

Integrated Pest Management in Multifamily Housing: Cockroaches and Ants



Retirement Housing Foundation IPM Training Part 1.

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How have you fought pests?



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How will you fight pests now?

“Exterminator” is now a
Pest Management Professional (PMP)



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What all pests need

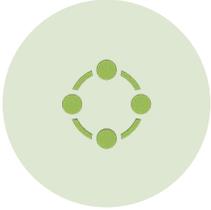
- Food
- Water
- Shelter



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What is IPM?



INTEGRATED: USES MULTIPLE APPROACHES THAT WORK TOGETHER



PEST: WHAT THE MULTIPLE APPROACHES WORK TO FIGHT



MANAGEMENT: USE OF THE MOST ECONOMICAL MEANS WITH THE LEAST POSSIBLE RISK TO PEOPLE, PROPERTY, AND THE ENVIRONMENT

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IPM Methods



Sanitation:
Eliminate food source; clean up kitchen area, remove or reduce hiding places

Exclusion:
Don't bring pests in; look for ways they can come in and block area

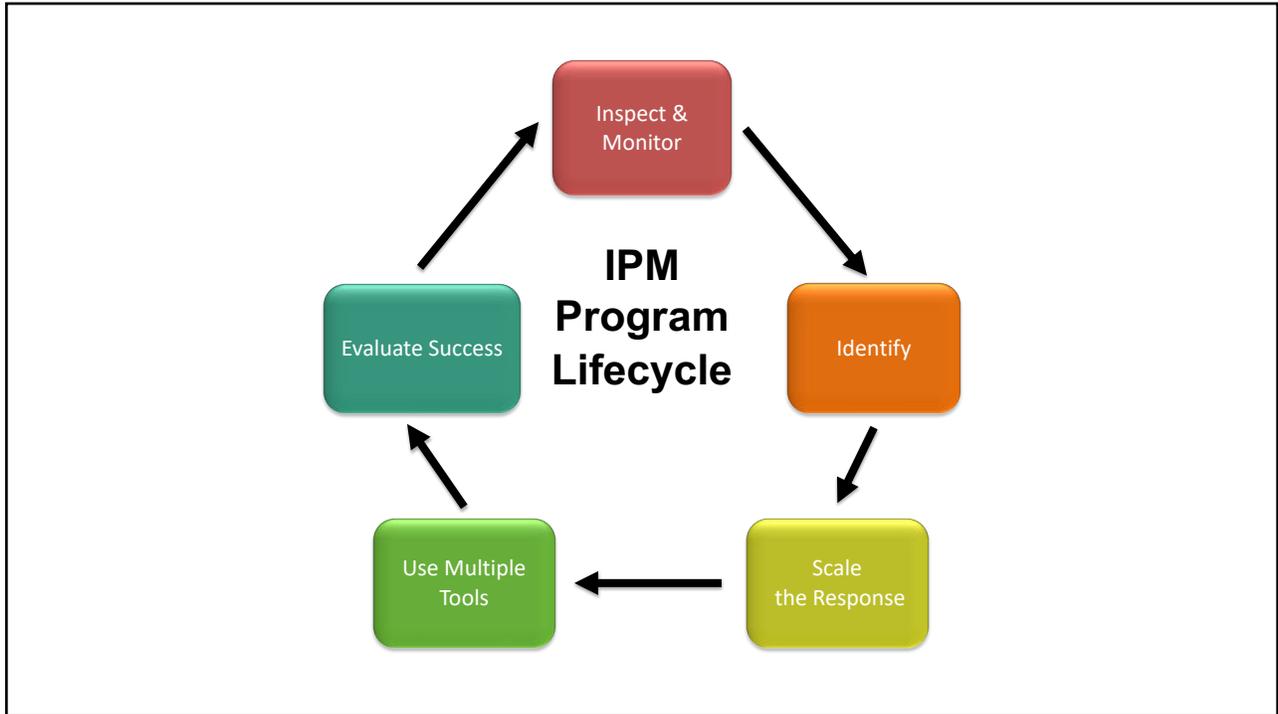
Traps:
Proper placement is critical; monitor

Pesticides
To compliment other methods or when other methods have not worked.

