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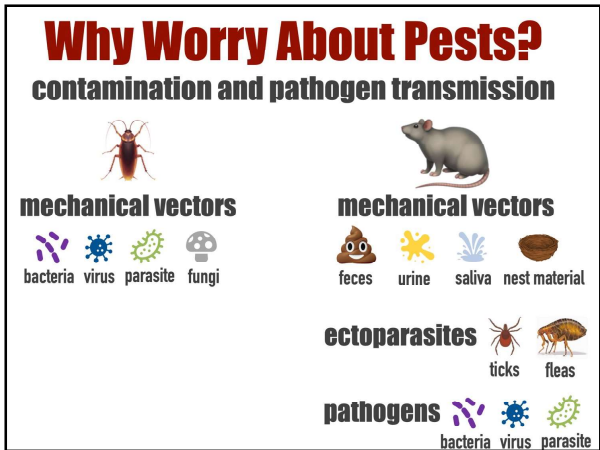
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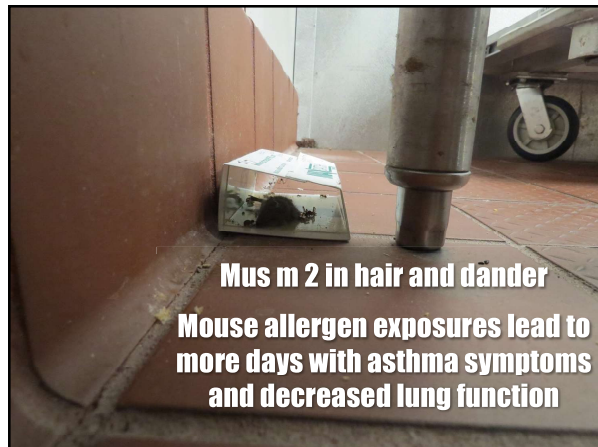
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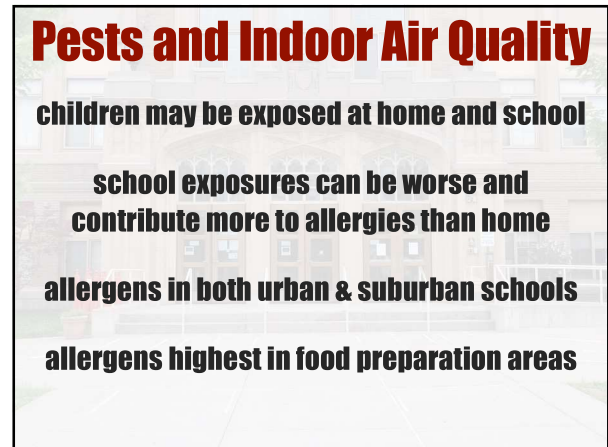
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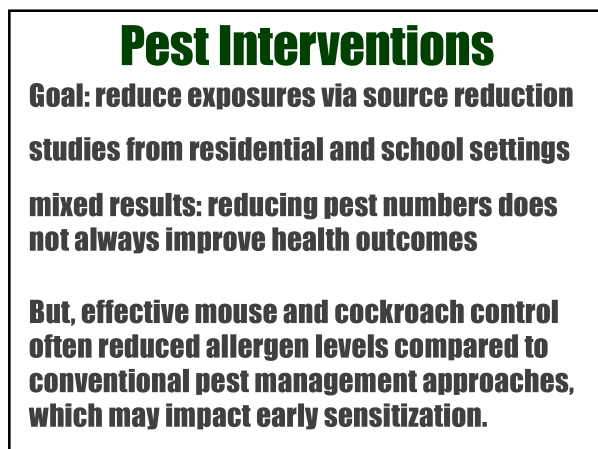
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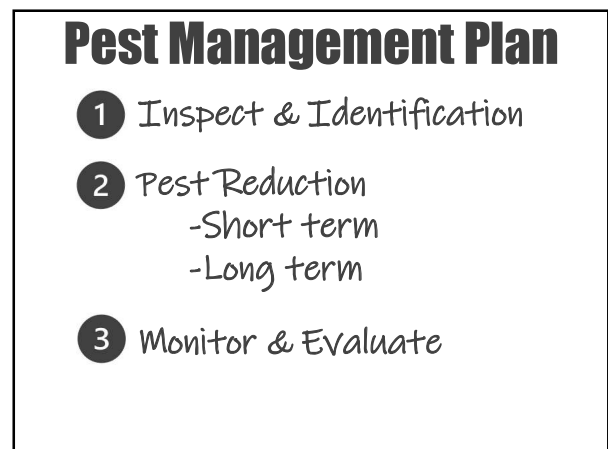
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## Inspections Outside the Box

