

Least-toxic Control of Cockroaches

The key to long-term cockroach control is the elimination of food, water and harborage sources needed to survive.

Roaches evolved as scavengers of dead plant material and prefer carbohydrates to protein and fat as a result. They will, however, eat almost anything when hungry, such as starch-based paints, wallpaper paste, envelope glue and bar soaps, which all contain carbohydrates. Infestations often occur when roach egg cases are accidentally introduced in shipped materials, groceries, beer and soft-drink cases and used appliances, rugs and furniture.

Roaches have amazing migratory abilities. They can travel up elevator shafts and drains, through heating and air vents, tiny cracks and crevices in walls and above false ceilings. They commonly radiate out from areas that provide a steady food source, such as kitchens, pantries, restaurants, cafeterias, and garbage collection or disposal areas. When the weather is warm enough, they can migrate between structures outdoors along the outsides of buildings and from dumpsters to nearby living units.

The Australian roach is more vegetarian than other species, and may be found in greenhouses. The American roach enjoys moisture and life on the seas -- it is common on ships, as well as in basements and sewers. The smokybrown roach also can be found in sewers, but primarily lives outdoors. Oriental roaches are also moisture lovers, while the brownbanded roaches prefer warm, dry environments, such as closet shelves and the upper stories of houses.

German roaches have the widest distribution of all domestic roaches and are often found in dead leaves and garbage piles, but also readily invade cartons, sacks and containers, and will enter empty or open bottles. They invade the indoors from outdoor habitats in the summer only, and are usually found in basements and of first floors, having a preference for the warm area around furnaces and heating ducts. This is the most common roach to be seen in food preparation areas in restaurants, cafeterias and kitchens – environments where the combination of food, moisture and warm temperatures mimic that of their native East Africa.

This roach prefers squeezing into small cracks where their backs and undersides make contact with other surfaces. They are often found backed into cracks with their antennae and heads sticking out, picking up chemical signals from the air, which their behavior is more dependent upon than vision or sound. They become more active 20 minutes to 2 hours before dark, and increase their activity to a peak ending before daybreak. Only when populations are very high will they be active during daylight.

Beyond Pesticides

701 E Street SE, Suite 200 Washington, DC 20005
202-543-5450 202-543-4791 (fax) info@beyondpesticides.org www.beyondpesticides.org

Prevention

- Caulk, weather-strip, and repair any holes larger than 1/16" around water pipes, baseboards, electrical fixtures, outlets and switches, doors, and windows.
- Put screens over windows, vents, floor and sink drains, and ducts, which can be cockroach highways and hideaways.
- Get rid of old newspapers, magazines, paper bags, etc...
- Stack woodpiles away from the house, and keep the outside of the house clean of trash and leaves.
- Inspect all bags, baskets or boxes of food brought into the house.
- Store food in tightly sealed containers or in the refrigerator.
- Do not leave food, crumbs, or trash uncovered, dirty dishes sitting out, or pet food out overnight.
- Clean all spills immediately, wipe all counters and tables after use, and be sure to keep your stove grease free, as well as food free.
- Use a trash can with a tight-fitting lid and avoid placing your trash can under the sink.
- Rinse food and drink containers before throwing them away or recycling them, and empty your trash and recycling frequently.
- Fix leaky faucets and drains.
- Insulate pipes to prevent condensation.
- Avoid soaking dishes overnight, place sponges and dishrags in an airtight container, and avoid overwatering plants.

Monitoring

Once a month, place two sticky traps per room where roaches would be traveling (where floor meets wall or countertop, inside cupboards, under sink, behind appliances) and leave them for 24 hours.

Control

Cockroaches are now resistant to many conventional toxic chemical pesticides.

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- If you discover a cockroach problem, **boric acid** is the most effective direct control method. Apply boric acid (a 99% formulation) to cracks and crevices where roaches hide – inside and behind cabinets and appliances, wall cavities, under the sink, etc... Roaches are killed in three to ten days. Use boric acid with care, and keep it away from children and pets.
- **Dessicating dust**, such as diatomaceous earth or silica gel can be blown into voids through small holes drilled into the walls. Be sure to choose a dust that is not mixed with a pyrethrin. Also, use these products with care, as they can cause respiratory irritation if breathed in.

References

Beyond Pesticides/NCAMP. "Least Toxic Control of Pests In the Home & Garden: A series of pest control & chemical factsheets." Washington, DC.

Olkowski, Helga, Daar, Shiela, and Olkowski, William, *Common-Sense Pest Control*, Newtown: The Taunton Press, Inc., 1991.

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