Got Pests? Maintenance Solutions to Pest Problems

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Maine Department of Agriculture, Conservation and Forestry

Ticks and Mosquitoes

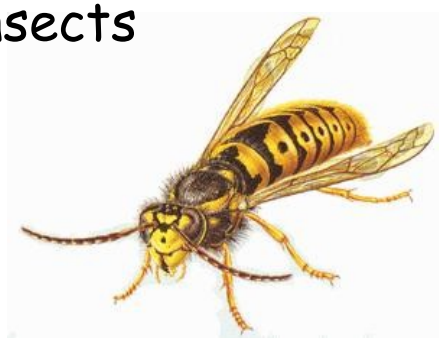
- Grade to eliminate standing water
- Eliminate water-collecting containers
- Mow grass, brush-out shrubby areas
- www.Maine.gov/schoolipm for guidelines

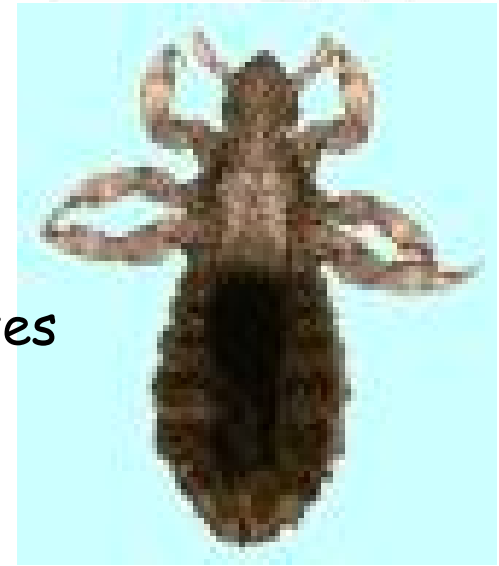
School Environmental Health and Safety