is your service provider a checknician or a pest management professional?



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## Inspection at Every Service

An inspection should answer these questions:

- Are pests present and at what level?
- What factors are attracting pests?
- Where are pests living and hiding?
- How are pests getting in?
- What can be done to eliminate pest attraction, harborage, and entry?

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## Every Pest Tells a Story

**Accurate pest identification offers insights about where pests are feeding, breeding, and how they got in.**

**A detailed inspection helps identify and address issues.**

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## German Cockroach

**ID:** 1/2" tan with 2 dark stripes on pronotum

**Feces:** black specks affixed near harborage  
moist areas, feed on decaying organic items



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## German Cockroach Inspections

**"fecal focal points"**

crevices near  
warmth and food  
can use 1.6 mm gaps



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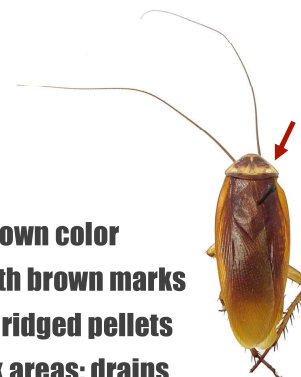
## American Cockroach



**ID:** 1.5 – 2", reddish-brown color

-pronotum yellow with brown marks

**Feces:** 1/8" blunt end, ridged pellets  
warm, damp, and dark areas: drains

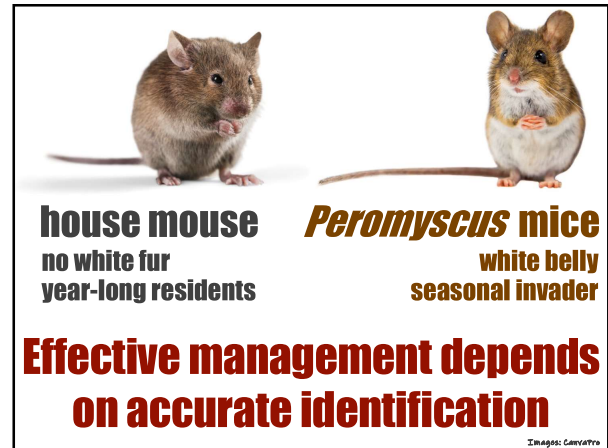


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**unused, dry plumbing (floor, sink, toilet)**

## broken sewer pipes / waste lines



## Norway Rats



**prefer to burrow in the soil**  
**will nest in other protected areas**  
**exterior entry points allow access**  
**possible entry through old pipes**

## Rodent Inspections

## Evidence

- ☐ droppings
- ☐ runways
- ☐ sebum marks
- ☐ burrows
- ☐ gnaw marks
- ☐ nest material
- ☐ footprints
- ☐ caches

## Attractive Elements

- ☐ shadows
- ☐ warmth
- ☐ entry points
- ☐ water
- ☐ food

## Rodent Evidence: Droppings

“rodent feces can provide the pest professional a roadmap to the high-activity areas such as primary runways, preferred corners, food sources and the rodent’s harborages”

