005, dog breeder Susan Patrick noticed that one of her young Lab bitches had stopped eating. The dog's stool became loose, and dark with blood. She died on December 8, two days after her symptoms developed. "I was hysterical," said Patrick, owner of Kresland Kennels in Victor, NY, who has bred Labrador Retrievers for 35 years. Five days later, a second female died, then two more dogs died on the 17th and 19th. "I was giving them IV fluids and trying to feed them little pieces of chicken, and they were dying in my lap," she said. 🐾 It was a dark holiday season for many US dog owners. Approximately 100 dogs died in late 2005 and early 2006 from batches of dry dog food made in Diamond Pet Foods' Gaston, South Carolina, plant. The food, which had been impro-

perly inspected, left the plant containing unsafe levels of aflatoxin, a contaminant produced by a mold, *Aspergillus flavus*, that can develop quickly in corn and other crops when humidity levels are high. This mold can develop both before and after the corn is harvested.

### Making the Connection

Patrick's veterinarian, Dr. Stuart Gluckman of Mendon Village Animal Hospital, was the first to make a connection between the dogs' sudden-onset liver disease and their diet. A necropsy performed on one of Patrick's dogs indicated poisoning, rather than infection, as the cause of death. As more Kresland Labs took ill, Patrick and Gluckman desperately tried to figure out the source of the poison. A break came in mid-December, when three Golden Retrievers were brought to the animal hospital. One was healthy, but the other two were rapidly losing weight. Blood tests showed they also had liver disease.

"What do they eat?" Gluckman asked colleague Dr. Sara Sanders, who had examined the Golden Retrievers. It was Diamond Premium Adult dog food, exactly what Patrick had been feeding her prime breeding-age dogs for more than 10 years. Overhearing their conversation, the hospital receptionist said she also fed her dogs Diamond; one, a Border Collie mix, was in the office that day. Although Sparta showed no symptoms, a blood test revealed she too had liver disease.

### The Source is Discovered

Gluckman called Diamond about his suspicions. He then sent food samples to the pet food manufacturer and to the College of Veterinary Medicine at Cornell University. Tests revealed unsafe levels of aflatoxin in the samples, and on December 21, the company voluntarily issued a recall of tons of food from 23 states along the eastern seaboard. (In all, 19 products were recalled, including cat food, but to date, only dogs have been affected.) A week later, the company set up a consumer help line staffed by veterinarians. On December 30, the FDA announced that some of the food subject to recall had been exported to at least 29 countries.

By then, Diamond had tested more than 2,900 samples of recalled food and had narrowed the manufacturing date to October 11 (with a "best-by" date of April 11, 2007), according to Mark Brinkmann, Diamond's chief operating officer. Diamond, a privately owned company based in Meta, Missouri, was founded in 1970, and operates plants in Gaston, Meta and Lathrop, California. Diamond has promoted itself as "the only 'Super Premium,' high-quality pet food line without the 'Super Premium' price."

Aflatoxin poisoning is a nasty illness. The symptoms include bloody vomit and diarrhea, lethargy, increased water consumption and jaundice. In the end stages of the liver disease it provokes,



Digger Cooper-Vince, a 10-year-old golden retriever, needed an IV at an Ithaca, N.Y., animal hospital after eating tainted food.

blood stops clotting and fills the gastrointestinal tract. There is no antidote to the mold; all vets can do is treat the symptoms.

By mid-January, the number of incoming cases had slowed, says Dr. Sharon Center, a professor of veterinary medicine at Cornell who specializes in liver disease. But she continued to hear from people up and down the East Coast who had ill or deceased dogs that were suspected of being intoxicated with aflatoxin.

It is impossible to determine how many dogs died from aflatoxin poisoning because no central registry tracks animal deaths (unless they are suspected to have a connection with human disease). "We think there are uncounted dogs because veterinarians didn't [initially] know they were treating this," she said. "Furthermore, some kennel owners just buried the first few dogs that died acutely, then finally took remaining ill dogs for veterinary care."

### The Investigation

However many dogs died, the Food and Drug Administration determined that the outbreak was large enough to launch an investigation. Over the course of December and January, two inspectors—one from the FDA and another from South Carolina's Department of Agriculture—visited Diamond's Gaston plant more than a dozen times, taking samples for testing. "It took us a long time to get a handle on what was going on and what we could do to see that it didn't happen again," said Sam Davis, the state feed inspector.

The FDA regulates pet food under the Federal Food, Drug and Cosmetic Act, which states that pet foods must be "pure, wholesome, safe to eat, produced under sanitary conditions,

truthfully labeled and contain no harmful substances.” The FDA’s report, released in late January, indicated that employees at the Gaston plant had repeatedly failed to follow Diamond’s written guidelines. Investigators found 16 batches of pet food manufactured at Gaston between September 1 and November 30, 2005, with aflatoxin levels of 20 parts per billion (ppb) or greater, the report said; the FDA can take enforcement action if the level of aflatoxin is 20 ppb or higher. Five batches made in October had an aflatoxin content ranging from 61 ppb to 376 ppb. Investigators could not ultimately establish whether these samples contained high levels of aflatoxin before going into storage or if they developed higher levels as a result of being stored in a moist environment. Investigators did discover four shipments of whole corn, used in the manufacture of a variety of pet foods, with aflatoxin levels of between 90 to 1,851 ppb.

Company policy was violated in several other ways, the report said. Employees had permitted corn shipments into the plant without testing for aflatoxin at all, or in some cases, testing improperly. Diamond guidelines also dictated that samples of incoming whole-corn shipments be saved, but more than half of the samples from September through November 2005 were missing.

“When you don’t have a sample of an incoming ingredient such as corn, you can’t tell the source of the aflatoxin,” said Linda Grassie, an FDA spokeswoman.

