

FLEAS

and

TICKS

the battle rages on and your fears are spot-on

By Deva Khalsa DVM

Illustration by Linda Boileau

Every year around the same time, most pet owners begin their inevitable battle against fleas and ticks. In the past decade, monthly spot-on treatments have been the drug of choice. Fleas and ticks may bite the dust due to our use of spot-on products but it's starting to look like our dogs may also be biting the dust sooner than we'd like and it might not be a coincidence.

In 2009, the Environmental Protection Agency (EPA), began reviewing the safety of spot-on flea and tick products and what they found was not pretty. Additionally, the Washington based Center for Public Integrity (CPI), a non-profit investigative news organization, and the National Resources Defense Council, an environmental advocacy group, have published reports about the safety of both over the counter and prescription flea and tick products.

All flea and tick products are made up of "active" and "inert" ingredients. The active ingredients are those that target and kill fleas and have the potential to harm dogs too. In fact, all the active ingredients in the spot-on preparations have been linked to serious health problems in animals. Some of the inert

ingredients are also toxic, although the word inert suggests that they're safe.

Despite manufacturers' claims to the contrary, the ingredients of commonly used topical treatments can and do enter the pets' internal systems. Merial's website states

that fipronil (the active ingredient in Frontline, Parastar, EasySpot and the new over the counter Sentry Fiproguard), is absorbed into the sebaceous glands of the skin which provide a natural reservoir, creating the impression that it does not migrate into the dog's body. Dr. Dobozy of the EPA's Pesticide Division took a look at fipronil and found that it does in fact enter the body and was contained in the fat, organs, urine and feces of dogs.

Laboratory tests have shown that with long term exposure at low doses, fipronil has the potential for nervous system and thyroid toxicity, thyroid cancer, altered thyroid hormone levels, liver toxicity, kidney damage, convulsions, whining, barking, crying, loss of appetite, locomotor difficulty, reduced fertility, fetus mortality, smaller offspring, loss of hair at or beyond the



point of application, moist inflammation, chemical burn and itching. That's a pretty long list!

The rub is that lots of folks are telling me that it doesn't even work against fleas and ticks any longer. According to pesticide.org, fipronil is an extremely active molecule that disrupts the brain and spinal cord by interfering with the ability of these nerve cells to transmit nerve impulses. "Fipronil also disrupts nerves in animals other than insects, including humans, but it does not bind as tightly to these nerve cells as it does to insect nerve cells." I can't help but think of children cuddling their dogs when I read that.

When exposed to light, fipronil breaks down into a molecule called fipronil-desulfinyl which, according to the EPA, is ten times more toxic than the fipronil itself. What does this mean? (a) don't put the plastic vials of fipronil in the sun, (b) don't let your dog bake in the sun after you've applied the stuff, (c) short haired pooches using fipronil products need to stay out of the sun, or (d) all of the above?

Most folks consider the natural alternative, the pyrethrins (naturally occurring compounds from the chrysanthemum plant) and pyrethroids (the synthetic counterpart), as less hazardous. Sadly, the contrary has been irrefutably proven.

Information released through the Freedom of Information act to CPI showed that from 2002 through 2007, at least 1,600 pet deaths from pyrethroid spot-on treatments were reported to the EPA. That's nearly double the number of reported fatalities linked to flea treatment without pyrethroids. CPI's "Perils of the New Pesticides" project was based on an analysis of 90,000 adverse reaction reports. I shudder to think of how many people didn't report an adverse reaction, making the actual number of adverse reactions much higher.

Pyrethroid spot-on products also accounted for more than half of the major pet pesticide reactions, including brain damage, heart attacks and seizures. A possible explanation for the number of incidents involving pyrethroid spot-ons, according to the report, is the high concentration of pesticides they contain. The report also

notes that while the pyrethroid spot-ons are more concentrated than the fipronil or imadocloprid, they are actually less toxic than these latter two products.

A relatively new product, Vectra 3D, ups the amount of permethrin in their product to a whopping 36.08%, in response to the growing resistance of fleas and ticks to these products. Permethrin is another synthetic chemical, belonging to the pyrethroid family so it also functions as a neurotoxin. Chemical burns are a commonly reported result of its use and there is even a class action suit (BioSpotVictims.com) against Vectra and Vectra 3D which are also sold as Firstshield and Firstshield Trio.

Biospot Flea and Tick Control, Defend EX Spot Treatment and Zodiac FleaTrol Spot all contain either or both permethrin and pyriproxyfen. Permethrin has also been implicated as a carcinogenic insecticide causing lung cancer and liver tumors in laboratory animals. It is also implicated in disrupting endocrine function and acts as a neurotoxin, causing tremors, increased aggressive behavior and learning problems. Another long list. Could these products be one of the reasons we are seeing a virtual epidemic of hypothyroidism in dogs?

Not to leave anybody out, Advantage contains the active ingredient imidacloprid, a systemic insecticide which acts as an insect neurotoxin and belongs to a class of chemicals called the neonicotinoids.