-Robert Corrigan  
Mallis Handbook of Pest Control



## Know Your... Stuff

**pupae**  
**horizontal lines**

## horizontal lines



**rodent poop**  
pointed end  
hair mixed in

**50-60, up to 100 per day**

**roach poop**  
**vertical lines**  
**blunt ends**

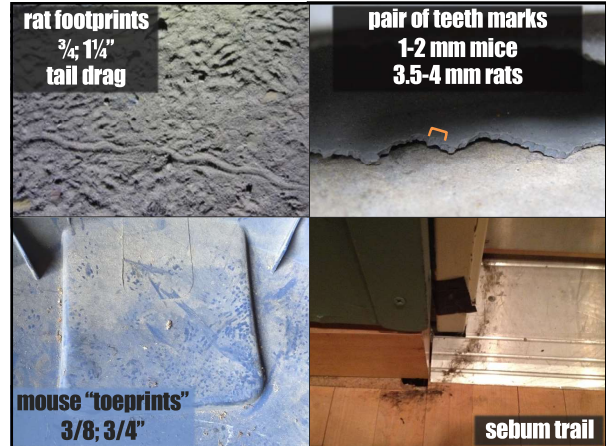
**40-50 per day**

**droppings should be removed**  
demonstrates if evidence is new or old  
removes potential pathogen/allergen source



[www.cdc.gov/rodents/cleaning](http://www.cdc.gov/rodents/cleaning)

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rat footprints  
3/4; 1/4"  
tail drag

pair of teeth marks  
1-2 mm mice  
3.5-4 mm rats

mouse "toeprints"  
3/8; 3/4"

sebum trail

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**Entry Points**

based on the size  
of a rodent's skull

	mouse	rat
gaps	> 1/4"	> 1/2"
openings	> 3/8"	> 3/4"



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**XCLUDER®**  
RODENT AND PEST DEFENSE  
F.I.T. (Frye Inspection Tool)

• Quickly identify rodent access points.  
• Quickly communicate issues to the customer.  
• Effectively use tool in photographs to document entry points & evidence of rodent activity for records.

**PROBE OPENINGS:**  
TOOL ENDS INDICATE SMALLEST OPENING THAT A MOUSE OR RAT CAN PASS THROUGH.

**MEASURE GAPS:**  
USE MARKINGS: 1/4" or 1 cm

**DIFFERENTIATE BITE MARKS:**  
USE TIP OF MOUSE PROBE AS SHOWN.  
MOUSE: 3/8" - 3/4" (1 - 2 mm)  
RAT: 1/4" - 1/2" (3 - 4 mm)

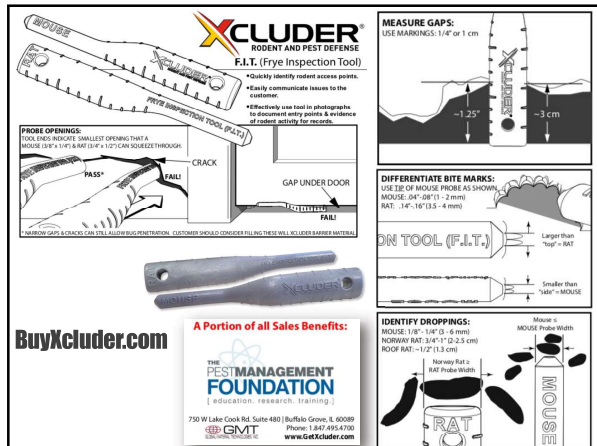
**IDENTIFY DROPPINGS:**  
MOUSE: 1/8" - 1/4" (3 - 6 mm)  
NORWAY RAT: 3/4" (2 - 2.5 cm)  
ROOF RAT: 1/2" (1.3 cm)

BuyXcluder.com

A Portion of all Sales Benefits:

**THE PEST MANAGEMENT FOUNDATION**  
[education · research · training]

750 W Lake Cook Rd. Suite 480 | Buffalo Grove, IL 60089  
Phone: 1.847.495.4700  
[www.GMTScholar.com](http://www.GMTScholar.com)



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**Pest Management Plan**

- 1 Inspect & Identification
- 2 Pest Reduction  
- Short term  
- Long term
- 3 Monitor & Evaluate

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## Who can apply pesticides in NYS schools?

1. Custodian
2. Principal
3. Certified Applicator or Technician
4. All of the above

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## Who Can Apply Pesticides in Schools?



