



# German Cockroach

*(Blattella germanica)*

## Important Biological Facts

- The German roach is the most common species in school kitchens.
- The German roach prefers warm & moist locations.
- German roaches reproduce rapidly. Missing one pregnant female is all you need for the problem to rebound.
- German roaches are often resistant to pesticides.
- Fast killing pesticides and flushing agents will cause them to scatter and will make them harder to control.
- German roaches carry their egg cases until just before they hatch, so loose egg cases are usually empty.
- German roaches generally travel short distances to feed. In other words, their harborage is near where they feed.
- German roaches are usually transported accidentally from one place to another as adults because adults are most resistant to desiccation.
- Roaches have a strong need to be touched on all sides at once so they like to hide in narrow cracks and crevices.
- Roaches are rarely dispersed throughout a building. They will choose suitable harborage near a food source and stay there.
- Roaches are generally active at night and remain hidden during the day.
- A roach sheds its skin (molts) a number of times during its life. When molting, the roach remains in its harborage and doesn't feed until its new skin has hardened. During this period, gel baits may lose their attractiveness.
- Insect growth regulators (IGRs) like hydroprene (for example, Gentrol) make cockroaches hungry enough that they will feed when they otherwise would not eat. IGRs sterilize immature roaches but do not affect adults. By using baits along with IGRs you will achieve faster and more effective control.

## Questions To Ask during a Site Inspection for Cockroaches

- **Which cockroach species is/are present?**  
The species will indicate the harborages, what the roaches may be feeding on, how fast they reproduce, what types of controls are appropriate, and where to place the controls.
- **What type of site is it? What is it used for and at what times of the day?**  
This provides information on the number of roaches the site can support, where the roaches may be coming from, and appropriate control methods.
- **Where do building occupants see pests? How many? How often? At what time of year? Are there any specimens?**  
This will give you clues to harborage sites and to the species of roach (or other insect) causing the problem.
- **Is the problem new? Chronic? Associated with other events such as a change in suppliers?**  
This will help to pinpoint sources of the problem and indicate where to concentrate efforts.
- **What is history of pest control for the pest at this site? What is being done currently?**  
This will indicate how large the problem is and how hard it may be to solve.

**Summary of COCKROACH Management Techniques Compatible with an IPM Program**

**Education**

Educate principals, teachers, and students about the effects their actions have on pest management and about the relationship between roaches and food/garbage. Encourage all staff to store food in roach-proof containers (see below).

**Monitoring**

- Use sticky traps.
- Use a hairdryer or compressed air to flush out roaches instead of aerosol spray.

**Physical/Mechanical Controls**

- Exclusion
  - Keep buildings in good repair.

- Caulk or paint closed cracks and crevices.
- Fill gaps around pipes, cables, and wires that pass through walls both inside and outside the structure.
- Weather-strip doors and windows.
- Screen doors and windows.
- Vacuum up roaches (use vacuum with HEPA filter) to remove pest quickly and to prevent exposure to air-borne allergens.

**Sanitation/Habitat Modification**

- Store garbage in garbage cans or dumpsters outside the building.
- Remove garbage containing food wastes from building before nightfall.

- Use plastic liners in trash containers.
- Keep interior and exterior garbage cans clean.
- Store food in roach-proof containers (screw top jars are not roach-proof unless lid has a rubber gasket).
- Encourage policies that keep food out of the classroom.
- Limit areas where food can be eaten.
- Thoroughly clean cans and bottles before storing for recycling.
- Thoroughly clean food preparation and eating areas daily. Do not leave dirty overnight.
- Regularly steam clean large appliances in kitchens.

**Chemical Controls** (Use according to directions on product label.)

*Note:* New products are constantly coming on the market. Brand names listed are for example only. No endorsement of specific products is intended nor is criticism implied of similar products that are not mentioned.

Product	Active Ingredients	Notes
<b>STICKY TRAPS</b>	Use for monitoring. May be destroyed during cleaning.	
Lo-Line	N.A.	Low profile to fit in tight places.
<b>ROACH BAITS</b>		
Avert gel Maxforce gel Siege gel Maxforce FC gel Pre-Empt gel Magnetic Roach Food Paste Roach X paste Niban granular	Abamectin Hydramethylnon Hydramethylnon Fipronil Imidicloprid Boric Acid Boric Acid Boric Acid	Gels are most attractive the first 3 days after application Gels are most attractive the first 3 days after application Gels are most attractive the first 3 days after application Some roach resistance has been noted.  Non-drying formula, stays attractive for 4-5 months
<b>ROACH BAIT STATIONS</b>	Bait stations may be harmed by steam cleaning. Occupants may think bait stations are unsightly. Roaches can use empty bait stations as harborage.	
Avert Maxforce (also a granular formulation) Maxforce FC	Abamectin Hydramethylnon Fipronil	Use granules outside for Oriental roach.
<b>DUSTS</b>	Use in wall voids and cracks and crevices. Not effective in wet sites.	
Borid  TimBor Diatomaceous Earth (many brands)	Boric acid  Borate Diatomaceous earth	Brownbanded roach will avoid. Must be applied in a fine layer; no clumps or piles. Must be applied in a fine layer; no clumps or piles. Repellent
<b>INSECT GROWTH REGULATORS (IGR)</b>	Withstand up to 800°F. Do not affect adults. Make roaches hungry enough that they will eat bait that is otherwise unpalatable. IGR vapors are heavier than air, so place higher rather than low. Hydroprene sterilizes young roaches.	
Gentrol Point Source Gentrol concentrate Archer Nylar	Hydroprene Hydroprene Pyriproxifen Pyriproxifen	Lasts 3 months. Use with baits for faster control. Lasts 4 months. Use with baits for faster control. Lasts 7 months. Use with baits for faster control. Lasts 12 months. Use with baits for faster control.

**For more information on pest management, call the Marin Dept. of Agriculture at 415-499-6700.**