



1133 S. Fort Thomas Ave, Fort Thomas, KY 859-781-7387

## **ALL ABOUT FLEA CONTROL & HOME REMEDIES (BORAX)**

Fleas seem to be rather simple creatures. How complicated can their life cycle be?

### **FLEA 101**

Although you are only able to see the adult flea, there are actually four stages of the life cycle. The adult flea constitutes only about 5% of the entire flea population if you consider all four stages of the life cycle. Flea eggs are pearly white and about 1/32" (1/2 mm) in length. They are too small to see without magnification. Fleas lay their eggs on the pet, but the eggs do not stick to the pet's hair. Instead, they fall off into the pet's environment. The eggs make up 50% of the flea population. They hatch into larvae in 1 to 10 days, depending on temperature and humidity. High humidity and favor rapid hatching.

Flea larvae are slender and about 1/8-1/4" (2-5 mm) in length. They feed on organic debris found in their environment and on adult flea feces, which is essential for successful development. They avoid direct sunlight and actively move deep into carpet fibers or under organic debris (grass, branches, leaves, or soil). They live for 5 to 11 days before becoming a pupa. Moisture is essential for their survival of these immature stages of the flea and larvae are killed by drying; therefore, it is unlikely that they survive outdoors in sunny areas. Outdoor larval development occurs only where the ground is shaded and moist and where flea-infested pets spend a significant amount of time. This allows flea feces to be deposited in the environment. In an indoor environment, larvae survive best in the protected environment of a carpet or in cracks between hardwood floors.

Following complete development, the mature larvae produce a silk-like cocoon in which the next step of development, the pupa, resides. The cocoon is sticky, so it quickly becomes coated with debris from the environment. This serves to camouflage it. In warm, humid conditions, pupae become adult fleas in 5-10 days. However, the adults do not emerge from the cocoon unless stimulated by physical pressure, carbon dioxide, or heat. Pre-emerged adult fleas can survive up to 140 days within the cocoon. During this time, they are resistant to insecticides applied to their environment. Because of this, adult fleas may continue to emerge into the environment for up to



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three weeks following insecticide application. When the adult flea emerges from its cocoon, it immediately seeks a host because it must have a blood meal within a few days to survive. It is attracted to people and pets by body heat, movement, and exhaled carbon dioxide. It seeks light, which means that it migrates to the surface of the carpet so that it can encounter a passing host. Following the first blood meal, female fleas begin egg production within 36 to 48 hours. Egg production can continue for as long as 100 days, which means that a single flea can produce thousands of eggs. This entire life cycle (adult flea fi egg fi larva fi pupa fi adult) can be completed in 14-21 days with the proper temperature and humidity conditions. This adds to the problem of flea control.

## **IN-DOOR USE**

Flea control can be expensive! The following tips could save you some money.

1. Thoroughly vacuum your house, then tape the vacuum bag shut and get it out of your house. You have removed the number one source of fleas.
2. Take a quart Mason jar and punch 15-20 holes in the lid. Fill the jar with 20 Mule Team Borax laundry detergent (you can get this at Wal-Mart or Kroger, maybe also labeled as Borax Booster). Do not use Borateen. Liberally shake Borax on all carpet surfaces. Be sure to include areas under beds, couch cushions, and around baseboards. Then sweep with a broom to get the Borax deep into the carpet fibers and into the baseboard areas. Do not vacuum these areas for at least several hours. 1 day is better.
3. Vacuum as you normally would. Repeat the Borax treatment every three to four months, or more frequently if you vacuum more than once a week.

Borax works in the three ways. Its number one ingredient is Boric Acid, which is a dehydrator that drains the adult flea's bodily fluids. As new larvae hatch and crawl around in the carpet, the Borax also dehydrates their outer tissues and they dry up. Finally, it contaminates the food source left behind by the adult flea for their larvae. So whatever larvae somehow missed crawling through the Borax in the carpet will now be killed internally by eating this contaminated food. You'll still see adult fleas around for about two weeks, but they'll start looking transparent and acting very sickly.