**only a commercial\* pesticide applicator can apply pesticides in schools**

**That includes:**

- baits - ants
- sprays - wasp/roach
- 'natural products'

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## NYS School Regulations

**Factsheet highlighting regulations relevant to New York State schools**



### Community IPM

Synopsis of Regulations Relevant to Pest Management in New York State Schools

#### Pesticide Use (New York State Department of Environmental Conservation)

- Pesticide applications at schools can only be performed by Certified Commercial Applicators or Technicians. Applications for Applicators require the use of three signatures of a Certified Commercial Applicator, a Certified Commercial Pesticide Applicator must register that they are working under their supervision and control and that they are responsible for the use, application, and disposal of the pesticide.
- Pesticide applications must comply with the Department's Pesticide Application and Disposal Regulations. If a school has a pest management program, they must have a written plan in place for the Department.
- Certified applicators must complete one and accurate record of pesticide use including the pesticide application, and submit annual report of pesticide use to the Department.

#### Integrated Pest Management

- New York State (NYS) School Districts (Unified Education) Regulations (Chap. 30.6 of the Code of Laws of 1992) require the establishment of a comprehensive pest management plan in public elementary secondary schools, including plans for the most recent approach to integrated pest management (IPM).

#### School Pesticide Notification Requirement

- School districts must notify the Department of Environmental Conservation (DEC) of any pesticide application at a school. The notification must include the name of the pesticide, the amount, the date, and the location of the application. The following highlights the requirements associated with school districts.
- All school districts must designate an individual to act as the school pest management representative. This person is the school contact for all pesticide-related information, permit to application, and all reporting to DEC.
- In the reporting of school districts, a written record must be provided to the DEC. This record must include the name of the school, the name of the representative, the name of the pesticide, the amount, the date, and the location of the application. This record must be submitted to the DEC by the reporting school year.



Integrated Pest Management (IPM) is a process that uses a variety of techniques to manage pests in a school. It includes monitoring, identifying, and controlling pests using a variety of methods, including biological, cultural, and chemical controls. For more information, visit [www.dec.state.ny.us](http://www.dec.state.ny.us).

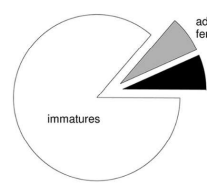
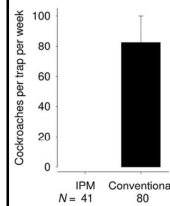
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## Pest Management in Schools

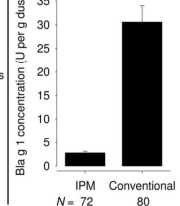
German cockroach allergen levels in North Carolina schools: comparison of Integrated Pest Management and conventional cockroach control

Nalyanya et al. 2009. Journal of Medical Entomology 46(3): 420-427

### cockroach captures per week



### Bla g 1 concentration



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## IPM Interventions: Staff

### HEPA Vacuum

- can reduce population by 50%
- reduces # roaches observed
- removes allergens

### Monitors/Traps



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## Professional Interventions

**start with options that minimize pesticide exposure due to the sensitive nature of schools**



traps  
monitors



baits

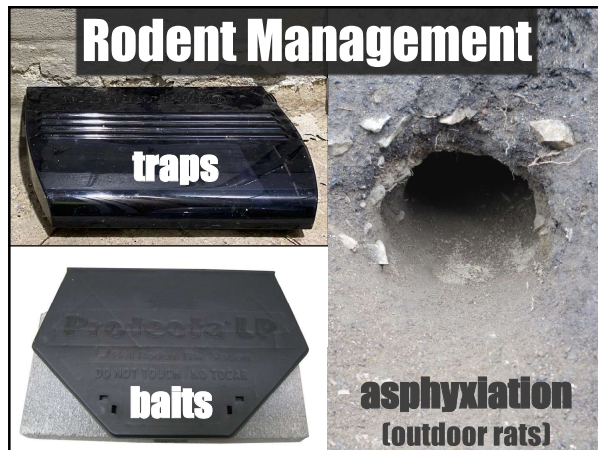


non-residual  
insecticides

residual  
insecticides

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## Rodent Reduction

<b>trapping</b>	<b>baiting</b>
<ul style="list-style-type: none"> <li>+ useful for monitoring</li> <li>+ no hidden, dead rodents</li> <li>+ no non-target poisoning</li> <li>- not always a clean kill</li> </ul>	<ul style="list-style-type: none"> <li>+ less hands-on / easier</li> <li>+ <i>potentially</i> more humane</li> <li>- non-target risks</li> <li>- hidden/dead rodent smell</li> </ul>