Neonicotinoids act on the central nervous system of insects with lower toxicity to mammals. In laboratory studies, imidacloprid has been found to cause thyroid lesions and liver toxicity, increase cholesterol levels (this is commonly seen in the bloodwork of hypothyroid dogs), and has the potential to damage the kidneys, liver, thyroid, heart, lungs, spleen, adrenal, brain and gonads. As a neurotoxin, it has caused incoordination, labored breathing and muscle weakness. When this drug was tested after its debut in 1994, researchers found an increase in the frequency of birth defects in mice, rats and dogs.

There are so many ingredients and so many flea and tick products on the market that I can't mention them all. I advise you to read labels and study the ingredients of

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the product that you're using. Alarming, the fleas and ticks are becoming resistant to many of the ingredients that we have been using, so what's in store for our dogs?

Here is a frightening example of how bugs can become resistant to insecticides. As the weeds that infest the fields of Roundup Ready GMO corn and soy have ironically become resistant to Roundup, our inventive corporations are now creating – you're not going to believe this one – Agent Orange Resistant Genetically Modified corn. OK, so it's only the active ingredient in Agent Orange, the herbicide 2,4 D that they're using, but a rose by any other name smells the same to me.

Just for a dose of reality, allow me quote The Organic & Non-GMO Report. "Exposure to 2,4 D has been linked to major health problems that include cancer (especially non-Hodgkin's lymphoma), lowered sperm counts, liver disease and Parkinson's disease. A growing body of evidence from laboratory studies shows that 2,4 D causes endocrine disruption, reproductive problems, neurotoxicity and immunosuppression". There's much more, but that's enough. They'll spray it on our crops and the cows will eat the feed and guess what? Our dogs will eat the cows (and so will we).

There's only one way out of this mess and that is to go back to Mother Nature. There are some old fashioned remedies that fleas and ticks haven't seen for awhile so maybe we can surprise them.

Garlic has had a bum rap recently and for no good reason. Some internet sites have stated it's toxic for dogs. Heavens, a 50 lb dog would have to eat 75 large cloves or more in every meal for any toxicity to occur. A large 90 pound dog can safely be fed two large cloves of garlic twice a day and a small dog can have one clove twice a day.

Garlic has been fed to dogs as long as I've been in practice to help prevent flea infestation. There are many products on the market containing garlic for this very purpose. Both powdered and raw garlic are effective in repelling fleas and ticks although raw garlic has significantly more health benefits. When using garlic as a flea preventive, it's important to use a castile soap or detergent-free shampoo. Dogs don't sweat as humans do and the garlic 'aroma' comes out in the oil on their coat. It takes several weeks for the garlic compounds to build up in the oil and a detergent shampoo removes the oil so you will be back to square one again.

Amongst garlic's reputed benefits, perhaps the most well known is its long history as a natural antibiotic. Modern researchers have found that garlic has a broad-spectrum antibacterial effect. Additionally, bacteria don't seem to build resistance to garlic as they do with many modern antibiotics. Garlic's antifungal, antiviral and antibacterial effects also provide a very important added benefit in that daily garlic consumption will help fight tick borne

diseases. Overall, garlic increases general immune activity along with the activity of killer cells (cells that seek out and kill invading bacteria and cancer cells).

There's a secret to releasing the healing powers of garlic. Allicin is the most powerful medicinal compound derived from garlic, providing the most important health benefits. Garlic has to go through a chemical process, so the very beneficial compound called allicin can be released. You must finely chop or crush a garlic clove then wait for 5-10 minutes to allow the chemical reaction to occur. A host of studies provide evidence that the allicin in garlic works to inhibit cancer formation.

Ticked Off, a product by Deserving Pets, is a contact flea and tick killer. It contains the safe and natural Southern Red Cedar Oil, which many other products contain. This helps to repel pests but doesn't kill them. Ticked Off also contains safe and effective hydrolyzed silica, which gets into the cuticle of the pest and effectively eliminates it.

There are many natural products out there with scented herbs to repel fleas and ticks, but we all know that a desperate flea or tick ignores herbal signals. The only sure-fire, totally effective flea and tick repellent that I have ever seen is your dog getting skunked! I'm not telling you and your dog to go out and upset a skunk, but in years of practice, I've never had a dog who was sprayed by a skunk get fleas or ticks. In fact, when I questioned the owners why they hadn't washed their dog in months, they proudly replied that they were getting no ticks and fleas and were 'all natural'.

I think it would be a good idea to brainstorm on Dogs Naturally's Facebook page and share what natural methods have worked for you. Our beloved friends will be much better off if we do! 🌿

Since beginning her holistically oriented veterinary practice over 25 years ago, Dr. Khalsa has been incorporating homeopathy, acupuncture, Chinese Herbs, nutritional advice, allergy-elimination techniques such as N.A.E.T and also J.M.T. into her approach. She coauthored, 'Healing Your Horse: Alternative Therapies' (Howell Book House, 1993), and most recently authored, 'Dr. Khalsa's Natural Dog' (Kennel Club Books, 2009), a book best described as a 'holistic bible' for dog owners. Dr. Khalsa is a Fellow and Professor of the British Institute of Homeopathy. She has lectured both nationally and internationally.



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