Protecting our Future is YOUR Responsibility

Wood Destroyers

Stinging Insects





Parasites

Poisonous Plants

Turf pests

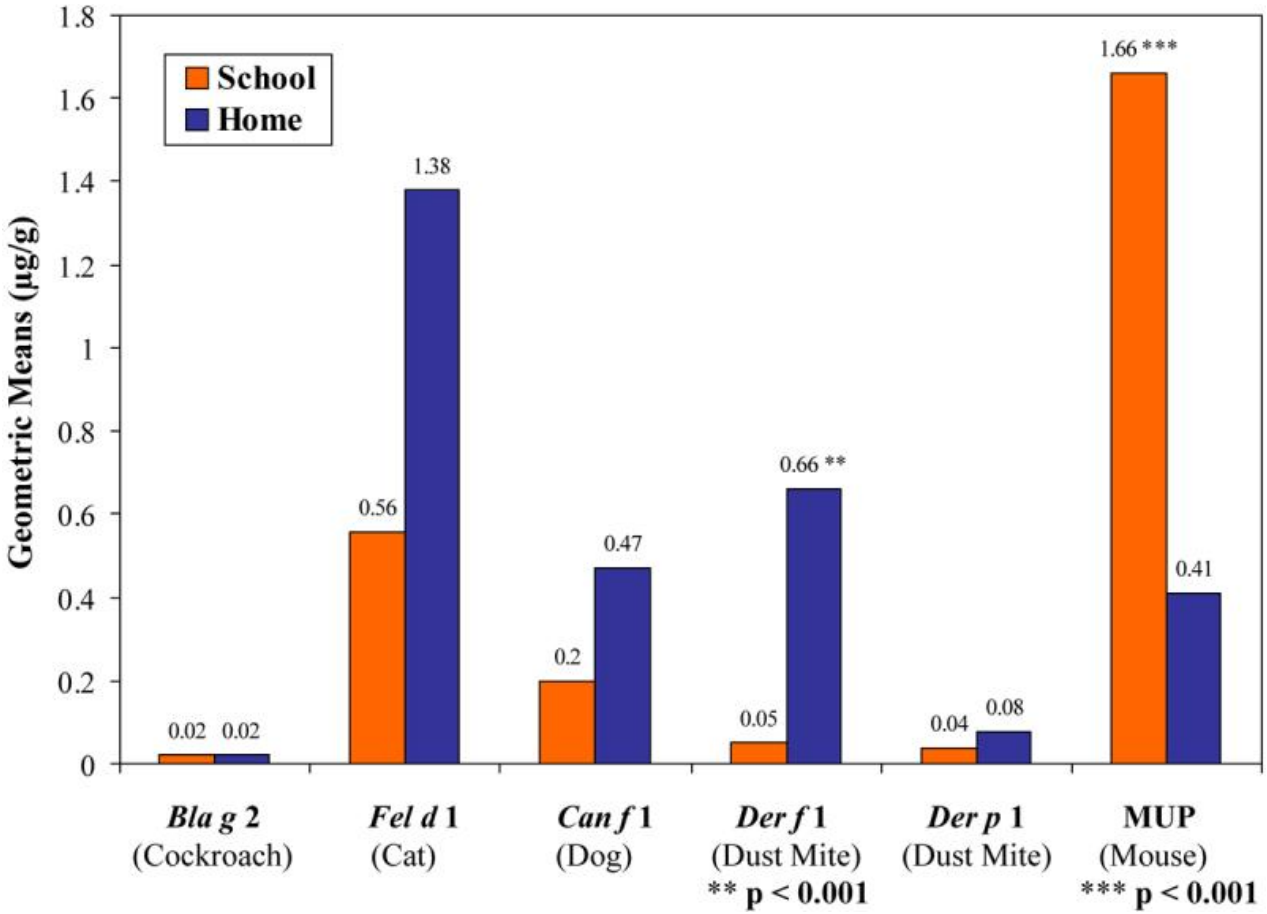
Disease Carriers

Pests and Asthma

- Mice, cockroaches, and dust mites are asthma triggers.
- Academic performance is lower in schools with higher asthma rates.

Pests and Asthma

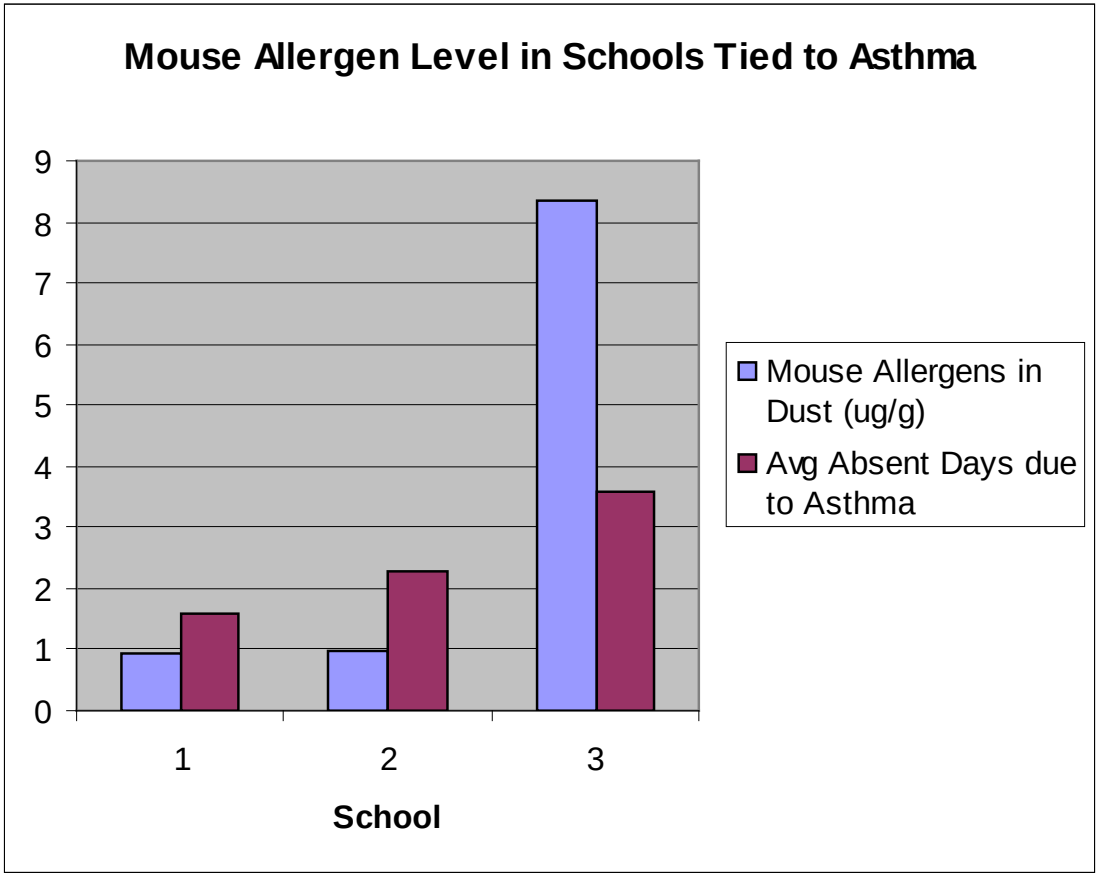
Average concentrations of mouse allergens are <u>4-5x higher in schools</u> than in homes of children with asthma**



