

Controlling Fleas, Ticks, and Heartworm

Success lies in understanding the life cycle of parasites, and how active ingredients work.

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One of the paradoxes of our times is that we're able to search for life on Mars, but we still can't wipe out fleas and ticks here at home. Despite technology and all it has brought to our world, these two ancient creatures continue to plague our dogs' lives. Whether stacked in the conformation ring, racing through agility tunnels, or tracking through the brush, our dogs remain vulnerable to the problems created by these incredibly annoying bugs.

Although as yet we can't completely eliminate fleas, ticks and heartworm, we can do a lot to keep them off and out of our dogs. Manufacturers of parasite control products have been hard at work for decades to develop products that keep pests at bay.

There are several effective active ingredients in today's control methods, and all are primarily designed to take advantage of how fleas and ticks live and reproduce. Some products are available only through veterinarians, while others can be purchased over the counter. Whichever route you take, understanding how these ingredients combat parasites will help you make an informed decision for your dog.

A Bug's LifeThe four-stage life cycle begins when a female flea breeds and subsequently lays up to 50 eggs at a time on a dog's skin. Her excrement, blood-rich "flea dirt," serves as food for the larvae, which normally hatch in two to five days. After growing and molting twice, the young fleas spin cocoons, and grow into pupae. Adult fleas do not emerge from their pupae until they sense heat, vibrations or carbon dioxide, indicating the presence of a potential host. Once the adult flea is free of the pupa, it begins the breeding and feeding cycle again. An adult will die after about a week if it doesn't find a blood meal; but the pupae can lie dormant, without feeding, for months.

The life cycle of the tick is somewhat similar in that it begins with the breeding of a female tick and the laying of 100 to 6,000 eggs, depending on the species. Tick larvae have six legs until they feed. Once they have digested a blood meal, they molt into eight-legged nymphs. These nymphs then molt into adult ticks, and the cycle begins again and lasts anywhere from a few months to two years, depending on environmental conditions!

As most dog owners know, the problem with fleas and ticks is that the hosts of choice for these pests are furred mammals. It's our dogs that are under siege, made into walking meals by hungry fleas and ticks. The bite of a flea causes itching, and in extreme cases, flea-bite dermatitis, a chronic skin condition. Fleas can also pass tapeworms to dogs if an infected flea is inadvertently swallowed. Ticks can cause even more damage when they latch on to dogs to get their blood meal, sometimes injecting organisms into the dog's system that cause illnesses such as Lyme disease and Ehrlichia.