**Beware! product may not work as advertised**  
**correct device placement is the key to success**

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## Pest Management Limitations

when food, water, and shelter are available,  
lethal control approaches will fail

## Sanitation is Pest Control

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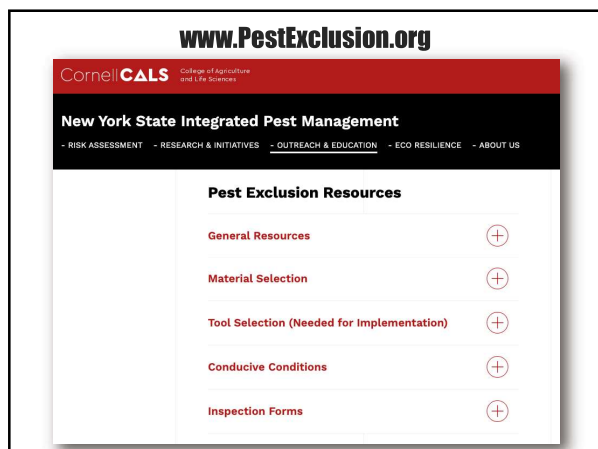
## Exclusion is Pest Prevention

Prevents access to/eliminates harborage  
Prevents movement between rooms  
Can eliminate water & food sources

**attention to detail important**

- ✓ **escutcheon plate**
- ✓ **sealant**
- **gap sealed**

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## Pest Management Plan

- 1 Inspect & Identification
- 2 Pest Reduction
  - Short term
  - Long term
- 3 Monitor & Evaluate

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# Closing Thoughts

Communication is critical: staff, PMP, admin

- who communicates with PMP?
- where are PMP reports sent?
- do you have a pest sighting log?

**PEST SIGHTING LOG**

School/Facility/Site Name: \_\_\_\_\_ Date: \_\_\_\_\_

To be filled by School personnel				To be filled by the pest manager		
Date	Type of pest seen	Name of person reporting	Specific location where pest was seen	Date	Action taken and recommendations	Technicians name

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# Closing Thoughts

Hold contracted PMP to higher standards

- rigorous IPM can reduce allergens, but...
- would you pay a plumber for leaking pipes?

**Bravely break the mold:**

“Prospective and retrospective studies show that IPM is more effective than conventional pest control, and it can lead to long-term reductions in cockroach allergens, resulting in a healthier school environment for students and teachers.”

Nalyanya et al. 2009

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## What's Bugging You First Friday

Virtual presentations on practical solutions to pest problems

12:00 – 12:30 PM Eastern  
first Friday of each month

[go.nysipm.org/wby](https://go.nysipm.org/wby)

What's Bugging You First Friday

What's Bugging You? First Fridays

Top 5 Rodent Exclusion Tips

Making a Mosquito Bucket Trap

Mosquito bucket traps | Feeding Friendly Insects: Pick plants...

Grow green lawns with overseeding | Beech leaf disease 7/4/2025

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## IPM for Schools and Daycare Centers

IPM in Schools and Daycare Centers

School IPM Best Practices

Sports Field Management

School and Childcare IPM Blog

Cornell CALS

New York State Integrated Pest Management

IPM for Schools and Daycare Centers

IPM in Schools and Daycare Centers

New York State schools and schools in many other states have provided extensive training in many states. The NY State and the Department of Education have provided training in many states. The NY State and the Department of Education have provided training in many states.

[mjf267@cornell.edu](mailto:mjf267@cornell.edu) [in](#) Matt Frye

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