** Permaul, et al. 2012. Pediatr Allergy Immunol. 2012. Allergens in Urban Schools and Homes of Children with Asthma.

Pests, Asthma, and Absenteeism

Schools with more mouse allergens have more student absenteeism due to asthma

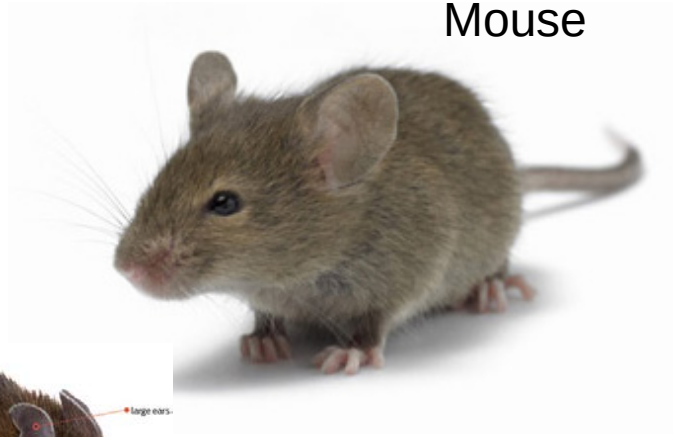


* Sheehan et. al. 2009. Ann. Allergy Asthma Immunol vol 102. Mouse Allergens in Urban Elementary Schools and Homes of Children with Asthma

Keep Schools Rodent-free

- House mouse urine triggers asthma
- Deer mouse feces carries hantavirus (hemorrhagic fever).
- Rats: carry diseases. Bite humans. Chew wires.

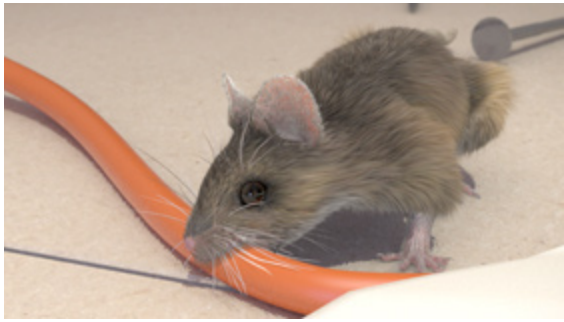
House Mouse



Deer Mouse

Norway Rat

Mice and Rats



- Chewed wires: fire hazard
- Spread human disease
- Carry fleas
- Trigger asthma
- Contaminate food

Components of Integrated Pest Management (IPM)

- ✓Pest-proofing building & grounds
- ✓Pest monitoring
- ✓Multiple pest prevention and control actions
- ✓Communication & record-keeping
- ✓Yearly program evaluation

IPM: Everyone's Responsibility

Students & Teachers: education, sanitation, monitoring

Sports Staff: scheduling, turf protection

Business Manager: contracts, budgeting

Custodians: Sanitation, monitoring

Maintenance Staff: pest exclusion & monitoring

Office Staff: communication, records, scheduling

Kitchen Staff: pest prevention & monitoring

Ask pest service provider to write maintenance needs on service tickets. Verify maintenance gets done ASAP.

Repair door sweep on kitchen door. Clean up mouse droppings under sink.

Rodent Monitoring Service Ticket

CAD Pest Control Services, Inc.
P.O. Box 18437
Reno, NV 89511
775-853-1672

Date: _____

Name _____ Phone _____

Address _____

City _____ St. _____ Zip _____

Today we performed the monitoring service in accordance with your rodent service agreement.

QTY		
	Monitoring stations inspected.	
	Stations found with rodent Activity	Station #(s)
	Monitoring stations had bait added	Station #(s)
	Damaged or missing monitoring stations replaced	Station #(s)

☐ Conventional treatment performed. ☐ No rodent activity was found.