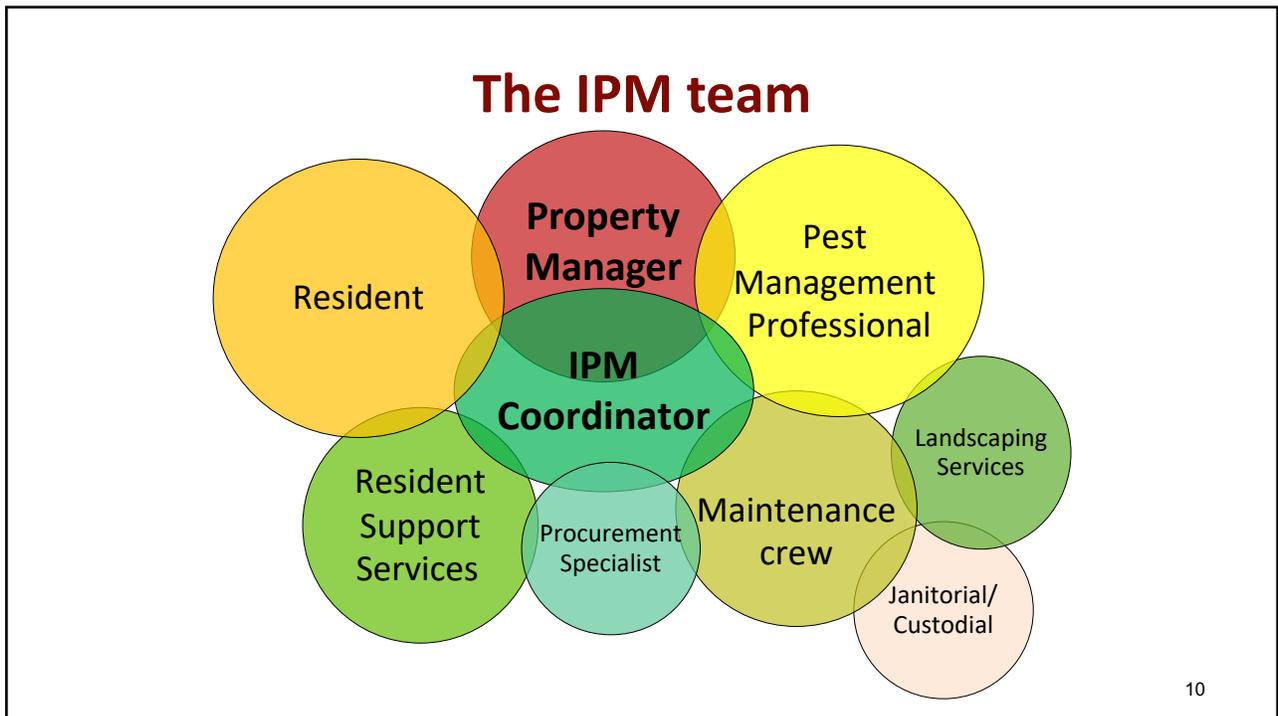


bait

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IPM in practice: Documentation is key

One IPM log in each building

Record:

