

## Integrated Pest Management: Managing People to Manage Pests

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*Anything is possible with a  
little cooperation...*



Courtesy of Marc Lame

**IPM is  
a team  
activity!**

### Why are pests a problem?

- Pests can be asthma triggers or cause allergic reactions
- Pests cause damage to our homes
- Pests contaminate the food we eat and the spaces we use to prepare food
- Cockroaches spread 33 kinds of bacteria including *E. coli* and Salmonella
- Pests cause us to lose sleep and well-being

IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

Integrated pest management is a process, not a miracle.

By implementing IPM in a team environment, you can manage pests by managing people.

### Why use IPM?

- It works
  - The Boston Housing Authority noted a 75% reduction in pest calls after starting an IPM program.
- It is sustainable
  - Pests can develop pesticide resistance, become bait shy or even change behaviors if only one management method is used.
- IPM promotes pest management options that reduce risk to you and the environment.
  - If pesticides are used, the least risky alternative will be selected.

### Traditional Pest Control vs. IPM

- |  |  |
|--|--|
| ▪ Single Solution                              | ○ Integrated   |
| ▪ Extermination                                | ○ Management   |
| ▪ Non-target overflows (damage to environment) | ○ Specifically targeted to a pest with minimum overflows |
| ▪ Chemical Usage Exclusively                   | ○ Non chemical 1 <sup>st</sup>                           |
| ▪ General                                      | ○ Specific   |

### Basic Elements of IPM

- Pest monitoring
- Identification of pests
- Recordkeeping
- Use established economic or aesthetic injury thresholds
- Management of pests, if needed

## IPM Program Components

- Pest prevention through exclusion and sanitation
- Pest monitoring by visual inspection, pest log reports, and monitoring stations (non-baited, baited or pheromone/kairomone sticky traps)
- Pest identification, understanding of pest life cycle and identification of conducive conditions
- Maintain pest monitoring records including date, location and pest counts
- Consider all management options with pesticides as the last resort
- Keep records of treatments and management approaches

## IPM Program Evaluation

- Important to evaluate the effectiveness of the IPM Program
- May need to fine tune action thresholds or injury levels
- If regular or monthly pesticide applications are required, IPM program is not working
- May need to seek other solutions to the pest problems in order to reduce pesticide applications and maximize non-toxic or natural controls including sanitation and exclusion

## What is a Pest?

- A pest is any creature, plant or fungus that is where we don't want it.
  - They can be seasonal, circumstantial or permanent
  - They can be outdoors, indoors or both
  - They can be invaders or colonizers
- The pests we'll concern ourselves with today are indoor colonizers
  - They come, they stay and they reproduce

Mice



Cockroaches



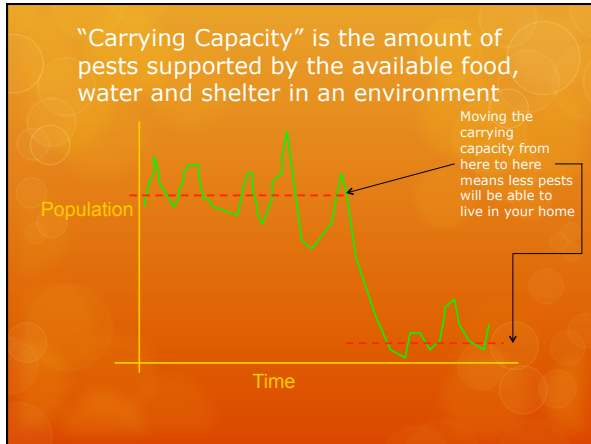
Bed bugs



## What attracts pests?

- Pests are attracted by the presence of three things
  - Food
  - Water
  - Shelter





### Don't Let Populations Buildup: Act Promptly to Manage Pests

- Most indoor colonizing pests reproduce rapidly
- Report and/or document your pest observations
- Follow directions from the Pest Management Professionals (PMP) and building management
- Don't waste time on the "blame game"
  - Once pests are present, address the problem

