Why Scientists Want to Reduce Chemical Pest Treatments

Scientists are joining forces with a handful of veterinarians calling for the reduction in the use of pet chemical treatments, including flea and tick preventives.

Analysis by Dr. Karen Shaw Becker

STORY AT-A-GLANCE

- A handful of veterinarians, environmental scientists and others in the U.K. are calling for a return to 'rational use' of parasiticides to protect the environment
- The move from strategic use to blanket use of these chemicals is the result of pet health plans that encourage year-round comprehensive parasite protection as well as a focus on broad-spectrum combination parasiticides
- Broad-spectrum products lead to overuse, which has negative consequences for both companion animals and the environment
- It will be an uphill climb to convince drug manufacturers and veterinarians of the need to dial back the use of parasiticides
- Fortunately, there are effective nontoxic alternatives to chemical antiparasitic drugs; there are also ways to use them that limit their toxicity to both pets and the environment

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As most of you who visit here regularly know, I'm solidly on the side of "less is more" when it comes to the use of chemicals of all kinds. As a proactive wellness veterinarian, my goal is always to put in the work on the front end to maintain my patients in a state of vibrant good health. When a pet becomes ill, my preference whenever possible is to support that animal's body with nontoxic modalities while it works to heal itself naturally.

Among the many chemicals I advise avoiding for pets are the automatic application of parasiticides, the most common of which are **flea and tick preventives**. Several times a year here at Mercola Healthy Pets and especially leading up to and during the summer months, I caution pet parents to use these products minimally, or not at all if they can get away with it.

I'm always fighting an uphill battle, because chemical flea/tick preventives are ubiquitous these days and are promoted incessantly by drug manufacturers, the conventional veterinary community and the media. Several can even be purchased over the counter, no veterinary visit or other guidance required.

When I talk about the potential risks associated with parasiticides, I typically limit the discussion to the side effects they can cause in companion animals, as well as the growing problem of pesticide resistance. But recently, scientists in the U.K. have opened a discussion of the effects of antiparasitic drugs on the environment.

A Call to Return to 'Strategic Prescribing' of Parasiticides

Veterinarian Christopher Little of Barton Veterinary Hospital and Surgery in Canterbury, and Alistair Boxall, Professor of Environmental Science, Department of Environment and Geography at the University of York wrote a paper titled "Environmental pollution from pet parasiticides" that was published in January 2020 in Veterinary Journal.[1]

In their paper, Little and Boxall called for veterinarians to stop "blanket prophylactic use" of antiparasitic drugs and suggested instead a return to strategic prescribing to minimize the presence of these chemicals in the environment.

Andrea Tarr, founder of Veterinary Prescriber, an "independent reference and learning resource on veterinary medicines for vets" wrote a follow-up paper that also appeared in Veterinary Journal.

According to Tarr, factors that likely prompted the change from strategic to blanket prescribing of parasiticides for dogs and cats include the growing popularity of pet health plans and client reminder services that encourage year-round "comprehensive" parasite protection, increased awareness of lungworm infections in pets (especially in the U.K.), and a mini-explosion of broad-spectrum parasiticide products.

> *"Currently, assessment of the environmental effects of these products before marketing approval is limited," writes Tarr, "and we need urgently to understand more about the risks to the environment from their overall use. In the meantime, it makes sense to stop unnecessary use of the drugs. But how can this be done?"*[2]

Glut of Broad-Spectrum Parasiticides Complicates the Picture

Tarr goes on to speculate that a more targeted and rational use of the drugs might not be feasible because the parasiticide industry is largely focused on broad-spectrum combination products — products that are designed to protect pets from multiple different parasites vs. a single parasite.

Tarr uses the example that there are no milbemycin-only products for lungworm, "so lungworm prevention and treatment must go hand in hand with tapeworm control (unnecessary for many dogs) or flea and tick control."

This is yet another reason I advise against these products. Because they're broad-spectrum, not only are pets exposed to the parasiticide they supposedly need, but several others they very likely do not need. Each one of the chemicals in these combination products increases the likelihood of adverse reactions as well as the animal's toxic load.

Because there's little flexibility in how broad-spectrum antiparasitic drugs are formulated, veterinarians end up using more than one combination product. "Such overuse of parasiticides means more product ends up in the environment as well as increasing the likelihood of adverse effects in the animal," writes Tarr.