- date
- detailed observations
- action taken

Make sure action is taken promptly



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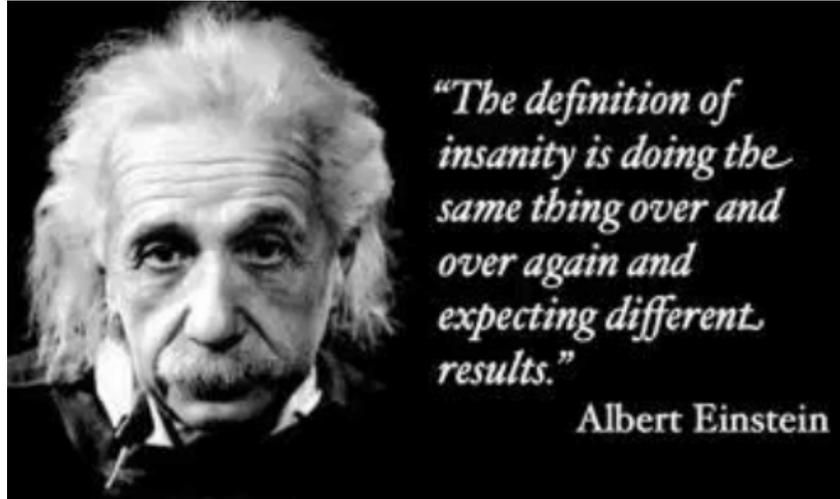
Find this log at stoppests.org

FOCUS UNIT TRACKING LOG								
Name/Address of Property: _____								
<i>The IPM team identifies areas or units of focus and coordinates IPM efforts. This sheet unites pest control, housing, and maintenance record-keeping systems. Keep it in the front of the IPM log.</i>								
Date	Unit / Location	Name of Staff Member / Technician	Pest Level	Repairs Needed		Recent or Current Focus Unit?	Housekeeping / Lease Compliance	
			Note any pests and circle the level of infestation. Involve your PMP.	Work order number or problem description	Check when completed	Yes or No	Housekeeping level* (circle one)	Action taken (e.g., met with tenant, sent violation notice)
			Type of Pest: Light Moderate Heavy				G F P	
			Type of Pest: Light Moderate Heavy				G F P	
			Type of Pest: Light Moderate Heavy				G F P	
			Type of Pest: Light Moderate Heavy				C F P	
			Type of Pest: Light Moderate Heavy				G F P	

* Housekeeping level:
 G Good—little or no food or water accessible to pests, easy to move throughout the unit, and inspection in all areas is possible
 F Fair—dishes left undone for more than one day, or plenty of food or water accessible to pests, or PMP has to step over or move items to inspect
 P Poor—multiple days of dirty dishes, sloppy food storage methods, or PMP's inspection and service limited by clutter

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Recordkeeping is useless unless the records are reviewed periodically



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At first more work, but then less

- More education, repairs, and monitoring
- Increased work orders
Pests and pest-friendly conditions that were previously overlooked are reported

THEN...

- Fewer complaints
- Fewer pests
- A better place to live



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Concerns with pesticides

- Pests become tolerant of or avoid pesticides
- Risk from exposure to people, pets, and environment may outweigh the benefit
- Certain populations may be especially vulnerable or sensitive to some pesticides:
 - Elderly, children, pregnant women
 - People with breathing or lung disorders such as asthma
 - People with chemical sensitivities



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Pesticide risk of exposure by application method

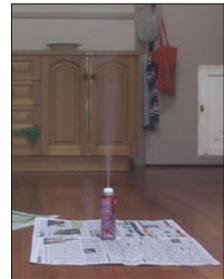
Less risk of exposure ← → More risk of exposure



Tamper-resistant station

Gel bait in a crevice

Total release fogger



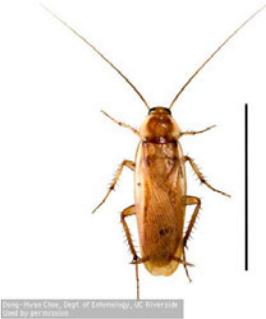
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Turkestan cockroach

- Newer invasive species
- Outdoors in water meter boxes, cracks between blocks of poured concrete, compost piles, leaf litter, potted plants, and sewer systems
- Biology is similar to oriental cockroach, though Turkestan females reach maturity faster and produce more eggs during their lifetime.
- In CA, oriental cockroach is being displaced by the Turkestan cockroach, especially in southern California, the Central Valley, and other warm, dry parts of the state.

Adult males: slightly smaller than female; yellowish-beige wings and cream-colored stripes along the edges.



