

Mycotoxins in Cat Food Responsible for Over 350 Deaths

Tragically, more than 350 cats died in 2021 from a group of blood-related deficiencies, and investigators are just now releasing their findings. It appears a certain ingredient in cat food was to blame, but this isn't a new problem. The issue still exists especially in this popular type of cat food.

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STORY AT-A-GLANCE

- In 2021, the U.K. experienced a wave of feline pancytopenia that caused the deaths of hundreds of cats
- Most of the affected cats had been fed one of three dry diets; toxins in the diets, specifically potato flakes contaminated with high levels of mycotoxins, are the suspected cause of the outbreak
- Among the numerous problems with dry pet food is the potential for mycotoxin contamination in grain-based formulas; a 2019 study found that 75% of grain-based dry pet food samples tested were contaminated with mycotoxins
- Mycotoxin contamination of pet food ingredients is a serious risk to the health of dogs and cats — a risk that could be mitigated through the use of high-quality grains
- No one has studied the effects of long-term, chronic exposure to mycotoxins in pets fed a processed grain-based diet long-term; if you're concerned about mycotoxicosis, consider transitioning your pet away from all dry food to a balanced, fresh food diet made from organic ingredients

In 2021, the U.K. experienced a wave of feline pancytopenia, a group of blood-related deficiencies including non-regenerative anemia, leucopenia, and thrombocytopenia, that caused the deaths of over 350 cats.

In the published study, lead author Barbara Glanemann and colleagues reported they lacked certain testing data that could have provided a definitive link between cat food ingredients and pancytopenia but speculated that toxins in the diets, specifically potato flakes contaminated with high levels of trichothecene mycotoxin diacetoxyscirpenol (DAS), caused many of the cases.

Mycotoxins (derived from the Greek words for "fungus" and "poison") are toxic chemical substances produced by certain types of fungi that infect crops, and pet food manufacturers are advised to monitor the quality of these ingredients going into their products.

Having established a likely causative link, the RVC researchers advised veterinarians to consider dietary-derived mycotoxin induced marrow toxicosis as a possible underlying cause in cats with pancytopenia.

Mycotoxin Contamination in Pet Food Is Widespread

The tragic outcome for hundreds of cats in the U.K. and their heartbroken humans described above, very likely the result of mycotoxin poisoning is shocking, but unfortunately, not surprising. Among the many problems with all types of kibble for both cats and dogs is the potential for mycotoxin contamination in grain-based formulas.

A 2019 study conducted by veterinary researchers in the U.S. found multiple types of mycotoxins in grain-based dry dog food, but no measurable concentrations in grain-free kibble or canned dog food, or grain-based canned formulas.²

The samples used in the study were from 5 different brands of commercially available dog food produced in the U.S. following U.S. guidelines for the manufacturing of dog food. A total of 60 samples of grain-based dry and canned dog foods and grain-free dry and canned dog foods were analyzed for 11 different mycotoxins. From the study:

“Only dry dog foods containing grains had detectable mycotoxin contamination, and only mycotoxins that are products of the Fusarium genus were detected. Of the 12 dry dog foods containing grains that were analyzed, nine of the twelve had at least one detectable Fusarium mycotoxin.”

Fumonisin (FUM) are found mainly in corn and can cause organ damage. In horses, this toxin is known to cause deadly Equine Leukoencephalomalacia (ELEM), also called “hole-in-the-head-disease,” in which the neural tissue of the brain liquefies.³

Deoxynivalenol (DON), a member of the trichothecenes family of toxins (the same family of toxins implicated in the U.K. cat deaths), is known to negatively affect the immune system of animals. It also causes digestive issues such as vomiting, diarrhea, refusal to eat, and/or weight loss, as well as hemorrhaging.⁴

A Long-Standing Problem

I’ve been writing about mycotoxin contamination of processed grain-based dog and cat food for over a decade. The problem is not new, and in fact, the results in the 2019 study discussed above closely align with the results of a survey of corn and distiller’s dried grain crops (cereal byproducts of the distillation process) produced in 2016.

A total of 387 corn samples and 79 distiller’s dried grains with solubles (DDGS) samples from across the U.S. were tested.⁵ Results revealed that 90% of corn samples and 100% of DDGS samples were contaminated by at least one mycotoxin, and 96% of the DDGS samples contained more than one.

The three major mycotoxins found in the tested samples were produced by the Fusarium fungi and included deoxynivalenol, fumonisin and zearalenone (ZEN) — an estrogenic mycotoxin that is reported to cause reproductive abnormalities in all animal species.⁶ All three toxins were present in harvested corn at higher levels than were measured in 2015 crops.

Use of Grains Unfit for Human Consumption in Pet Food

In the 2019 study, the researchers provide enlightening information on the topic of the quality of grain used in commercial dog food:

“When grains are incorporated into dog food formulations it is important that high quality grain is used. Grain quality is correlated with mycotoxin contamination as lower grade grains often contain broken and fragmented grains which are much more susceptible to mold growth and subsequent mycotoxin production.

