KEEPING

GOGKROAGHES OUT OF YOUR HOUSE

Ithough cockroaches are useful outdoors, where they help recycle plant and animal wastes, they are not welcome indoors. Research clearly indicates that roaches can carry disease-causing organisms from sewers, garbage cans, or bathrooms to kitchen counters and human food. Cockroaches can also trigger allergic reactions in some people.

DETECTION

Except for size and markings, all cockroaches have a similar appearance. These insects are dark in color, ovalshaped, and have long antennae. Roaches are mainly active at night and generally remain hidden during the day in cracks and crevices near their source of food.

• Use nontoxic sticky traps to locate roach habitat. Roaches like to travel

by touching the edges of objects. Place traps along the edges of walls, appliances, cupboards, etc., and not in the middle of the room. Sticky traps with a nontoxic "pheromone" attractant will catch more roaches. When you find out where roaches are hiding, you'll know where to concentrate your efforts.

LESS-TOXIC CONTROLS

- Use sticky traps for small infestations. If you only have a few roaches, you may be able to control the problem with sticky traps.
- Use a strong vacuum with a crevice attachment to pull roaches from their hiding places.
- Use insecticidal dusts such as diatomaceous earth (DE) or boric acid in wall voids or cracks and crevices before you seal them, under large appliances, or in other prime habitats. One way to gain access to a wall void is to remove the cover plates on electrical outlets and switches. Always turn off the power before applying products near electrical outlets.

When properly used, DE has little toxicity to humans and pets, but kills insects by absorbing their outer waxy coating, causing dehydration and death. Use DE sold for pest control and *not* for pool filters.

Although boric acid has a low acute (immediate) toxicity for humans and pets, it should be handled carefully and kept out of the reach of children and pets. For roaches, boric acid is a slow-acting but effective stomach poison.

When applying these dusts, use a hand duster and wear a dust mask, gloves, and safety goggles. Apply a very light coating because roaches will avoid piles of dust.

• Use cockroach baits because they use minimal amounts of insecticide and confine the poison to a very small area (see Tips for Using Cockroach Baits on back).

PREVENTION

Prevent cockroach infestations by denying them access to your home and to the food, water, and shelter they need to survive.

- Store food in the refrigerator or in containers that seal tightly.
- Keep things clean and tidy. Thoroughly clean counters and vacuum or sweep floors daily in eating and food preparation areas. Don't leave dirty dishes out overnight, even in the dishwasher. Any garbage containing food scraps should be removed from the house nightly. Thoroughly clean recyclables before storing them. At night, place pet food



and water bowls in a moat of soapy water. Reduce clutter in all rooms (it provides habitat for roaches).

- Keep things dry. Fix leaky plumbing. Keep kitchen surfaces dry whenever they are not in use, especially overnight.
- Seal cracks and crevices. Before sealing, vacuum and wash the area to eliminate all roach egg cases, fecal matter, or other debris. Caulk and paint cracks around baseboards, cupboards, pipes, sinks, etc. Use mildewresistant caulk in moist areas.
- Weatherstrip around doors and windows and repair holes in screens.
- Inspect materials you bring into your house for roaches or their egg cases (small, dark, kidney bean shaped). Pay special attention to used furniture and appliances and cardboard cartons from food stores.
- Monitor with sticky traps. Once you
 have eliminated roaches or significantly reduced their numbers, continue to use sticky traps to alert you
 to a new infestation or a rise in the
 population. This is especially important in apartment buildings, condo-

miniums, or other connected dwellings where roaches can easily move from one household to another.

TIPS FOR USING COCKROACH BAITS

- Use baits indoors.
- Use baits with boric acid, fipronil, or hydramethylnon.
- Reduce or eliminate food sources so roaches will feed on baits.
- If you are using a gel bait, put small dabs in a number of locations rather than large blobs in a few locations.
- Place baits near areas where roaches are hiding and between their hiding places and food sources.
- Place baits where roaches are most likely to travel or congregate, such as along the edges of walls, appliances, cupboards, etc. — not in the middle of the room.
- Keep baits out of the reach of children and pets.
- Check bait stations frequently, especially if you have a large infestation. Empty bait stations should be removed because they make great roach hiding spots.

PRODUCTS

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

Desiccating Dust: Concern® Diatomaceous Earth Crawling Insect Killer, Grow More® Diatomaceous Earth, Safer® Crawling Insect Killer

Boric Acid Powder: Roach Prufe®, Victor® Roach Killing Powder

Hand-Duster: Pest Pistol®

Sticky Traps: Black Flag® Roach Motel

Sticky Traps with pheromone attractant: Victor® Roach Magnet Baits containing boric acid: Niban® Granular Bait, Niban® FG, Seabright® Roach Free System Bait

Bait containing fipronil: Combat[®] Quick Kill Formula, Combat[®] Quick Kill Roach Control Gel

Bait containing hydramethylnon: Combat® Roach Control System, Combat® Roach Killing Gel, Combat® Roach Prevention



PESTICIDES AND WATER POLLUTION

Common household pesticides show up in treated wastewater and in Bay Area creeks, sometimes at levels that can harm sensitive aquatic life. So, water pollution prevention agencies have teamed up with participating Bay Area stores to reduce the risks associated with pesticide use. This fact sheet is part of a series of information pieces and store displays aimed at educating Bay Area residents about less-toxic pest management. Look for the "Our Water Our World" logo next to products in participating hardware stores and nurseries throughout the Bay Area.

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. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

FOR MORE INFORMATION

For more information, contact:

Bio-Integral Resource Center (BIRC) (510) 524-2567

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

Central Contra Costa Sanitary District website: www.centralsan.org

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

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