Adult females: 1 inch long with cream-colored markings along the edges behind the head and around the short, rounded wings



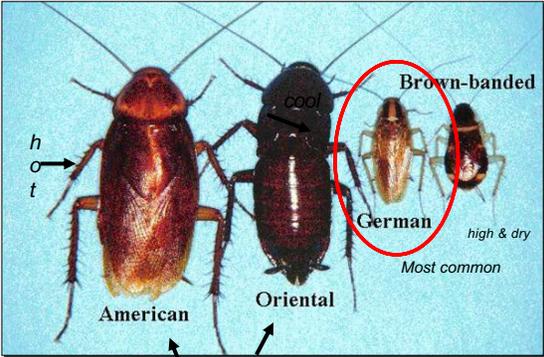
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Cockroaches

What we'll learn:

- What is a cockroach
- Why they are health hazards
- Where they live
- How to control them safely

Common cockroaches



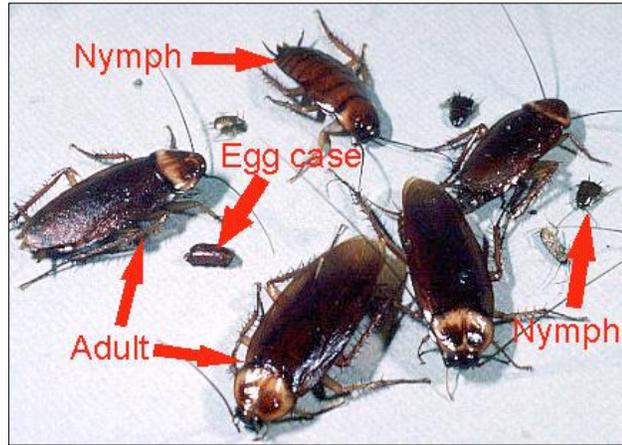




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What is a cockroach?

- Live where **humans provide food** and water
- Multiple eggs in each egg case means **many nymphs (babies)**
- **Active at night** - Cockroaches during the day indicate a serious infestation

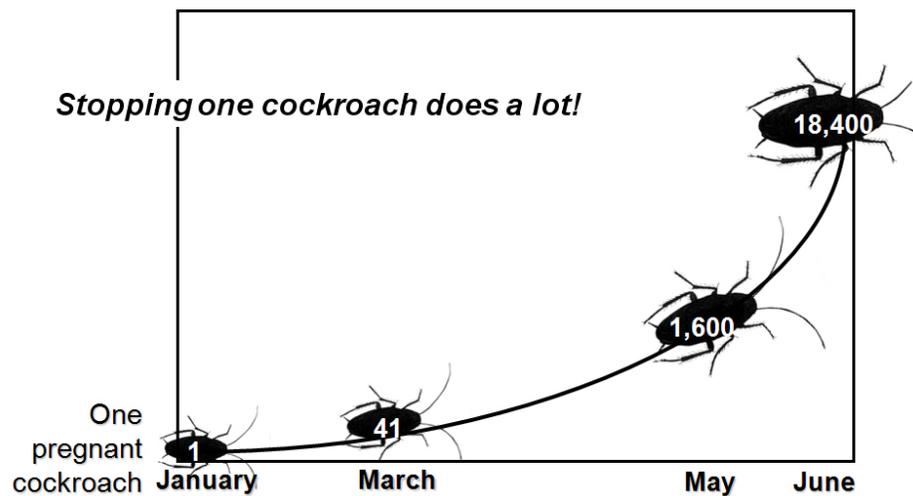


Nymphs look like small versions of the adults

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One German cockroach, 1/2 a year...



