

INSIDE THIS ISSUE:
**COMMON COCKROACHES &
IPM SOLUTIONS**

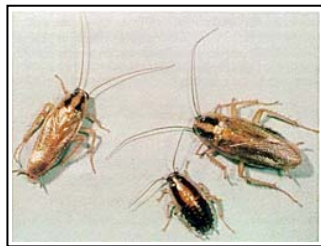
Imagine this... You are an IPM Specialist or contracted pest management professional and have just received a complaint about a cockroach at a school, perhaps in-person or from a pest sighting log. Set aside for a moment the fear and loathing likely conveyed by the staffer, and ignore their insistence that "something" be done immediately. Ask yourself instead: what type of action does this situation necessitate? What do the monitoring traps indicate in terms of numbers and likely mode of entry? Or are you even sure yet what type of cockroach it is?

Action is warranted, true, but in what form depends on YOUR expertise as the district's specialist. It may be that increased monitoring is needed to reveal external doors with poor seals, or perhaps this is an indoor roach species and it's time to bait. Whatever the action, it should be based on informed knowledge and detective work. Here is a quick reference guide to Arizona's common cockroach pests, followed by some IPM solutions...

Common Cockroaches in Arizona:

German cockroach, *Blattella germanica*

Description: 13-16 mm (1/2" – 5/8") long. Light brown, two dark vertical stripes on pronotum. Nymphs are dark w/pale central marking. Ootheca yellow, deposited in sheltered areas. Likes heat (>70 F & high humidity).



Reproductive females are very mobile; males mostly stay in harborage areas; nymphs stay very local. Most common in kitchens, secondarily in bathrooms. Infests electrical appliances (blender bases, radios, etc.). Germans most efficiently transmit a variety of pathogens on their body. Adaptable; feeds on glue, toothpaste, and soap. Remove cardboard, monitor kitchens intensively, rotate Maxforce gel (Fipronil) & Avert (Abamectin) baits in highly infected areas.Persistent pests!

American cockroach, *Periplaneta americana*
(aka "sewer roach" and "Palmettobug" on east coast)

Description: 34-53 mm long (over 2 inches). Reddish

brown. Ootheca usually deposited in cracks and crevices near a food source. Egg-to-adult takes ~1 1/2 yrs. at room temp.

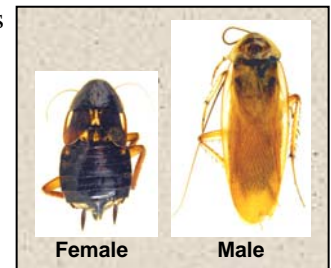


American cockroach

Detritus feeder; infests outdoor compost bins and decaying vegetation. Often moves indoors during hot weather and monsoon season. Found in moist areas indoors (bathtubs, clothes hampers, etc.). Mobile in dry sewer drains (toilets, sinks); keep water in drains. Silica gel is effective as crack and crevice treatment.

Turkestan cockroach, *Blatta lateralis*

Description: Males & females 14-23 mm long (1/2" – 3/4"). Females are dark brown to black, with two pale lateral bands; wings are reduced. Males are brownish yellow, winged.



Female

Male

"Turks" are mainly an outdoor cockroach. Males are attracted to lights at night, so finding them inside often indicates a need to pest-proof external entryways. Secondarily, replace outdoor lights with "bug" bulbs. They prefer high temperatures, and are often found in meter & irrigation boxes and exposed compost piles.

Brownbanded cockroach, *Supella longipalpa*

Description: 14 mm (1/2") long. Males fly readily if disturbed. Females are darker than males. Ootheca pale brown, attached to the underside of furniture



and surfaces in dark places. Pale bands run across the wings on adults, across the body on nymphs. Faster life cycle than other 'roaches, (~161 days at room temp.).

Brownbandeds feed on starches found in envelope glues and similar office/classroom supplies. Eliminate or exclude food source, remove clutter, educate staff. Employ use of bait stations and monitor intensively. Like the German roach, these can be tough to eradicate!

Monitor

An integrative approach is required to deal with cockroaches, beginning with *regular monitoring*. Only monitoring can give you the information needed to efficiently and effectively deal with the situation (i.e. type of cockroach, mode of entry, population, and whether they're already reproducing - as indicated by the presence of both adults and nymphs). Regular monitoring provides an early indication of potential cockroach problems.

Exclude & sanitize

Next to monitoring, exclusion and sanitation can especially help in preventing outdoor species (Turkestan and American) from entering. The German and brownbanded species, however, are mostly an indoor pest and are the most difficult to get rid of. They enter as hitchhikers in corrugated cardboard, clothing & backpacks, etc. Consequently, your facility can be perfectly pest-proofed and clean as a whistle, yet you can still end up with a persistent German or brownbanded cockroach problem. These two can feed on food items not typically addressed by improved sanitation (Germans are notorious feeders of leather, wallpaper paste and book binding; brownbandeds dine on the starchy glues found on envelopes and art supplies, for example).

1. Baskets in all floor drains
2. Check exterior doors for needed door sweeps; this may force you to get on your belly and think like a bug!
3. Outdoor lights: replace white bulbs with yellow/bug bulbs
4. On summer and winter breaks run water once a week in all toilets and sinks.
5. Manage outdoor water sources (leaky faucets, moist areas, etc.).
6. Remove un-kept vegetation and debris from around buildings; it can serve as a hiding place or breeding site.

Work with staff

Whether the situation calls for additional monitoring of suspected hot spots or readiness to bait, don't forget your role as an **educator**. If you have read this far you already know more than most.

If cockroaches have access to anything they consider food (as noted above), then baits will have *limited* effect. A cockroach problem means educating staff (especially kitchen folks and teachers) on their part in cockroach management: remove/recycle all corrugated

cardboard; eliminate clutter (especially in closets and shelves if brownbandeds are present); place ALL classroom food in plastic, tight-sealed containers; keep classroom food use to a minimum and only in designated areas; maintain clean kitchen floors, especially in corners and under appliances. Emphasize a heightened level of sanitation.

REMEMBER: YOU'RE THE EXPERT, IF THEY DON'T LEARN FROM YOU THEN THEY WON'T LEARN AT ALL, AND THE PEST PROBLEM WILL LIKELY REPEAT ITSELF.

Arizona's IPM in Schools Program

The Arizona IPM in Schools Coalition is expanding to include child care facilities. So... we get a NEW NAME! It would be quite a mouthful to add "child care facilities" to the existing coalition name, so it will be changed to the "**Children's Environmental Health Coalition**". Integrated Pest Management will continue to be the focal point of our implementation efforts.

The Dec. 7-8th **IPM Workshop** was attended by a small but committed group of school folks and industry representatives alike.

Thanks to all those who participated!! Minutes are available from Dawn or Jen (contact info below).



Hands-on activities included a pest inspection at a local high school, and had the group on hands and knees. This was followed by in depth discussions on which IPM techniques to employ based on our findings, and the importance of getting administrative buy-in to the program in order to properly educate staff and enforce habits necessary for good IPM. Great discussions!!

Information taken from:

University of Arizona Urban IPM website:

<http://cals.arizona.edu/urbanipm/insects/cockroaches/cockroachmanagement.html>

University of Florida IFAS Department of Entomology and Nematology.

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American cockroach picture: http://www.west-ext.com/american_cockroach.html

For more information on IPM in Schools in Arizona, contact Dawn Gouge or Jennifer Snyder, (520) 568-2273 dhgouge@ag.arizona.edu or jsnyder@ag.arizona.edu



Few bugs are bad! More than 95% of all insect species are beneficial to humans.