Use Borax on carpet surfaces only. **Do not use Borax on pets or in their bedding!**



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## **OUT-DOOR USE**

For outdoor flea control, you will need two items: Original Palmolive or Dawn Dishwashing Liquid and a dial– type sprayer (e.g., Ortho Dial Sprayer). Dishwashing liquid is PH balanced and will not harm anything in the environment when used as directed.

For patios, decks, window sills and around the foundation of your house, set the dial sprayer to dispense the dishwashing liquid at the rate of three to four ounces per one gallon of water. When spraying around bushes, roses, and lawns, set the sprayer to dispense the dishwashing liquid at the rate of two teaspoons per one gallon of water. Allow areas to dry before returning pets to area.

Because dishwashing liquid is a petroleum distillate, it suffocates the flea. It also kills aphids, ants and grasshoppers. If ants or crickets are a problem entering you home through doorways or windowsills, try squirting a fine line of dishwashing liquid (straight from the bottle) at the baseboard of the doorway. Do the above in early morning or as the sun is going down.

For fleas, repeat up to two-week intervals. Do not use this method in the heat of the day. You'll burn your plants up. **Do not use dishwashing liquid on your pet!** Be sure to include regular bathing and standard flea control prevention on your animals.

*PLEASE NOTE*—Flea products and treatments do not repel fleas from your pet. They are made to kill the fleas after they bite your pet. Frontline works for 1 month in cats and 2 months on dogs. If you see live fleas on your pet during this time it does not mean that the product is not working, the fleas have not bitten the pet yet and ingested the product to kill it.

## **Controlling fleas in the environment. In-Door preventative steps**

**Grooming:** Combing your pet daily with a flea comb is an important part of flea control. Bathing animals regularly is also advised. There is no need to use chemical flea shampoos. A water bath with a gentle soap that won't irritate their skin is sufficient to eliminate existing fleas.



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**Set a trap:** You can trap fleas by placing a dish of soapy water under a night-light near where your pet sleeps. Fleas are attracted to warm light and will easily drown in the soapy water. This works for adult fleas only, but with diligence, can be very effective reducing the flea population. Fleas already residing on your pet aren't likely to leave, so you will still need to flea comb and/or bathe them in a mild shampoo (even a baby shampoo will work as fleas don't survive well in soapy water). If the idea of keeping a soapy water dish near your pet is not attractive, plug-in flea traps are available. These electric traps are equally, if not more, effective. They seem to work well for ants, as we have noticed in our personal experience.)

**Sanitize your pet's environment:** Fleas lay their eggs everywhere -- in carpets, curtains, upholstery, animal bedding, cracks and crevices. Destroying the fleas' eggs by thorough weekly vacuuming and frequent washing of animal bedding goes to the source of the problem and will help eliminate the flea population in your house. After vacuuming, be sure to replace the bag right away and take the old bag out of the house. Keeping clutter on the floor to a minimum also will deprive the fleas of hiding places.

### **Controlling fleas in the environment. Out-Door preventative steps**

**Nematodes:** While you can't kill off the fleas that your pet is going to encounter when it goes outside, you can keep the population down in the area around your house by using nematodes. These microscopic worms eat flea larvae and are therefore a natural way to control the flea population. You can purchase nematodes online, or at pet and garden stores. Place them in moist, shady spots near your house as neither fleas nor nematodes survive in the hot sun. As nematodes multiply rapidly, you have only to introduce a small number to have the desired effect.

### **"Buyer beware" -- Toxic products masquerading as "natural"**

Even if all the ingredients in a flea repellent product are natural, this doesn't ensure that they won't be toxic to your pet. For instance, d'Limonene, which is derived from citrus peels and found in many natural anti-flea products, can be highly toxic to cats. Herbal flea collars, though they don't contain the poisons that conventional flea collars do, come with the same warning: do not let children play with the collar. If it is not good for your child, why would it be good for your pet? It is advisable to read product labels



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carefully. For example, one line of supposedly natural flea sprays and dips contains "all natural synthetic Pyrethrin." Pyrethrins are insecticides derived from the African chrysanthemum (Pyrethrum). Pyrethroids are synthetic derivatives of pyrethrins. Both are commonly used in conventional preparations that make the product sound innocent because it's derived from a flower. But pyrethrins alone can be toxic to the animal and pyrethroids expose your animal to more chemicals.