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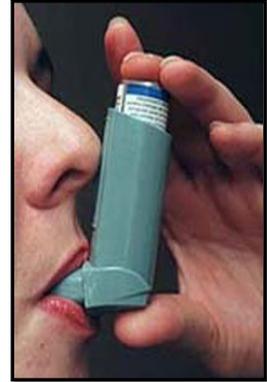
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Cockroaches are Health Hazards

Cockroaches and their frass:

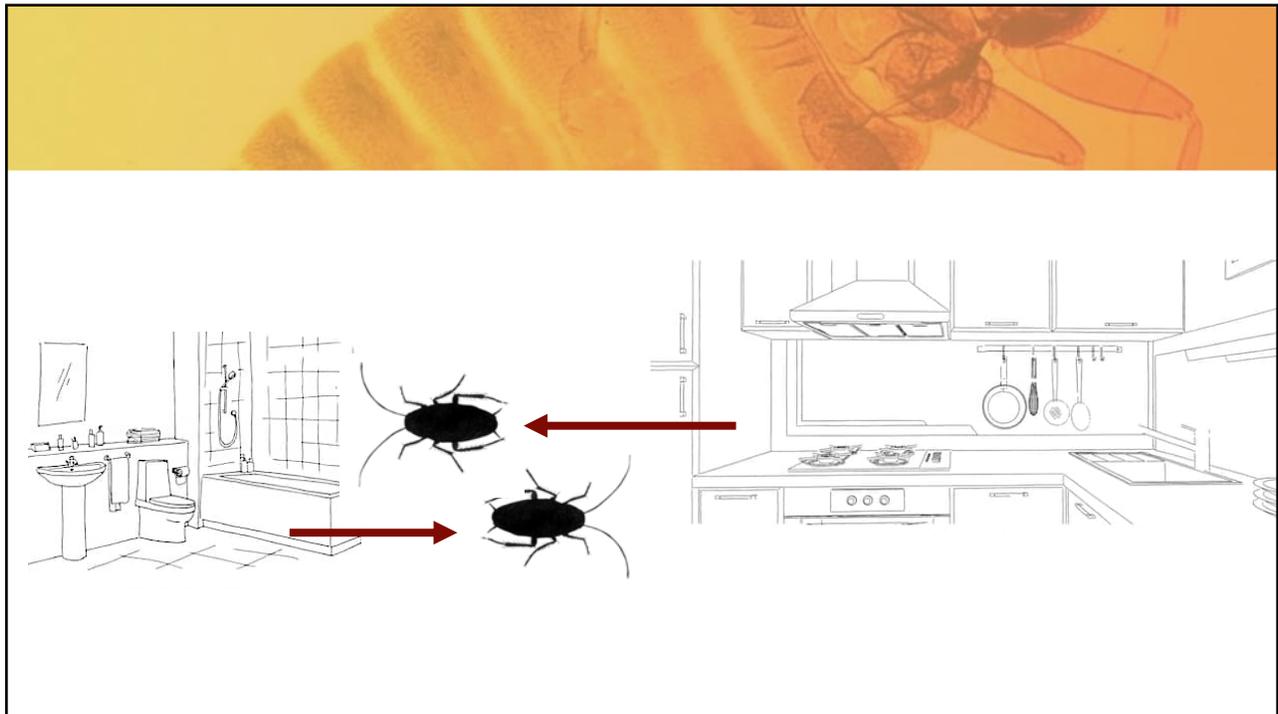
- ✦ Make asthma worse in sensitive people
- ✦ **Cause** asthma in preschool-aged children
- ✦ Cause or aggravate allergies
- ✦ Contaminate food, dishes, and counters

Clean dead cockroaches, skins & frass!



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Signs of cockroaches

- ✦ Live cockroaches
- ✦ Dead cockroaches and their parts
- ✦ Frass
- ✦ Egg cases



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Signs of cockroaches

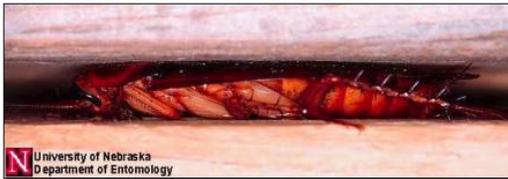


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Where cockroaches live

- Prefer spots near **water** but also need **food** and **warmth**
- In **cracks and crevices** where their bodies touch surfaces above and below
- Anywhere in a building

Residents and staff should report sightings



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What cockroaches eat

- Crumbs
- Grease
- Trash
- Cardboard glue
- Just about anything*

*This helps control with baits



Under the bag in a trash can

**Think about your home.
Could you eliminate every
crumb?**

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Where cockroaches drink

- ✦ Sinks
- ✦ Counters
- ✦ Floors
- ✦ Pet bowls
- ✦ Shower stalls
- ✦ Sweaty pipes and leaky pipes
- ✦ Refrigerator drip pans and gaskets
- ✦ AC units



Sources of water in a kitchen

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Got cockroaches? Now what?