Grains are numerically graded based on factors such as test weight, proportion of damaged or broken kernels, presence of foreign odors, or heat-damage. Any of these factors can contribute to mold growth and mycotoxin production.

However, pet food manufacturers may choose grains unfit for human consumption as a cost-cutting strategy. Using only grains graded as US No.1 by the USDA could be a control strategy to minimize mycotoxin contamination from ingredients incorporated into pet food.

Currently, there is no requirement to reveal the grade of grain incorporated into pet food, but noting the grade of grains used on the ingredients list could help consumers choose pet foods with more confidence.”

The vast majority of grains used in the pet food industry are “feed grade,” or not approved for human consumption, as are most or all the other ingredients in grain-based pet food formulas. After all, processed pet food is where waste from the human food industry ends up.

You’ll know if your pet food is made with human-edible ingredients because it will be the company’s major marketing point: this information will be plastered all over their website, as human-grade pet foods are incredibly expensive to produce and none of the major manufacturers of the most popular pet foods sell any human-edible foods made with traceable ingredients.

Unknown Risks of Long-Term, Chronic Exposure to Mycotoxins

As the study authors make clear, “... the potential for mycotoxin contamination in pet food poses a serious health threat.”

This is especially concerning since companion animals “... are often maintained and fed for longer periods of time on a homogeneous, grain-containing diet and thus more likely [than either farm or laboratory animals] to have chronic exposures to pet foods contaminated with either single mycotoxins, or multiple mycotoxins in various combinations.”

Maximum concentrations of mycotoxins allowed in pet foods are typically extrapolated from data on animals not kept as pets. Those concentrations don’t necessarily indicate “safe levels” for mycotoxin exposure in pets, since very few studies have actually been conducted in pets. Further, none of those studies has looked at the effect of long-term chronic exposure in pets fed contaminated feed over their lifespan.

“Due to this uncertainty,” write the study authors, “one of the perceived health benefits of grain-free diets might be due to the elimination of low-dose chronic exposures to mycotoxins, as grains in pet food are presumed to be the main source of mycotoxin contamination.”

I urge any pet owner feeding a grain-based diet to any animal with a diagnosed medical condition to demand mycotoxin testing from the pet food manufacturer.

Signs of Mycotoxin Poisoning

The severity and type of symptoms a pet displays depends on the amount and type of mycotoxin ingested. Some of the more common symptoms associated with acute mycotoxicosis include:

- Panting
- Weakness
- Hyperactivity
- Loss of coordination
- Vomiting
- Increased heart rate
- Lack of appetite
- Increased body temperature
- Dehydration
- Seizures
- Muscle tremors

Mycotoxin poisoning is a true medical emergency, and your pet will need immediate treatment and hospitalization. Your veterinarian must take early and aggressive action to remove the toxic substances from your pet's body. Most vets may not correlate these symptoms to mycotoxins in pet food, so make sure you voice your thoughts if you suspect your four-legged family member has been poisoned by her food.

The problem is, most mycotoxin toxicosis is not acute, it's persistent exposure below the level of acute symptoms, which makes it all the more dangerous, in my opinion.

Acute exposure allows pet owners to react, provide emergency veterinary care, identify food as the culprit, treat their pet appropriately and discontinue the food. With low-level exposure, none of these things occur. Chronic, low-level exposure creates a myriad of diffuse disease symptoms that vets don't correlate to contaminated food, so most pets continue to eat the toxic food and become sicker, without a direct cause of the disease ever being identified.

Common Food Sources of Mycotoxins

While the suspected source of mycotoxins in the U.K. feline pancytopenia outbreak was potato flakes, more common food sources include:

- Corn
- Peanuts
- Wheat (bread, cereal, pasta)
- Cottonseed and cottonseed oil
- Barley (cereal)
- Rye
- Sugar cane and sugar beets (which also feed fungi)

- Sorghum (found in a variety of grain-based products)

The above foods can be found in many commercially available pet food formulas. I recommend you study the ingredients in the food you buy your pet, and avoid brands containing grains or corn in any form, including corn gluten meal, whole grain corn, corn flour, etc. Also avoid formulas containing cereal grains like maize, sorghum, pearl millet, rice and wheat.

Consider transitioning your pet away from all dry food to a balanced, meat-based fresh food diet made from organic ingredients. You can also look into commercially prepared raw pet foods as well as dehydrated raw foods that are GMO-free. Or you can consider a mixture of homemade and commercially prepared organic diets.

Sources and References

¹ [Glanemann, B. et al. Journal of Veterinary Internal Medicine, 2023;37:117–125](#)

² [Toxicology Communications Volume 3, 2019 - Issue 1](#)

^{3, 4, 6} [Giannitti, F. et al. May 2011, Pesquisa Veterinária Brasileira 31\(5\):407-412](#)

⁵ [PetfoodIndustry.com, February 10, 2017](#)
