

KEEPING

FLEAS

OFF YOUR PETS AND OUT OF YOUR YARD



The flea most commonly found in and around the home is the cat flea, *Ctenocephalides felis*. Despite its name, the cat flea finds dogs and humans quite tasty too. Flea bites cause irritation, but also serious allergies in some animals and humans.

DETECTION

Adult fleas spend almost all of their time on an animal's body. In order to know when to begin and end your flea-control efforts, use a specially manufactured flea comb on your pet to keep track of the flea population.

Look for tiny eggs and tiny, white, worm-like flea larvae on the floor, in rugs, in cracks and crevices, and anywhere pets rest or sleep. Larvae feed on dried blood excreted by adults.

Flea traps can help you pinpoint a problem if you don't own a pet but still have fleas. Animals nesting near your house may be the source.

LESS-TOXIC CONTROLS

INSIDE YOUR HOME

- **Comb your pet** with a metal flea comb, available at pet stores. Focus around the neck and base of the tail. Keep a wide container of soapy water nearby to drown captured fleas.
- **Bathe dogs** to drown fleas. Use a dog shampoo and increase effectiveness by using a flea comb while the pet is lathered. It is not necessary to use shampoo with insecticide.
- **Vacuum carpets, floors, and upholstered furniture frequently** throughout the year. Vacuuming carpets picks up adult and egg-stage fleas, but is less effective at removing larvae. Clean cracks and crevices; or better still, seal permanently with caulk. Try gently vacuuming your animal's coat to remove adult fleas.
- **Use diatomaceous earth (DE)** to treat carpets, upholstered furniture, and pet bedding or blow it into cracks and crevices. Use a hand duster to apply a fine layer of DE. Wear a dust mask and goggles and avoid getting dust in your pet's eyes. DE has little toxicity to humans and pets, but kills fleas by absorbing the waxy coating on their bodies, causing dehydration and death.
- **Use borate-based carpet treatments.** Borates have a low toxicity to humans and pets. Fleanix carpet treatment can control fleas in carpeting for up to a year. Mix the powder with water in a rug shampooing machine with or without detergent.

During shampooing, borate binds to carpet fibers and cannot be vacuumed up. Borate applied in water poses less hazard to the lungs than borate applied as a dust.

- **Flea traps** attract adult fleas to the warmth and light of an electric bulb and the fleas are caught on sticky paper. Fleas prefer a warm body so traps will work better in areas where you can exclude animals and humans.

OUTSIDE YOUR HOME

- **Treat outside only where you have found high flea populations.** To find these areas, walk around the yard in a pair of white socks. Check areas where animals rest, sleep, or regularly travel. You will easily see fleas that jump onto the socks.
- **Do not try to combat fleas by spraying around the perimeter of your house or spraying your entire yard.** Spot-treat only those areas where you find large populations of fleas. Fleas will more likely be on an animal or inside your home. Concentrate your efforts there.
- **Check for wild animals** like raccoons and opossums nesting under the house or porch. Dead animals can also be the source of a flea infestation. Treat nests under the house with diatomaceous earth.
- **Use beneficial nematodes** in soil where you have found fleas. Apply beneficial nematodes to soil where you have found fleas. The soil temperature must be between 60°F and 90°F, and the soil should be moist.



Choose less toxic products for your home and garden. Look for this symbol before you buy.

Irrigate before and after application, but don't soak the area. For sources of nematodes, see the Products and Resources box.

FOR YOUR ANIMAL

- **Ultrasonic collars and machines are not effective.** There is no scientific evidence that these products affect fleas, and they are not recommended.

The following insecticides should only be used during flea season. Unnecessary use may speed up the process of fleas becoming resistant to these chemicals:

- **Fipronil (Frontline) and imidacloprid (Advantage)** are applied to the skin of the animal in a small amount at one spot, usually at the base of the neck or between the shoulder blades. The insecticide spreads over the entire body of the pet and is effective for at least a month. These products have a low acute toxicity for mammals (chronic toxicity of fipronil unknown) but can be irritating to eyes and should not be ingested. Use gloves when applying them.
- **Lufenuron (Program)** is given orally to the animal. Fleas that ingest this chemical produce only a few viable eggs, and larvae from those eggs cannot mature. Because lufenuron accumulates in fat and crosses the placental barrier, do not treat pregnant, nursing, or very young animals.
- **Insect growth regulators (IGRs)** such as methoprene (Precor) and pyri-

proxifen (Nylar) do not kill adult fleas, but break the flea reproduction cycle by preventing flea larvae from turning into adults. IGRs are sold in a variety of applications including spot-on formulations and tablets for your animal. Some products combine IGRs with other pesticides. In general, products containing just IGRs pose the fewest risks. IGRs have low toxicity to mammals, but are toxic to some aquatic organisms; therefore, it's best to limit the use of IGRs to indoor applications where the product won't go down an indoor drain.

PREVENTION

- **Restrict pets to a regular sleeping space** so you can focus cleaning efforts on fewer areas.
- **Use washable pet bedding** that can be gathered up easily by the four corners and laundered frequently. Soapy water destroys all flea stages.
- **For highly allergic people:** Protect yourself by wearing a long-sleeved shirt and long pants tucked into socks. If the weather is hot, just a pair of long white socks will offer some protection. Pick off fleas and drop them into soapy water. Apply insect repellents to shoes and clothing rather than to skin.
- **Keep wild animals and rodents away from the house.** Patch holes or cover them with screen (1/4" hardware cloth) to prevent animals from getting in.

PRODUCTS AND RESOURCES

Examples of trade names of products listed in this fact sheet:

Insecticidal Dusts: Safer and Concern Crawling Insect Killer

Hand Duster: Pest Pistol (If unavailable locally, call (888) 784-1722 to order); www.groworganic.com

Borate-based Carpet Treatments: Fleanix (If unavailable locally, call (415) 459-4003 to order)

Flea Trap: Raid Flea Killer Plus

Beneficial Nematodes (*Heterorhabditis bacteriophora*):

Rincon Vitova Insectaries, P.O. Box 1555, Ventura, CA 93002; (800) 248-2847; www.rinconvitova.com

Buena BioSystems, P.O. Box 4008, Ventura, CA 93007; (805) 525-2525 www.buenabiosystems.com

PESTICIDES AND WATER POLLUTION

Common household pesticides show up in treated wastewater and in local waterways, sometimes at levels that can harm sensitive aquatic life. So, water pollution prevention agencies have teamed up with participating retail stores, pesticide distributors, and manufacturers to reduce the risks associated with pesticide use. This fact sheet is part of a series of fact sheets and store displays aimed at educating residents about less-toxic pest management. For the rest of the series of fact sheets, visit www.ourwaterourworld.org. Also, look for the "Our Water Our World" logo next to products in participating stores and nurseries. See the Pesticides and Water Pollution fact sheet for information on active ingredients in common pesticides that may cause water quality problems.

Pest control strategies and methods described in this publication are consistent with integrated pest management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. **Use suggested products according to label directions and dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event.** For more information on pesticide disposal, call 1-800-CLEANUP or visit: www.1800CLEANUP.org. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

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FOR MORE INFORMATION

For more information, contact:

Bio-Integral Resource Center (BIRC)
(510) 524-2567; www.birc.org

University of California Cooperative Extension Master Gardeners in your area (in the phone book)

University of California IPM website:
www.ipm.ucdavis.edu

