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Dog Tips

These Popular Human Snacks Used To Be Safe for Dogs

Not too long ago, raisins and grapes were considered the perfect training treats for dogs. What changed? Why do these tasty snacks now top the list of pet poisons each year? This FBI intelligence specialist has a fascinating theory.

Reviewed by Dr. Becker

STORY AT-A-GLANCE

- Melissa Gardner, an intelligence specialist with the FBI, joins me today to discuss the reason behind raisin and grape toxicosis in dogs
- Melissa's very intriguing and plausible theory is that a fluoride-based pesticide called cryolite used on crops grown in California is what's causing raisin and grape toxicity in dogs
- The timing of EPA approval of cryolite and cases of raisin/grape poisonings in dogs seems to coincide
- Currently there is little interest in the scientific or veterinary communities to study the effects of cryolite-treated crops on the health of dogs; hopefully this video and Melissa's ongoing work will raise awareness

Editor's Note: This article is a reprint. It was originally published October 9, 2016.

Melissa Gardner, an intelligence specialist with the Federal Bureau of Investigation (FBI), is a former military intelligence officer and a Fulbright scholar to the United Kingdom.

She's also written a book, "The End of Acne: How Water is the Cause of the Modern Acne Epidemic, and the Cure."

Melissa's very diverse educational background includes a bachelor's degree in science, technology and international affairs from Georgetown University, and a master's degree in international security from the University of Saint Andrews.

Melissa talks about acute renal failure in dogs who eat raisins or **grapes**, as she has a very interesting and quite persuasive theory about canine kidney failure and raisin/grape toxicosis.

Fluoride Sensitivity Leads to Cystic Acne

Melissa says her story dates back to her childhood. The water supply to her family's home came from a well, so she was given fluoride pills to compensate for the non-fluoridated well water. No one realized it at the time, but the pills caused her to develop a sensitivity to fluoride.

Fast-forward 20 years. Melissa was attending Georgetown's School of Foreign Service and planned to study abroad in West Africa.

Before leaving, she was treating a bad case of cystic acne on her face with Accutane. Since you're not supposed to be in the sun while on Accutane, she stopped taking it once she arrived in Africa.

Her skin remained perfectly clear the entire year she was there, which she attributed to the Accutane, even though she'd only been on it a month. When she got back to the States, her cystic acne returned.

This pattern continued for the next 15 years, as Melissa traveled abroad and returned to the U.S. Whenever she was anywhere abroad — it could be Scotland or Tunisia — her skin was perfectly clear. But within two days of returning to the States, the cystic acne was back.

Ultimately she realized the problem was fluoride. She was highly sensitive to not only the fluoride in toothpaste, but also from ingesting it from other sources. Melissa wrote a free e-guide and put it online to help others.

She assumed she had a fairly obscure condition resulting from the fluoride pills she took as a child, but she heard from a lot of readers with the same problem.

Many California Grapevines Are Treated with Cryolite, a Fluoride-Based Pesticide

Reader feedback from her e-guide prompted Melissa to write "The End of Acne," which outlines her theory that fluoride is the cause of the modern day acne epidemic. As she was researching the chapter in the book on sources of fluoride, she was focused on wine rather than raisins, because she's not a big raisin fan.

Melissa learned that wine from California grapes can contain high amounts of fluoride due to the use of the pesticide cryolite on grapevines. So she stopped drinking California wine and switched to wine from other regions, even Washington State and Oregon, where cryolite is not used on crops.

Cryolite, for those of you who may not have heard of it, is a fluoride-based chemical pesticide. It's a mixture of aluminum, sodium and fluoride. It's been used as a pesticide primarily on grape and raisin crops for quite some time.

Before she took the somewhat drastic step of warning her readers to avoid California wines, Melissa decided to write to all the regional winery associations in the state to ask if they used cryolite.

Most said they'd never heard of it, or claimed not to use it. Some even told her retailers wouldn't sell it for fear fluoride would leach into residual ground water.

One of the associations she contacted sent her a link to the California Department of Pesticide Regulation's online monitoring program, where farmers are required to report which pesticides they use. At the link, she was able to learn exactly where cryolite is used in California.

Raisins Grown in California Also Treated with Cryolite

As it turns out, the use of cryolite is limited to the Central Valley. "It's in a region known as the San Joaquin Valley," says Melissa, "which is outside of Fresno. It's also the self-proclaimed 'raisin capital of the world.'"

"That really raised a red flag with me. I knew raisins are toxic to dogs. I wondered if veterinarians had investigated the possibility that cryolite is the cause of the toxicity. That's really when I started looking at the research that veterinarians had done and saw that there was no reference to cryolite or fluoride, and they really weren't even thinking in that vein."

Did the Use of Cryolite Coincide with the Uptick in Raisin Toxicity Cases?