Conditions last fall were such that an especially thorough screening was needed. The weather was the type in which aflatoxin thrives: drought followed by high levels of humidity. In a press release, Brinkmann stated that Diamond typically turned away one or two tainted truckloads of corn a year, but last September it was rejecting one or two a week.

For Sam Davis, the Gaston plant’s gravest lapse was failing to test the moisture levels of incoming loads of corn. If the corn is too moist, aflatoxin can develop within 36 hours as it sits in the plant. “I’ve farmed for nine years and I never before saw a load of corn not tested for moisture.” But Davis praised Diamond for fully cooperating with the investigation. “They were trying to do the right thing,” he said, noting that the company recalled food over a wider span of manufacturing time than necessary.

### Aftermath

The FDA’s investigation at the Gaston plant is completed, Grassie said, but as of early April, the agency was still evaluating what, if any, enforcement action should be taken against Diamond. The regulatory agency has the authority to seize products, seek an injunction barring a business from selling its products until the FDA’s concerns are addressed, or seek prosecution of a person who violates the provisions of the Federal Food, Drug and Cosmetic Act. These steps, however, are taken infrequently, when a company is flouting the law, said Grassie.



Exacta was known at Cornell as the “miracle” dog for surviving aflatoxin poisoning, an often lethal illness.

She has received calls from anguished pet owners, who want to know what punishment Diamond has received from the FDA. A pet owner herself, Grassie says she understands their feelings. “You kind of want vengeance, but a regulatory agency has to have a broader picture—to get the harmful product off the shelves and make sure it doesn’t happen again.”

Those words are little comfort to Winifred Silver of Rockwood, Tennessee. She had to put both her young dogs to sleep. Beau, a Boxer/Saint Bernard mix, changed rapidly from a bouncy, energetic dog to a sick animal who lay curled up in a ball. Silver’s other dog, Polly, also tested positive for aflatoxin poisoning, but still appeared healthy. Silver’s vet advised her to have both dogs euthanized so Polly wouldn’t suffer a painful death, too.

Silver is outraged that Diamond is still in business. “I don’t think they should ever be allowed to sell a product anywhere,” she said. “What they put the dogs and their owners through is unconscionable.”

As Brinkman described, “a tasteless, odorless, colorless toxin was brought to us by a supplier to whom Diamond had previously communicated written specifications stipulating that aflatoxin-tainted corn was unacceptable. It is true that Diamond’s stringent testing procedures were not followed, but it must be remembered that the procedures were in place.”

### Far from Over

Shockwaves from the aflatoxin contamination continue. In mid-February, news broke that dogs were dying in Israel from aflatoxin contamination in Nutra Nuggets, also manufactured by Diamond. Israeli attorney Amir Rosenberg said that in early March, his law firm filed a nearly \$1.5 million lawsuit against the company on behalf of 140 pet owners whose dogs died or became ill from the food. “In a population of only seven million people, nearly 100 dogs have died in three months,” Rosenberg wrote in a March email. Israel’s version of the FDA forced a

recall on February 14. Grassie said the FDA notified the Israeli embassy about the contaminated food on December 31—10 days after the food was recalled in the US.

Some kennels in the United States lost important breeding animals according to Center. Susan Patrick lost seven dogs, including three from her favorite breeding line. The 13 surviving affected Labs were given liver-protectant medicines for two months. Among them was Exacta, a black Lab who became known at Cornell as the “miracle” dog because, though she was extremely sick, she lived. Although Exacta was back at the vet, urinating blood, in early March, by April, Patrick said that she was “showing signs of recovering, and is eating now and acting pretty good.”

Some dogs examined many weeks after ingestion of aflatoxin-contaminated food demonstrated persistent liver injury. It remains unclear whether affected dogs may develop long-term liver injury. Since aflatoxin is a known carcinogen, there also are concerns that survivors could have increased risk for developing liver cancer. However, because there are no published long-term studies of aflatoxin toxicity in dogs with large numbers of survivors, the future health prospects for these dogs remain uncertain.

Diamond’s ordeal is likely far from over. In addition to the Israeli lawsuit, a Pittsburgh lawyer, Molly Maguire Gausa, plans to file suit in Pennsylvania Federal Court on behalf of about 20 clients. Both Gausa and Rosenberg said some clients praised Diamond’s responsiveness in paying vet bills, while others have yet to get a reply from the company. Brinkmann says that owners are being compensated for vet bills and the market value of their

dog. Brinkmann, who had to weather the media heat during the food recall and investigation, said the most important thing he has learned is that two people are needed to test every food ingredient, and that a backup test is needed for each of those tests.

As of March, tons of recalled Diamond pet food was still sitting in a rented warehouse, state feed inspector Davis said. Recalled food with an aflatoxin level above 20 ppb is typically incinerated or sent to a landfill, but food that tests below that amount can be sold for swine food, according to Davis.


Those who lost their best four-legged friends struggle not only with grief, but guilt for feeding their pets the deadly food. “You feel terribly guilty, even if you know it’s not your fault,” Patrick said. “It didn’t look or smell any different. There was no way to tell the food wasn’t 100 percent, until they started dying.” Some even put gravy or other enticements on food they later learned was tainted to coax a reluctant dog to eat.

Winifred Silver and her husband, Chester, still can’t talk about what happened. “In 20 years of marriage, I’ve only seen my husband cry twice, and Beau’s death was one of those times,” Silver said. Unable to bear the emptiness in the house when she arrived home from work, Silver recently adopted littermates, two Great Pyrenees/Saint Bernard mix pups.


“We didn’t realize what a big part of our lives the dogs were until they were gone,” she said quietly. ☹

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