- **Everyone has a role**
 - ✦ Residents
 - ✦ Staff
 - ✦ Pest Management Professionals

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Residents

- ✦ clean up food and dishes (limit food source),
- ✦ don't use sprays or bug bombs,
- ✦ observe and **REPORT**

*what if resident can't...or won't?



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Staff

- ✦ **Management** - monitor resident compliance, Intervene when treatment fails, notice patterns
- ✦ **Janitors** – clean and **report** in common areas
- ✦ **Maintenance** – clean and **report** in common areas, exclusion, fix leaks and door sweeps
- ✦ **Procurement** – good contract!



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Exclusion

Maintenance - Seal cracks and holes

Use:

- ✦ silicone caulk
- ✦ Pipe collars/escutcheon plates
- ✦ screens
- ✦ door sweeps—
always on boiler rooms, trash rooms, exterior doors



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Pest Management Professionals

- Use solutions that provide:
 - ✦ **Most effective** prevention and control
 - ✦ **Least risk** to residents and staff
 - ✦ **Monitor**
 - ✦ **Follow-up** in 1-4 weeks with inspection and treatment



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Monitors (sticky traps)

- Monitor activity 24/7
- Place where they travel- at corners and near warmth, food, and water
- Do not disturb or throw out monitors (residents)
- Tell us a lot! - Where, how many, **elimination confirmation**



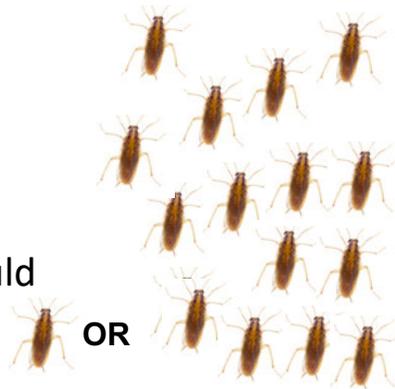
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Treatment

The pest management professional:

- Monitoring and inspection
- Vacuum
- Only licensed individuals should apply pesticides
- Residents should not apply pesticides



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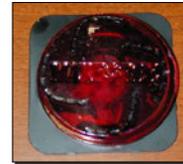
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Baits

- The **most effective** pesticide option
- Cockroaches feed on the bait, take it back to hiding cockroaches and **share**
- Use in every room where inspection and monitors find evidence



Gel Bait



Bait Station



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Baits

Work best when:

- Bait is the only food
- Not contaminated with sprays and scented cleaners
- Will still work where sanitation is low

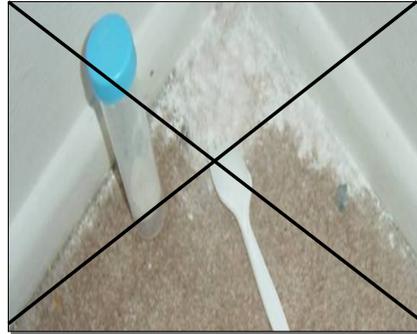


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Dusts

- Professionally applied
- Boric acid, diatomaceous earth, silica gel
- Light dusting
- Dusts last as long as they stay dry
- In walls, under and behind cabinets at turnover or when making major repairs



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Insect growth regulators (IGRs)

- Sprays, aerosols, and impregnated discs
- Interfere with cockroach growth and egg hatching
- Take a month to work,
- Effective for +/- 90 days
- Compatible with other IPM methods



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Ineffective and Unsafe

- Over-the-counter sprays & foggers are not part of IPM in multifamily housing
- They are not compatible with baits
- Cockroaches develop resistance



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Ants



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Why do ants invade?



