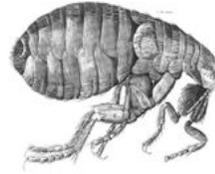




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Flea and Tick Treatment (2010)

Efficacy and Safety
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(Flea drawing by Robert Hooke (1635-1703))

With the arrival of spring in the Northern Hemisphere we all start thinking about these pesky carriers of disease and misery. People and their pets are more mobile than ever and while 95% of Lyme cases are found in just 12 states currently, that may be because we aren't looking. Lyme and other tick borne diseases are spreading dramatically throughout the United States, as well as Canada and Europe. Having your vet run an Idexx SNAP-4Dx test for Lyme disease, ehrlichiosis, anaplasmosis and heartworm each year is just good medicine wherever you live.

We would rather prevent diseases from afflicting our dogs though than treat them. In recent years topical spot-on products to protect against fleas, ticks mosquitoes and other parasites have rather taken over the market and they are a lot safer than the products that preceded them and a lot more effective, but both of these concerns have been raised increasingly of late. I don't claim to have the definitive answer, but I will try and shed a little light on this.

When it comes to efficacy a product must show that it has 90% efficacy at least for whatever claims it makes be it that it kills or repels fleas, ticks and other insects and/or their immature forms. That still leaves quite a lot of bugs that can attack your pup, and cause him and you a lot of grief. The American Association of Veterinary Parasitologists defines resistance as being when efficacy is less than it was when the product was first launched or that 90% level. Still, we are told that it is not resistance to these products that is the problem, in all the cases that have been investigated there has always been something else happening to explain why pests were still present. In general the problem is not that the product doesn't work it is that it is being overwhelmed. The AAVP however, warns that in time we will almost certainly develop resistance. Factors contributing to this are inconsistent use - people stopping and starting the product only when they are aware of a problem, and the use of over the counter, cheap imitations of the original product - often sold as the real thing.



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A single female flea can lay 40 to 50 eggs a day. Most of the spot ons do not kill the eggs because they aren't on the dog. In a warm environment they hang out in the soft furnishings, carpets or the cracks in the hardwood floor, mature and when ready reinfest the dog. While the advertisements may lull us into thinking we put the stuff on and the problem disappears I hate to break the news, but we need to wash the dogs' bedding and toys, we have to vacuum, and we probably should think seriously about treating the environment. Insect growth regulators (IGRs) such as nylar and methoprene prevent flea eggs and larvae from ever reaching adulthood, so they never bite or reproduce.

Outside we can remove habitat for fleas and ticks and apply diatomaceous earth (DE) which breaks through the insects' outer layer and causes them to lose liquid which is absorbed by the DE and kills the insect. Unfortunately, DE is very irritating to mammalian lungs if we breath it in, so it is important when laying this product that we wear dust masks and goggles and don't let our animals in to the treated area until it has completely settled. It is also important to use the USDA certified food grade DE and not the crystalline silicate sold for use in pools.

A couple of others points may be useful to consider when thinking about efficacy. Often we are grossed out when we discover we have fleas and ticks. We go ahead and put the spot-on on the dog, but we are still anxious about the dog being around the kids, whether he slept under the baby's crib, or in the humans' beds or on the furniture. So we exclude him from those spots. The trouble is he was there while his flea army was building or his ticks were gorging and dropping off to lay their eggs. When the next crop of insects matures with no other warm body to feast on it may just be the baby or our ankles that they latch on to. The dog rolling on the carpet spreads the product into his personal environment, and he is protected while the humans aren't. The other thing, which may seem so obvious, but needs to be said, those little tubes are fiddly, and I know I have trouble penetrating the tube on occasion. Some people think they applied the contents whereas the seal was never broken. Given the price of these products an expensive mistake in more ways than one.

While the dog rolling and spreading the spot-on product into his environment helps with control of eggs and larvae there, it adds to our concerns about the safety of these products. The Environmental Protection Agency (EPA) regulates topical pet treatments. It has reported that the number of



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negative incidents stemming from spot-on flea and tick treatments increased 53% to 44,263 in 2008 from the previous year. As a result of the increase, the EPA has said that it is intensifying its evaluation of the safety of spot-on products. It should be pointed out that the EPA does not differentiate between the different products by name. As yet it is unclear why there has been this sudden leap, when they have been the treatment of choice for more than a decade. The adverse effects are mostly skin irritations - hot spots and burns, but also include seizures and other serious problems and sometimes even death.

One big problem has been with people applying products labeled for dogs only to cats, or even when the family cat spends too much time with a treated dog. If there is any good news most of the time the problem results from misapplication of the product - so do read the instructions before using it and make sure you understand them as the various spot-ons are all slightly different. In particular pay attention to the age of the animal - many products aren't safe for the very young, pregnant, nursing or the geriatric set - and the weight range for the product you have. The other time problems are more likely is where the dog has a preexisting health problem. The trouble is that the reaction to the spot-on may be the first indication of that problem.

Also be very careful not to apply a smorgasbord of different chemicals for protection against a range of parasites without consulting your vet. Those chemicals can interact and cause serious consequences. If your dog is heavily infested with fleas it is a good idea to reduce the load and check that the dog is not severely anemic before applying a spot-on. Give a product like Capstar kills all the fleas on the dog in about 30 minutes or Comfortis which starts killing fleas within 30 minutes and protects your dog from fleas for a month.

Of course everything comes with a price - side effects of Comfortis are most commonly vomiting, but also include depression/lethargy, decreased appetite, incoordination, diarrhea, itching, trembling, excessive salivation and seizures. If used with extra label ivermectin some dogs have experienced trembling/twitching, salivation /drooling, seizures, incoordination, excessive dilation of pupils, blindness and disorientation. I hasten to add that these reactions are extremely rare. Capstar by contrast has virtually no side effects, can be used with pregnant bitches and puppies over 4 weeks of age, but has virtually no residual action.



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Concerns about safety have caused many to revert to trying other possibly safer and more natural products. One thing to remember from the get-go is that natural is often more dangerous than man-made. Pennyroyal oil is toxic and potentially fatal. It has been used to treat dogs for insect infestations. I am currently trying Sentry's Natural Defense on my own dogs. It contains several natural plant oils. I am doing so on the recommendation of a friend who has had good success with the spot-on and the spray. So far no ticks (I've not had fleas in years so no comments on that, but one friend had excellent success while it didn't work for another). The smell is intense, not unpleasant, but strong enough to make the eyes water a bit the first two days. It will stain white coat so always place behind the shawl. However, I have noticed some discoloration on black, brown and blue coat hair too, so I wouldn't advise using it if you plan to show your dog.

For those wishing to check out alternatives to the spot-ons check out www.greenpaws.org - website of the Natural Resources Defence Council. I will say that they advise weekly washing of the dog and its bedding, vacuuming thoroughly and disposing of the bag outside the home, as well as use of the flea comb. Fleas do drown, but if you have a major infestation more will likely be necessary. Finally, there is the shoo!TAG which hangs from a dog's collar (they also make them for cats, humans and horses) and uses electromagnetic frequencies to repel ticks, mosquitoes, fleas and other biting flies as well as the immature tick nymphs that also bite and transmit disease and can be smaller than this period. The tag is supposed to take three days to activate but provides protection for 4 months. My skepticism antenna is rotating wildly, but I read about it in a veterinary journal, and reading on-line reviews some people seem pretty impressed by the product even if others say it is useless.

As I said no definitive answers, but hopefully some suggestions that will help you have a flea and tick free environment and help you find the solutions best for you and your Beardie(s).