Describe _____

Materials Used: EPA # _____

Type _____ Amount _____ (gals. used)

Your next service visit will be _____

Remarks: – Repair door sweep on kitchen door. Clean up mouse droppings under sink.

Include Pest Prevention in Regular Maintenance Inspection

- **Use flashlight and clipboard**
- **Look under, around, over equipment for cleanliness, damage, pests**
- **Look for pest entryways into the building (cracks, water intrusion, broken screens, broken door sweeps, etc)**

Find and Seal Pest Entryways

Install and maintain door-sweeps to keep mice and insects out

Inspect and Correct

- Inspect for and seal cracks and crevices in exterior walls.
- Inspect and correct condensation problems and leaks around pipes.

Exclude pests/ seal gaps with steel or copper mesh fillers

- Stuffit (copper wool)
- Xcluder (steel mesh)

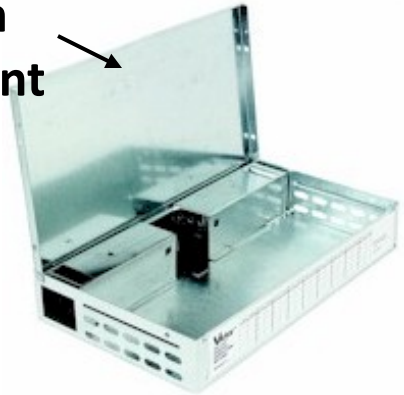
Seal Pipe Chases to Seal Out Pests

Escutcheon plates seal pipe chase – prevents pest entry

Use Traps

- Put mouse traps **against wall** in kitchen, food storage, teachers lounge, etc
- Check monthly until pests found
- Check daily if rodents found

Multiple Catch Rodent Trap



Rodent trap inside fake rock

Snap trap

Pest Monitoring Trap Records

Integrated Pest Management Program
Pest Monitoring Record

Month June/July '09 School: Nokomis HS

Name Don McDougall

- Count each of the monitor traps in your school weekly (or as often as your school IPM plan calls for). Record the number and type of **new insects found** at each trap below. At the end of the month, copy and forward the monitor sheet to _main_ office.
- If any trap shows the presence of cockroaches, please call the IPM coordinator, Licia Goodridge.
- If any trap is damaged, lost, or full, replace it with a new dated and numbered trap.

Trap No.	Room Location	Date 1: 6/19/07	Date 2: 7/20/07	Date 3: 7/21/07	Date 4:	Date 5:
1 Snap Trap	Under sink in Kitchen	0	1 mouse	0		
2 glue board	Behind dishwasher in kitchen	0	0	2 spiders		

Clean Floor Drains Regularly to Eliminate/Prevent Pests

- Remove covers
- Enzyme cleaners eat the gunk
- Long-handled brush to clean inside drain

Seal Gaps/Crevices to Eliminate Pest Harborage

Silicone sealant behind hand-washing sink in kitchen eliminates potential insect hiding places

Inspect Building Exterior Regularly

Check for:

- Wasp nests
- Unscreened vents
- Gaps around utility penetrations
- Water damage
- Damaged/disconnected gutters and downspouts
- Poor drainage
- Damaged/missing window screens
- Bird roosting

Building Exterior

- Shrubs, grass, bark mulch at least 1 ft away
- Limbs 6 ft away
- No water intrusion, standing water, broken/missing screens, clogged downspouts, etc

Building Exterior

Seal gaps and cracks in foundation, fascia boards, walls and doors will reduce long-term repair costs and save energy.

Fascia board above back doorway is pulling away, creating a pest entry point

Raking leaves and debris away from foundation and doors will help reduce moisture, protect wood and keep pests out.

Wood rot behind exterior light invites carpenter ants.

Seal foundation cracks to keep pests out and save energy

Install/repair/replace door sweeps to keep pests out and reduce energy costs.