- **Water, shelter,** moderate temperatures
- **Uncontained/unsealed food** resources

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Bait station



Exclude ants from invading by properly sealing structures



Wipe up ants and their trails indoors



Use baits and bait stations



Sprays will not keep ants out of your home



Outdoor spray residues can contaminate surface water

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Carpenter Ant

Termite

Is it an ant or a termite?

- Antennae: elbowed vs. string-of-beads
- Constriction in abdomen ('waist')?
- Wings: different sizes or all same size?
- Wing veins: reduced or many (net-like)?

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How to Manage Pests

Key to Identifying Common Household Ants

This key includes the ant species that are most common in California, but most are not pests.

Begin key

- Click through the key until you get to a summary screen of the ant that the key identified.

Already know your species? Click on an ant directly to a summary screen

Odorous house ant 1/8" long	Argentine ant 1/8" long	Solenopsis invicta 1/8" long
Pavement ant 3/16" long	Red imported fire ant 1/16 - 1/5" long	Solenopsis invicta 1/8" long

Related information

- [Ants Pest Note](#)

UC IPM Home > Antkey > Carpenter Ant

How to Manage Pests

Key to Identifying Common Household Ants

Quick Management Tips

Carpenter ant—*Camponotus* spp.

Subfamily: Formicinae

Identifying characteristics

- Workers are polymorphic (different sizes), large, 1/4- to 1/2-inch long
- Black or bicolored red and black
- Petiole with 1 node
- Thorax smooth and evenly rounded when viewed from the side
- Strong odor emitted when disturbed
- Often associated with wood

Behavior

- Feed on dead and living insects, aphid and scale honeydew, and juices of ripe fruit; prefer sweets
- Do not feed on wood
- Travel in loose trails
- Forage mostly late in the day or at night
- Prefer moist or humid environments
- Piles of sawdust-like frass and insect parts deposited outside or nearby nests
- Bore into wood to make nests, sometimes causing serious structural damage

Nest type and size

Worker ant
Smooth thorax One node

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Service tickets can tell you A LOT!

PRODUCT	EPAM	RATE	EQUIP	AMOUNT	LOCATION
Advan Arc Gel Bait	100-1488	0.00%	B	15	1
Advan Pro-G	3724-411	1.5%	H	15	1
Arflow	100-1501	0.00%	CL	15	1
Infesto LP Granules	53883-124	0.2%	H	15	1
CR BG	276-3893	4.5%	A	15	1
CR D-Krone WPC	8444-217	0.00%	A	15	1
Onema Dant	78078-12	1.00%	D	15	1
Onema Dant	1021-1832	12.87%	PA5	15	1
Delta Dant	432-772	0.00%	D	15	1
Demand CS	100-3066	0.00%	CL	15	1
ScoutED A&E	67425-26-605	1.4%	A	15	1
Fluorintra SC	208-88987	0.27%	CL	15	1
Onslaught	483-708	0.00%	CL	15	1
First Strike Soft Bait	7173-128	0.0025%	S	15	1
Force	53883-328	0.00%	S	15	1
Generation Blue Max	7173-128	0.0025%	S	15	1
Controlled	2724-351	0.2%	B	15	1, 2, 12
Insect AB Paste	78078-11	0.00%	B	15	1
Insect Granular Bait	78078-14	0.5%	H	15	1
Match Mini Blocks	7173-302	0.003%	S	15	1
Maxforce FC Ant Gel	432-1264	0.003%	B	15	1
Maxforce FC Beach Gel	432-1278	0.003%	B	15	1
Maxforce Fly Spot Bait	432-1405	0.127%	C	15	1
Maintenance Impact Gel	432-1511	1.0%	B	15	1
Nibron HQ	64826-2	1.0%	H	15	1
Optigard IGR	1021-1603	0.003%	A	15	1
Optigard Plus	1021-2382	1.3%	A	15	1
Onslaught Fastcap	1021-2374	0.002%	CL	15	1, 2, 12
Phantom Liquid	141-392	0.5%	C	15	1
Starflab	489-473	0.00%	C	15	1
Suspend Polyzone	432-1514	0.00%	B	15	1
Tempred SC	432-1483	0.075%	CL	15	1
Tempred SC	1021-2899	0.00%	B	15	1

