



INTEGRATED PEST MANAGEMENT: COCKROACHES

Cockroaches are common pests in child care. There are many kinds of cockroaches. Some live indoors; others live outdoors. Only some cockroaches cause problems indoors. Many providers respond to any cockroach by reaching for the spray can. There are health reasons for wanting cockroaches out of your indoor environment, but you can actually manage cockroaches much better when you don't spray.

When are cockroaches a problem?

Saliva and droppings (feces) from roaches can trigger asthma, especially in young children. Cockroaches also spread bacteria and other harmful germs as they crawl through sewers and decaying substances, and carry these germs into ECE facilities.

Characteristics and habits

Before you try to eliminate cockroaches, identify what kind they are. German cockroaches are the most common indoor cockroach in California.

GERMAN COCKROACHES:

- ▶ look like small adults without wings when young.
- ▶ shed their skin six times as they grow. These cast-off skins become an asthma trigger.



German cockroach, young and adult

To identify the cockroaches in your facility, visit: www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7467.html#IDENTIFICATION or consult with your pest management professional.

ALL COCKROACHES:

- ▶ leave droppings (dark spots or smears).
- ▶ need moisture or a reliable water source to live. Outdoor cockroaches live in moist environments such as sewers.
- ▶ are active at night. If you see cockroaches during the day, beware—you probably have a large infestation.

- ▶ Scurry into hiding places when they sense noise, movement and light. German cockroaches fit into spaces 1/16-inch wide. They avoid open spaces, so place sticky traps next to walls.
- ▶ Reproduce rapidly. One female German cockroach and offspring can produce 30,000 roaches in a year.

IPM strategies

1 DON'T SPRAY!

- ▶ Sprays or bug bombs may kill a few cockroaches but will not penetrate hiding places or kill eggs, and can harm people, pets and the environment.

2 KEEP COCKROACHES OUT

German cockroaches can enter buildings hidden in grocery bags or in deliveries. Cockroaches sometimes slip under doors from nearby infested buildings. Outdoor cockroaches can sneak in through narrow gaps in windows and doorways.

- ▶ Install tight-fitting weather stripping and screens on windows, and doorsweeps.
- ▶ Seal cracks and crevices in walls and floors.

3 REMOVE COCKROACHES' FOOD, WATER AND SHELTER

- ▶ Clean spilled food, dirty dishes and utensils, and surfaces before leaving for the day.
- ▶ Keep drains, shelves and counters clean.
- ▶ Store food in containers with tight-fitting lids.
- ▶ Fix leaks under sinks or dripping faucets.
- ▶ Vacuum possible cockroach hiding places thoroughly using a strong vacuum with a crevice attachment.
- ▶ Empty garbage at the end of each day and keep indoor garbage in lined, covered containers.
- ▶ Place outdoor garbage containers on hard, cleanable surfaces (concrete is best) away from building entrances.
- ▶ Rinse bottles and cans before placing in the recycling bin.
- ▶ Take supplies out of boxes and store in cupboards or on open metal shelving. Corrugated cardboard boxes are a favorite hiding place for cockroaches. They eat the glue and lay their eggs in the corrugation.



[IPM strategies continued]

4 MONITOR

- ▶ Look for cockroaches behind or under cabinets and appliances using a magnifying glass and dental mirror. Check behind bulletin boards, mirrors and other wall fixtures. Look for cockroach droppings, cast skins and dead cockroaches.
- ▶ Locate hiding places by placing sticky traps under sinks and on the floor next to walls and appliances. When traps become clogged with cockroaches, throw them away and replace with new ones.
- ▶ Once you find where cockroaches hide, focus your efforts there. Put monitoring traps in that area.
- ▶ Keep monitoring traps in the same places (don't move them around), and make sure they're inaccessible to children.
- ▶ Monitor daily during a severe infestation, and write down how many cockroaches you have per trap and their age range. A lot of young cockroaches (smaller and wingless) indicate you have an active infestation. Keep a written log to monitor where traps are located.

5 MANAGEMENT

GETTING RID OF COCKROACHES

- ▶ Don't spray or use bug bombs – cockroaches will just scatter and return later.
- ▶ Bait stations and gels are effective and exempt from the Healthy Schools Act.

Bait stations are:

- ▶ small plastic containers with a mix of insecticide and bait inside.
- ▶ placed where cockroaches have been found.
- ▶ effective for several months.

Gels are:

- ▶ applied with a syringe along cracks and crevices where cockroaches have been found.
- ▶ effective for a few days.

Boric acid powder is:

- ▶ not exempt from the Healthy Schools Act.
- ▶ effective when blown into wall voids, behind electrical outlets, appliances or other undisturbed hiding places.
- ▶ effective for years, as long as it stays dry.

ACTION PLAN FOR COCKROACHES

WHEN TO TAKE ACTION	NONPESTICIDE PRACTICES	LEAST HARMFUL PESTICIDE	LAST RESORT
<ul style="list-style-type: none"> ▶ When you see one cockroach! ▶ If you see one cockroach there are likely more. 	<ul style="list-style-type: none"> ▶ Monitor with sticky traps. ▶ Caulk and seal hiding places. ▶ Clean all surfaces and store food in sealed containers. ▶ Remove clutter. ▶ Vacuum with a HEPA vacuum. ▶ Fix water leaks. 	<ul style="list-style-type: none"> ▶ Cockroach bait stations or gel applied to cracks and areas out of children's reach. 	<ul style="list-style-type: none"> ▶ If you have a serious infestation or think an expert would do a more thorough job, hire a PMP who uses IPM practices. ▶ Insect growth regulators applied to areas where cockroaches are hiding. ▶ Boric acid powder applied to dry, inaccessible areas.

RESOURCES

University of California Statewide IPM Program:
Cockroaches
www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7467.htm

The Department of Pesticide Regulation, *Safely Managing a Cockroach Infestation*
www.cdpr.ca.gov/docs/pestmgmt/pubs/roach_color.pdf