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Exclusion



Don't Self Medicate



This is not part of an IPM plan



This is part of an IPM plan







**Managing Mice**


- Mice can squeeze through a 1/4" hole
- If you can fit a #2 pencil in an opening, a mouse can enter through the hole
- Exclusion is the best defense
- Once inside, the second line of defense is eliminating clutter and harborage
- Use snap traps rather than glue boards
- Glue boards are considered inhumane as they do not kill the mice immediately
- Use rodent bait cautiously as it is very toxic to humans

**Cockroaches**

Snapshots at jasonlove.com






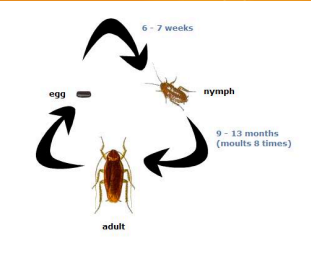


Infestations can be identified by the presence of *frass* near cracks and crevices

## Cockroaches



- Multiple eggs in each egg case
- Reproduce rapidly
- Nymphs look like small versions of the adults



Simple or Incomplete Metamorphosis

### American Cockroach



Scavengers. Normally located in roof voids, drains and sewers. Reddish brown with a yellowish margin on thorax.

### American Cockroach



Note yellowish margin on thorax

### Oriental Cockroach



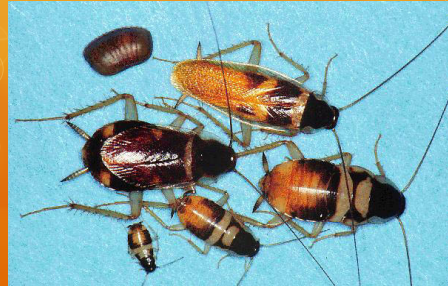
Normally found in dark moist areas.

### German Cockroach



Normally found indoors near warm areas such as refrigerator motors, microwaves, toasters, ovens and other electrical appliances.

### Brown-banded cockroach



Accurate identification is paramount to controlling brown-banded cockroaches. Control strategies for other cockroaches will not work.

### IPM for Cockroaches



- Monitor using glue trap near suspected infestation areas
- Seal and/or repair cracks and crevices
  - Consider putting a small amount of diatomaceous earth or boric acid powder in the crack prior to sealing
- In heavily infested areas, vacuum up the roaches using a HEPA -filtered vacuum

### IPM for Cockroaches



- After sanitization and repair, Bait-Don't Spray!
  - One spray that is acceptable is an Insect Growth Regulator (IGR)
- Cut down on clutter as much as possible
  - The fewer places to hide, the easier to treat
  - Do not use corrugated boxes for storage and dispose of cardboard boxes including soda pop packaging



## Bed Bugs

- A blood-sucking insect
- Most active at night
- Only feed on blood
- Hide in cracks and crevices near sleeping areas-often in groups
- Can hitchhike on clothing and personal belongings
- Can travel along wires and pipes
- Cannot jump, fly or burrow into skin...they crawl



## Bed Bugs

- Bed bugs do not transmit disease, but...
  - Scratching bites causes secondary infections
  - Can cause stress, loss of work, loss of sleep and financial burdens
  - Are unwelcome in our homes and workplace

## Bed Bugs

- Since bed bugs only eat blood, control measures are different from other pests
- There is no "magic bullet" for bed bugs
- Bed bug management requires everyone's attention

Unfed →

Fed →



## Bed Bugs

- Signs of Bed Bugs
  - Bites
  - Blood spots
  - Shed skins
  - Dead bed bugs
  - Live bed bugs (the only proof)
    - Remember, lots of things look like bed bugs




## Bed Bug Don'ts

- Don't bring home used furniture; especially off the street
- If visiting bed bug infested dwellings, don't put your personal belongings on areas that might have bed bugs
- When disposing of infested furniture, only move it after it has been wrapped in plastic and then destroy it once it's outside
- Don't spray or use "bug bombs", leave any treatments to the professionals

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Questions?