COMMENTS: SEE "POST APPLICATION PRECAUTIONARY STATEMENTS" ON BACK OF TREATMENT.
 Serviced 156 units for roaches / applied beach
 Serviced 5 on demands
 del: 609

These technicians visited 61 units from 9am to 2:30pm. 330 minutes ÷ 61 = 5.4 minutes

~3 minutes per unit?

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Service tickets can tell you A LOT!

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COMMENTS: SEE "POST APPLICATION PRECAUTIONARY STATEMENTS" ON BACK OF TREATMENT.
 Serviced 156 units for roaches / applied beach
 Serviced 5 on demands
 del: 609

What products were applied?
 Optigard – gel bait
 Onslaught – Spray for cockroaches
 Genrol IGR - cockroaches
 Snap Traps - rodents
 Final Block – rodenticide
 Where? - Kitchen, bath, interior
 What Units? - ????

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Working with residents

Breaking the finger pointing cycle

Management did nothing!

I called our guy and he sprayed.

I can't treat this apartment; the resident is unprepared.



The exterminator did nothing!

I used 6 cans of Raid and I still have cockroaches

It's the tenant's fault, they need to clean up!

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Before we blame residents....

- Talk to PMP about using bait instead of sprays
- Ask PMP to switch baits, apply more, or come every two weeks
- Understand your contract and oversee work – is every unit inspected at least once a year?
- Allocate time and resources to focus areas
- Track data from work orders and pest control service reports to identify trends and track efficacy

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Do *not* rely on complaints

Many don't report because:

- ✦ They are afraid they will be charged \$ or evicted
- ✦ Are embarrassed to complain
- ✦ Are unaware of the signs

Use monitors and proactive inspection!!!

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Module review (What will you do now?)

Who does what?

- Encourage reporting
 - Pests
 - Conditions (leaks, holes)
- Turn PMP and resident observations into work orders
- Discourage pesticide use by residents
- Keep an IPM log
- Evaluate effectiveness
- Monitoring
- Sanitation/cleaning
- Exclusion: Sealing cracks & crevices
- Vacuuming
- Repairing leaks
- Pesticide application

What's in your contract?

- NO routine spraying
- NO pyrethroid sprays
- Monitors in all units
- Use (based on monitor counts):
 - Baits
 - Dusts
 - IGRs
- Follow-up treatment/schedule every 2-4 weeks
- Baits rotated monthly

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Audience questions?

The screenshot shows the StopPests.org website interface. At the top, there are navigation buttons for 'Webinars', 'Request Training', and 'Pest Solutions'. Below this is a search bar and a 'Guidance on Pest Control during this' link. The main content area features a 'News You Can Use' section with a date of March 25, 2020, and a title 'Pest Control Operations and Social Distancing in Multi-Family Housing During the COVID-19/Coronavirus Outbreak'. The sidebar on the right includes a 'HOME' section, 'ON THIS SITE' with categories like 'Home & landscape pests', 'Agricultural pests', 'Natural environment pests', 'Exotic & invasive pests', and 'Wood gallery'. Below the sidebar is a 'QUICK LINKS' section with items like 'Pest Notes library', 'Quick Tips library', 'Video library', 'Seasonal Landscape IPM Checklist', and 'Pests in the Urban Landscape Blog'. At the bottom of the page, there are 'ABOUT US', 'WHAT IS IPM?', 'WORKING WITH RESIDENTS', and 'IPM TRAINING' sections, each with sub-links. There are also 'SUCCESS STORIES' and 'Research Database' links. At the very bottom, there are 'Training RSS', 'Funding RSS', and 'Blog RSS' buttons.

Use chat feature!
Visit
StopPests.org
&
ipm.ucanr.edu

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Contact us!

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