Other natural ingredients known to cause allergic reactions or have toxic effects in some animals include Tea Tree (*Melaleuca alternifolia*) oil and Pennyroyal oil. Cat owners take special note: Cats should not be given any essential oils, period. The use of essential oils with cats is a potentially volatile combination. Cats do not efficiently metabolize essential oils and their use can lead to symptoms of toxicity. In addition to essential oils, cats have known metabolic sensitivities to certain herbal preparations and allopathic medications. Because the cat's body does not efficiently excrete essential oils, they can build up to toxic levels. Symptoms of toxicity include vomiting, dizziness, clumsiness, lack of appetite, lack of energy and shock. In addition, cats have very thin, delicate skin. Essential oils are absorbed rapidly into their skin and enter the bloodstream, overwhelming their systems. Cats dislike strong odors and generally keep away from strong scents -- even highly diluted essential oils. Many people find that they can use essential oils on their cats with no obvious adverse effects. Although one or more applications of an essential oil product or blend may not cause immediate harm, the effects of essential oils can be cumulative and manifest themselves at a later date in the form of toxicity for which owners and vets often can find no attributable cause.

### **Frontline FAQ's:**

**How quickly does FRONTLINE kill parasites?** FRONTLINE will kill fleas within 18 hours of contact with your treated pet. Ticks will die within 48 hours of contact with your treated pet. How does FRONTLINE spread over a pet's body? When applied, these products are gradually dispersed by the pet's natural oils, collecting in the oil glands in the skin. It is then "wicked" onto the hair over the next 30 days. The translocation process can take up to 24 hours to complete.



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**Do fleas and ticks have to bite my pet for FRONTLINE to work?** Fleas and ticks do not have to bite your pet for FRONTLINE to work. FRONTLINE kills fleas and ticks if they simply come into contact with your pet's hair coat.

**Why am I seeing more fleas on my pet after applying FRONTLINE?** After the application of FRONTLINE, you may see more fleas, but this is an indication that the FRONTLINE is working. FRONTLINE make fleas hyper-excited, drawing them to the top of the hair-coat before dying. This will make them more visible to you.

**I treated my pet with FRONTLINE, but I still see fleas in my home. Why?** The fleas you see are most likely hatched flea eggs that were deposited in the environment before you began using FRONTLINE. Consecutive monthly application of FRONTLINE will assist with the elimination of an indoor flea life cycle.

**How does FRONTLINE kill fleas before they can lay eggs on my pet?** Once new adult fleas jump on your pet, they must be present on the host for at least 24 to 36 hours before they can lay eggs. FRONTLINE will kill your pet's fleas within 18 hours of application-before they can lay eggs.

**Does FRONTLINE have an expiration date?** No. We recommend storing FRONTLINE at room temperature. It is light sensitive, so if not in its original packaging, keep it in a dark place (i.e. a drawer).

**How long after application can my pet be bathed or go swimming?** After application, keep the dog or cat from getting wet until the application area appears dry, usually 24 hours. If FRONTLINE is to be applied after a bath, make sure the pet is completely dry before applications.

**Can I use FRONTLINE if my pet is on medication?** FRONTLINE is not systemically active and has no known adverse interactions with systemic medications.

**Can I use FRONTLINE if I have already applied another flea-and-tick control product?** There are no known interactions between FRONTLINE and any other flea-and-tick control products. However, it is recommended to wait at least 24 hours



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between applications.

**Can FRONTLINE be used on pregnant or lactating dogs and cats?** FRONTLINE is approved by the Environmental Protection Agency (EPA) to be used on pregnant, lactating and breeding dogs and cats. FRONTLINE SPRAY is not approved for use on pregnant, lactating and breeding dogs and cats.

**Can FRONTLINE be used on pets other than dogs and cats?** No

**Can FRONTLINE be reapplied before the 30-day treatment interval is up?**

FRONTLINE controls fleas and ticks for a full month, so reapplication is unnecessary within 30 days.

**Are there any side effects when using FRONTLINE?** Some pets may experience temporary irritation at the site of product application. If signs persist, or become more severe within a few days of application, consult your veterinarian.

**How old does my pet have to be to apply FRONTLINE brand products?**

FRONTLINE may be applied to dogs and cats as young as 8 weeks of age.