Foods Have Toxic Effects in Animals

by Dr. Karen Shaw Becker

A 2016 Nielsen survey asked French and U.S. pet owners to evaluate thousands of real-world product concepts for commercial dog and cat food. The survey results showed the most important feature for the vast majority of respondents was pet food containing no genetically modified (GM) ingredients.

Among those who want to feed four-legged family members non-GM food, at least half believe GMOs (genetically modified organisms) are unnatural and have the potential for unknown long-term health effects, and many are willing to pay more for non-GMO products. This is a very good thing, because the so-called "science" on this subject has tried hard to convince us GM ingredients are entirely harmless in both human and pet food. Here's a brief and disturbing description of the GMOs used in U.S. crops:

> *"In the United States, GMO crops processed into food include yellow corn, soybeans and cotton, in the form of cottonseed oil.*
>
> *Companies such as Monsanto and DuPont engineer these plants to contain a pesticide derived from the Bacillus [thuringiensis] bacteria, to resist applications of herbicides (particularly glyphosate, known by the brand name [RoundUp]) and to have other characteristics."*

Put another way, these are unnatural, human-engineered plants that are "born" containing pesticides and with the ability to withstand heavy exposure to glyphosate (RoundUp), a known cancer-causing agent.

Many consumers no longer trust science or scientists

Do we really want to risk eating this stuff or feed it to our dogs and cats? No, we don't, according to a NUTRO™ survey of 1,500 U.S. dog owners. Two-thirds (65%) of those surveyed prefer non-GMO ingredients in their pet's food. Consumers believe natural farming techniques are better for the environment and prefer pet food ingredients with minimal or no synthetic pesticides, herbicides and fertilizers.

Thankfully, it seems that when scientists talk up the supposed benefits of genetically modified food, more and more people are tuning them out. "Many consumers no longer trust science or scientists," says Debbie Phillips-Donaldson of Petfood Industry, "at least not when it comes to their own food or pet food."

In response to scientists' claims that GM products are safe, consumer watchdog groups argue that substances such as trans fats, BPA, red dye no. 2 and leaded gasoline were also once considered safe. There's also the argument that much of the research done on GMOs and glyphosate has been funded by entities with something to gain.

For an example of how scientists have manipulated the facts about GMOs to suit their own purposes, I recommend reading "The UK's Royal Society: a Case Study in How the Health Risks of GMOs Have Been Systematically Misrepresented."

Studies show GM foods have toxic effects in animals

The results of a study 10 years ago showed that genetically modified corn causes significant kidney and liver disease in rats after only a 90-day feeding trial and has a negative effect on other organs as well, including the heart and spleen.

A republished 2012 lifetime study of rats fed a diet containing GM corn shows they not only died earlier than rats on a standard diet but developed mammary tumors and severe kidney and liver damage as well. Half the male rats and 70% of females died prematurely, compared with 30% of males and 20% of females in the control group.

The lead researcher, Gilles-Eric Seralini of the University of Caen, believes his results, which are based on the full lifespan of rats, give a more comprehensive and realistic view of the risks of GM corn than 90-day feeding trials. A rat at 3 months is still a young adult.

In a more recent study, rats fed GM corn for 90 days suffered serious damage to the surface mucous membranes of the jejunum, which is part of the small intestine.7 The damage included the villi, which are the finger-like structures in the intestine that absorb dietary nutrients.

The villi were misshapen and flattened, with some cells joined together. The mucosal glands (called crypts) were abnormal and blood vessels were congested. Inflammation was present around the damaged areas. The cells of the intestinal lining were abnormal in structure as well. In a 2009 report on GM foods that appeared in the journal Critical Reviews in Food Science and Nutrition, the authors write:

> *"Animal toxicity studies with certain GM foods have shown that they may toxically affect several organs and systems. The review of these studies should not be conducted separately for each GM food, but according to the effects exerted on certain organs it may help us create a better picture of the possible health effects on human beings.*
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> *The results of most studies with GM foods indicate that they may cause some common toxic effects such as hepatic, pancreatic, renal, or reproductive effects and may alter the hematological, biochemical, and immunologic parameters.*
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> *Small amounts of ingested DNA may not be broken down under digestive processes and there is a possibility that this DNA may either enter the bloodstream or be excreted, especially in individuals with abnormal digestion as a result of chronic gastrointestinal disease or with immunodeficiency."*

Some veterinarians are speaking out against GM ingredients in pet food

Holistic and integrative veterinarians are increasingly convinced that many of the diseases we see in today's pets could be, in part, related to GM foods. Though there is no objective evidence of this yet, according to my colleague Dr. Rob Silver, all veterinarians agree there has been an uptick in diseases such as allergies, gastrointestinal (GI) problems, cancer and neurodegenerative conditions in the past 10 to 20 years. The advent of GM foods in the 1990s "fits into this timing of disease increases," he says.

According to Silver, genetic modification introduces foreign proteins that may encourage allergies, and the widely planted Bt corn, which makes its own insecticide, "could possibly cause leaky gut, the gateway to chronic disease." Corn is a major component of most commercial pet foods.

"The big problem with commercial foods is that they are manufactured at high temperatures and pressures," says Silver, which alters them and makes them "potentially more allergenic." And commercial foods contain industrial ingredients that are "more likely to contain GM and herbicide contaminants." GM foods may be causing heightened sensitivity to dietary ingredients, which may in turn be driving the increase in GI problems in pets.

More information for pet parents

Veterinarian Dr. Michael W. Fox has compiled an extensive list of the potential risks of genetically modified foods, including:

- The toxic insecticidal agent Bacillus thuringiensis is present in most GM crops in the U.S. that wind up in animal feed and pet food.

- The herbicides glufosinate and glyphosate are applied to millions of acres of genetically modified crops across the U.S. and other countries. These poisons are absorbed by the crops — which are engineered to be herbicide resistant — while decimating everything else growing in the area and much of the aquatic life in nearby bodies of water.

  These herbicides cause kidney damage in animals, endocrine disruption and birth defects in frogs and are lethal to many amphibians. Glyphosate has also been linked to miscarriages, premature births and Non-Hodgkin lymphoma in humans.

- Nutritionists and other health experts increasingly are connecting the rise in human allergies, including skin conditions and inflammatory GI disorders to broader consumption of GM foods and food additives — in particular, GM soy products containing novel proteins.

Dr. Fox suspects the high number of skin and food allergies, and other allergies associated with GI disorders are caused or aggravated by these novel proteins and other contaminants in genetically modified crops.

- Independent animal feeding safety studies show adverse or unexplained effects of GM foods, including inflammation and abnormal cell growth in the GI tract, as well as in the liver, kidney, testicles, heart, pancreas and brain.

- GM crops have proven to be unstable and prone to unplanned mutations — which means we don't really know whether the food being grown from these plants is safe or nutritious.

Fox's advice to pet parents is to buy only food with USDA Organic certification. He also advises to avoid all prepared foods, including cooking oils that contain corn and soy products, since these are the products most likely to originate from GM crops. In addition, I recommend omitting grains entirely from your carnivorous pet's diet. Corn and soy ingredients are not biologically appropriate ingredients in dog and cat food, even if they are conventionally grown.

Both these ingredients are linked to a wide variety of health problems in companion animals, including allergies, skin disorders, oral disease, inflammatory bowel disease and cystitis.