According to Melissa, the Environmental Protection Agency (EPA) originally approved cryolite in the 1980s, but it was already in use by that time, so it's been around for probably 40 years at least. When the EPA approved cryolite, the agency admitted there were extensive data gaps regarding its toxicity.

It was 1989 when veterinarians began noticing the trend of raisin toxicity in dogs, which happens to be the same year Europeans noticed high amounts of fluoride in the wine they were importing from California. The EU had a limit of 1 part per million. Pesticide manufacturers lobbied to get an increase to 3 parts per million in wines made from grapes treated with cryolite, but even with the increase, they weren't always able to meet European requirements.

"Clearly, wine had high amounts of fluoride by 1989," says Melissa, "and that's also when veterinarians noticed that raisins were toxic to dogs. It's not clear whether that's when dogs started dying from eating raisins, in 1989, or maybe just their databases started showing that trend at that time. Before that, like you said, people used raisins for dog treats all the time without any known issues."

Organic Raisins May or May Not Be Fluoride-Free

Melissa says she hasn't seen any confirmed evidence of organic raisin toxicity in dogs. However, the ASPCA Animal Poison Control Center (ASPCA-APCC) did a comprehensive retrospective analysis in 2005 and reported that in one case of raisin toxicity, "raisins were described as organic."

Melissa doesn't know if it was ever officially confirmed the dog had eaten organic raisins. Pesticide manufacturers have petitioned for cryolite to be included among the allowed pesticides used on organic crops, but the petition was rejected. According to the U.S. Department of Agriculture's (USDA) website, cryolite is not allowed on organic crops.

Melissa also wrote to every organic raisin manufacturer she could find in California to ask if they used cryolite. They all claimed they did not, and that it was not allowed. However, in the 2014 annual use summary report issued by the California Department of Pesticide Regulations, it states that cryolite *is* allowed on organic crops.

"I was trying to figure out the discrepancy there," says Melissa. "I've kind of been passed around to different agencies in California's Pesticide Residue Monitoring Program trying to figure out why someone at least in California thought that cryolite was allowed [on organic crops].

"But regardless, the thing that really struck me when I started investigating raisins and pesticides was the EPA is the one that sets the limits for these residue tolerances. They set a limit for cryolite on different crops. The Food and Drug Administration (FDA) is responsible for monitoring and enforcing that limit. The FDA screens for pesticides on an annual basis, but they don't screen for fluoride. Nobody is actually monitoring the use of this pesticide."

Why Hasn't the Cryolite-Raisin Toxicity Link Garnered More Interest?

Based on Melissa's findings, it seems to me someone needs to fund studies to determine the amount of fluoride in raisins as it relates to acute renal failure in dogs. Melissa says that she's only found one other person, a veterinarian, aware of or concerned about fluoride and raisin toxicity. Unfortunately, the veterinarian (who wrote a blog on the topic) believes fluoride is a naturally occurring substance in raisins. It's not. It's caused by cryolite pesticide contamination.

The ASPCA-APCC analysis in 2005 didn't find any dose response relationship. In other words, toxicity can occur in a 100-pound dog or a 5-pound dog. There were no correlations made between the quantity of raisins consumed and the degree of kidney failure or other side effects.

> "*They did take this as an indication that pesticides are an option,*" *says Melissa.* "*Maybe there's an intrinsic substance found on the raisins that isn't always there. You're basically playing raisin roulette. In the 12-page [ASPCA-APCC] study, there was only one paragraph that mentioned that maybe the problem was pesticides.*"

Melissa feels the ASPCA-APCC very quickly discounted pesticides as the toxic agent in raisins, and without sufficient reason. According to California's Pesticide Residue Monitoring Program, oddly, raisins were only inspected one time in the 1990s (in 1995), and odder still, they weren't screened for fluoride even though cryolite is the primary pesticide used on raisin crops. Since then, they've only been inspected twice, once in 2010 and again in 2012.

According to Melissa this is very strange, because California generally inspects all the common fruits and even obscure fruits, every year.

Should We Start Testing Dogs with Raisin Toxicity for Elevated Levels of Fluoride?

Melissa believes the easiest way to confirm or refute her theory is to test for fluoride in dogs with raisin toxicity. Test the animal's urine and blood, as well as a sample of the raisins that were ingested or the bar code on the package of raisins if available, to see if there are elevated levels of fluoride.

Many state veterinary teaching hospitals will be able measure fluoride levels, or pet owners can do their own research and refer their veterinarian to a lab that can. One such lab is SCS Global Testing Services. This testing should help determine if a dog is suffering from fluoride toxicity rather than raisin toxicity.

As for raisins and grapes, wild dogs such as coyotes and wolves have been known to forage on grapes. In fact, in some parts of the world they eat them regularly and don't seem to develop acute renal failure. Melissa's theory on what makes raisins and grapes toxic to dogs is quite plausible and should be investigated.
