

## ***BEST MANAGEMENT PRACTICES***

### **Cockroaches**

Cockroaches can be split into two groups: domestic and peridomestic. Domestic cockroaches live their entire lives inside homes or buildings. The main domestic cockroaches are the German and brownbanded cockroaches. Those that live indoors and out, or may be indoors occasionally are peridomestic. The main peridomestic species are the American, Oriental, smokeybrown, and Australian.

Obviously, the type of cockroach causing the infestation must be properly identified so that the Pest Management Professionals (PMP) can target the control methods to the appropriate areas. However, both domestic and peridomestic cockroaches have some behaviors in common. They all prefer to live where there is food, warmth, and moisture. They hide in cracks and crevices, are most active at night, and prefer starchy foods. Control measures should include removal of potential food and water sources, regular and frequent disposal of refuse and clutter, and sealing around any pipe penetrations or cracks in the ceiling, walls, or floors. To stop cockroaches from entering premises through drains, cover suspect drains with mesh sized 2 mm or smaller.

Because of their small size, domestic cockroaches move readily between apartments or rooms, traveling through cracks and crevices in walls, through attic and ceiling voids, through floor voids, along and through vents and duct work, unused drains, and through penetrations for plumbing and wiring. They do not live outdoors so they will not crawl into buildings through exterior doors or windows.

Apartment dwellers that are serious about cockroach control can help reduce re-infestation from neighboring apartments by sealing as many potential entry points as possible. Use spackling, caulking, foam sealant, copper mesh, or other appropriate tools to seal potential entry points. Remember, it is the holes and crevices that allow cockroaches to travel between apartments that are of greatest concern. Keep in mind that adult German cockroaches can easily enter through cracks that are only slightly wider than the thickness of a quarter and nymphs can enter through much smaller cracks. Copper mesh is especially useful to help seal larger openings, such as those that occur around plumbing. Use a screwdriver or other tool to stuff the mesh into the opening and then finish sealing with an appropriate sealant. Take all appropriate precautions when working around electricity.

PMPs should check outdoors for the source of infestation if peridomestic cockroaches have become an indoor problem. Elimination of harborage sites and sealing openings into the premises will exclude the insects from entering. Inspection areas include under siding, weep holes in brick, openings around pipes, wires, and cables where they can enter, around garbage cans and dumpsters, under leaf litter or mulch, around rotting stumps or wood piles, planters and pots near the building, in palm trees or under loose bark, in sewer vaults, crawlspaces, storage voids and under decks.

It is important to diversify the tools used for cockroach control in order to achieve success. In many cases, multiple methods can provide the best results, delay the onset of insecticide resistance, and reduce human exposure to insecticides. Dead insects should be removed as soon as possible.

The aerosols CB-80™, CB-38™, CB-123™, and CB-40™ insecticides are good inspection tools to locate harborage areas. Using these flushers will help the PMP pinpoint where residual applications would be best served. Apply flushers to any cracks and crevices. Cracks and crevices that are hard to access and lead to unknown areas will be best served using flushing agents first. Apply one or two second bursts and wait twenty seconds for cockroach activity. Apply again if no activity occurs, and apply as many times as necessary until no cockroaches emerge. After flushing the hiding cockroaches from harborage areas, it is best to treat those areas with residual products.

Talstar® Professional insecticide, Transport® GHP insecticide, and CB® residual aerosols (Intruder® and D-Force™) can be used to spray areas where cockroach activity has been found and suspected - both indoors and outdoors.



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Thorough treatment will reduce the cockroach population. Talstar and the CB residuals may be used in food handling areas. Treat areas where cockroaches are found or areas that seem conducive to cockroach congregation or access with Transport, Talstar or CB residual aerosols. Apply non-aerosol products using a coarse, low pressure spray to areas where these pests may hide (described above). Pay particular attention to cracks and crevices. Be sure **not** to treat areas where bait has been placed or will be placed.

Dust and bait insecticides may also be used in conjunction with sprays as crack & crevice and/or void treatments. Apply Cynoff® Dust insecticide in small amounts, using a bulb hand duster or other suitable equipment, directly into cracks and crevices. Pay particular attention to areas where pests hide or inhabit, such as: around baseboards and in closets; around sewer and water pipes, doors and windows; behind and under refrigerators, cabinets, sinks, stoves and other equipment; in/around electrical outlets; around electrical and telephone fittings and equipment; and under drawers and similar areas. Make applications in a manner to avoid deposits on exposed surfaces or introducing the excess material into the air. Be sure to thoroughly treat service ducts, false floors and ceilings, wall voids, attics and crawl spaces. The amount of dust applied will vary with the site and dust product chosen, but usually is in the range of 0.05 to 0.07 ounces per square yard (1.58 to 2.4 grams per square meter or 0.32 to 0.5 pounds per 1,000 square feet).

Baits should be placed in areas that are sensitive to dust and residual insecticide treatments, such as places where food will be prepared or stored. Baits can also be used as an inspection tool, whereby feeding locations can be continuously monitored and controlled. Place baits at feeding locations away from any other dust and residual insecticide application.

Re-inspect and/or monitor the premises for cockroach re-infestation after treatment with insecticides. If needed, reapply insecticides to the areas most conducive to re-infestation and inspect and/or monitor again. To maintain a cockroach-free environment once control is achieved, use Mop Up®, a boric acid mop rinse. It may be used in food serving and food prep areas. Apply Mop Up to floor surfaces by mixing it into the mop water. After the water on the floor evaporates, brush remaining dust into floor cracks and crevices. Mop Up can be used in conjunction with other insecticides mentioned previously.

*Always read and follow label directions for any product chosen for treatment.*

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