'Rational Use' of Parasiticides Faces Many Challenges

Tarr believes we need a better understanding of how each parasiticide affects the environment. "For example," she writes, "is imidacloprid any worse than other topical insecticides, and are the spot-ons that are minimally absorbed inherently more harmful to the environment than systemically acting spot-ons or oral products?"

She also makes the point that since some parasiticides don't require a prescription, limiting their impact on the environment will require the cooperation of pet parents. For example, they'll need to follow package warnings about not allowing dogs with parasiticide collars or those who've been recently treated with a spot-on product to enter

natural bodies of water.

Unfortunately, package warnings — especially those long, multi-fold inserts with tiny print — aren't easy for many people to see clearly, much less read thoroughly. Bottom line, most pet owners are unlikely to see important cautions about preventing harm to the environment.

> *"So protecting the environment by asking vets to use parasiticides more rationally might be difficult to achieve as things stand and addresses only some aspects of parasiticide use," Tarr concludes.*

> *"There is a need for independent research on the impact of companion animal parasiticides on the environment, better product information to educate pet owners, and a benefit versus harm evaluation of the different approaches to parasite control."*

Before You Reach for a Chemical Parasiticide

As I mentioned earlier, I strongly discourage pet parents from automatically applying potentially toxic chemical agents to their pets or around their home to repel or kill pests.

This is vastly different advice from what is given by the veterinary community, which in some locations recommends monthly application of pesticides, year round, from puppyhood to death. Each pesticide application should come with thoughtful awareness of the risks vs. benefits for all family members and the environment as well.

The use of **spot-on products** may cause skin irritation, paralysis, seizures and even death if used improperly, and there are effective natural alternatives that are far safer. In addition, parasites are growing resistant to chemical pesticides, which means your dog or cat may still be exposed to parasitic disease. If, however, you choose to use these chemicals, follow these precautions:

- Be very careful to follow dosing directions on the label, and if your pet is at the low end of a dosage range use the next lowest dosage. Be extremely cautious with small dogs, and do not under any circumstances apply dog product to your **cat**.
- Monitor your pet for adverse reactions after you apply a chemical product — especially when using one for the first time.
- Don't depend exclusively on chemical treatments. Rotate natural preventives with chemicals, including diatomaceous earth, pet-friendly essential oil products and natural deterrent collars. An every-other-month rotation works well for many pet parents. In many parts of the country people find they can successfully control ticks with two doses a year: one in the spring and one in the late summer.

Since your pet's liver will be tasked with processing the chemicals that make it into the bloodstream, it can be very beneficial to give a supplement to help detoxify the liver. I recommend milk thistle, which is a detox agent and also helps to regenerate liver cells. Another product I recommend is chlorella, a super green food that is a very powerful detox agent.

Work with your integrative veterinarian to determine how much to give your pet depending on her age, weight and the medications she's taking. I recommend one dose daily for seven days following any chemical flea, tick or heartworm preventive application.

Safe, Nontoxic Alternatives to Chemicals

There are safe, nontoxic alternatives for pest control for pets, and they don't have side effects, unlike virtually all forms of chemical parasiticides. I recommend common sense, first and foremost. Do you apply chemicals to your human children every time they walk in the woods? I recommend you use the same level of concern and vigilance for all family members.

If you live in a high-risk area and do apply pesticide sprays on your kids, your pets probably need them too (a pet version). If you rely on meticulous tick checks after your children have been in high risk areas, include your pets in the body search for unwelcome parasites. Many people rely on safer repellents for their human family members when enjoying the great outdoors. There are also safer alternatives for pets:

- A safe, natural pest deterrent
- Cedar oil (specifically manufactured for pet health)
- Natural, food-grade diatomaceous earth, topically (not on the face)
- Fresh garlic (¼ teaspoon of freshly chopped garlic per 15 pounds of body weight once daily)
- Feed a nutritionally optimal, species-specific fresh food diet to bolster your pet's innate immune defenses
- Bathe and brush your pet regularly and perform frequent full-body inspections to check for parasite activity (if your dog or cat spends a lot of time outdoors, it's important to check your pet and yourself for ticks every night during tick season)
- Use a flea and tick comb to naturally exfoliate your pet's skin while removing or exposing pests (absolutely nothing takes the place of physically checking for ticks)
- Make sure both your indoor and outdoor environments are unfriendly to pests

Sources and References

[1] Little, CJ., Boxall, AB. (2020) Environmental pollution from pet parasiticides. Veterinary Record 186, 97

[2] Tarr, A. (2020) Rational use of companion animal parasiticides. Veterinary Record 187, 75