Study finds glyphosate in cat and dog food

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Got glyphosate? Your pet's breakfast might.

A new Cornell study published this month in *Environmental Pollution* finds that glyphosate, the active herbicidal ingredient in widely used weed killers like Roundup, was present at low levels in a variety of dog and cat foods the researchers purchased at stores. Before you go

switching Fido or Fluffy's favorite brand, however, be aware that the amounts of the herbicide found correspond to levels currently considered safe for humans.

The study grew out of a larger interdisciplinary research project led by Brian Richards, senior research associate in biological and environmental engineering, and supported by the Atkinson Center for a Sustainable Future's Academic Venture Fund, which sought to reassess glyphosate mobility and impacts in several contexts: movement from crop fields in surface water, impacts on soils and on animals consuming it in their feed.

Richard's co-investigators Anthony Hay, associate professor of microbiology, and Kenneth Simpson, professor of small-animal medicine, visited a pet store and a retail outlet, where they selected multiple bags of cat and dog foods from major brands. The 18 feeds were all mixtures of vegetable and meat ingredients, and one product was certified GMO-free. Analyses conducted by postdoctoral researcher and lead author Jiang Zhao in Hay's lab, and research support specialist Steve Pacenka, found that all of the products contained glyphosate at concentrations ranging from approximately 80 to 2,000 micrograms of glyphosate per kilogram.

Since there is not enough data available to determine what effect—if any—low-dose glyphosate exposure has on domestic animals, the researchers used human acceptable daily intake guidelines to put these findings in context, according to Hay. The researchers estimated that the median dog exposure would amount to only 0.7 percent of the U.S. glyphosate limit set for humans.

"While the levels of glyphosate in pet foods surprised us, if a human ate it every day, their glyphosate exposure would still be well below the limits currently deemed safe," Hay said.

"Even the most contaminated feed they studied had thousands of times less glyphosate than levels that were shown to have no adverse effects on dogs in the U.S. EPA's Draft Risk Assessment for glyphosate" said Dan Wixted, a pesticide educator with Cornell Cooperative Extension who was not involved in the study.

While unable to pinpoint the exact product or crops that were the source of the glyphosate, Hay's team did find a correlation with fiber, suggesting a plant-based origin. "We know that glyphosate is only certified for spraying on crops, and it does not bio-accumulate in animals, so we would not expect it to come from feed animals that are the main protein sources in some of the products," Hay said. "Our evidence suggests that it's coming from plant material."

One surprising finding of the study: Glyphosate was detected in the one GMO-free product the researchers analyzed at levels higher than those of several other processed feeds. This suggests that keeping feed stocks uncontaminated is a challenge even in the GMO-free market.

What is a pet owner to do with this information?

"Glyphosate is out there in our pets' food, and while there doesn't appear to be any immediate risk, there is still uncertainty about the chronic impact of low doses like these," Hay said. "It's hard to find a product that doesn't have glyphosate in it, so we included the exposure assessment to provide some context. The old adage 'dose determines the poison' is good to keep in mind: While it's possible that these animals might respond differently than humans, the numbers are still within a range that would be deemed safe for humans."

Hay, for his part, has stopped feeding chow found to be high in glyphosate to his own dog, a pug beagle mix, but he hasn't seen any changes in her health.

"She's more cat than dog to be honest," he said. "She sits on the bed and won't go outside when it rains. But I can now confirm that her laziness has nothing to do with her feed."

More information: Jiang Zhao et al, Detection of glyphosate residues in companion animal feeds, *Environmental Pollution* (2018). DOI: 10.1016/j.envpol.2018.08.100

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