Check Roof, Gutters, Downspouts, Eaves, Walls for Damage and Water Intrusion

Install Spikes or Netting to Prevent Birds from Roosting

Pest-Proofing Maintenance for Fields and Grounds

- Eliminate water-holding containers such as tires
- Grade to eliminate standing water
- Mow high
- Get soil tests. Apply fertilizer and lime accordingly
- Core aeration, irrigation, overseeding, & topdressing as needed.
- Monitor for pests regularly

Waste Management

Lid should fit tight

Dumpsters 50' from doors

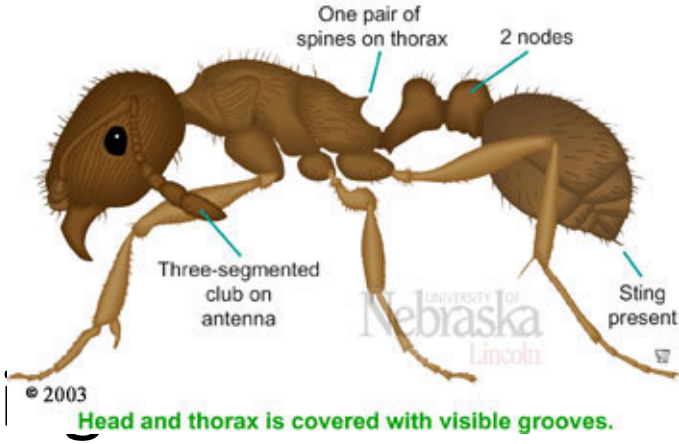
- Place, don't toss, bags into dumpster
- Containers clean, closed, 50' away from buildings.

Stinging Insects

- Inspect eaves, playgrounds, sheds, etc, twice monthly May-Oct.
- Destroy wasp nests if location poses risk of stings
- Seal openings on buildings & playgrounds **before** warm weather or after nest destroyed
- Control food, beverages, trash outdoors that attract wasps and bees.

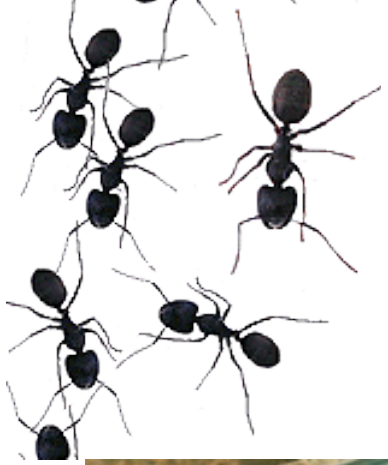
Ants

Pavement ant



- Identify the species by contacti[illegible]g
  - Cooperative Extension Office or
  - Your pest control service

Ants

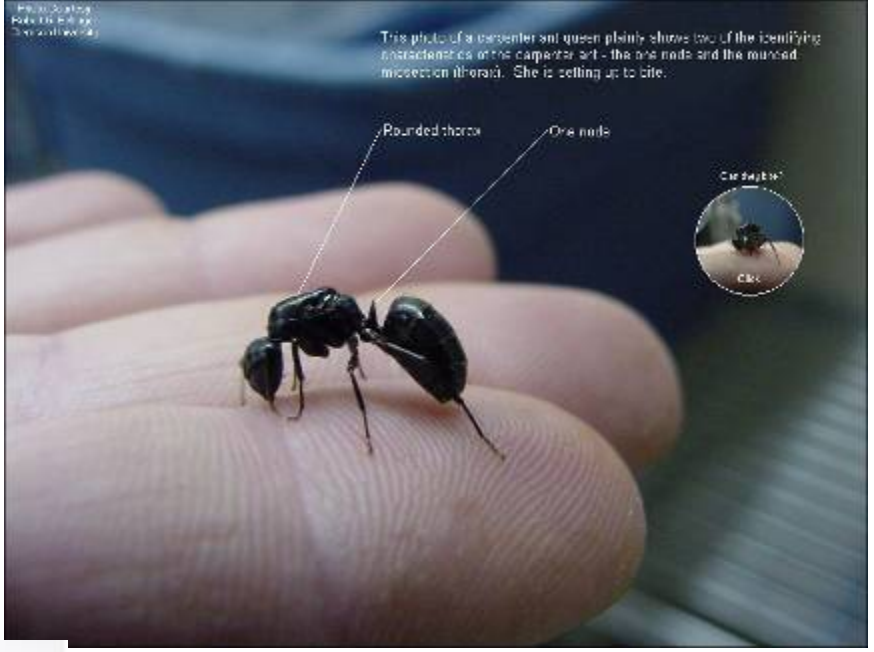


- Remove food and water that attracts ants
- Remove pest-infested indoor plants
- Seal cracks, crevices,
- Wipe up ants and their trails with soapy water
- Repair water-damaged/rotted wood

Keep Ants Outside

- Keep vegetation and sand away from foundation
- Seal cracks and crevices

Carpenter Ant



- Repair water leaks,
- Find/remove nest and damaged wood by carpentry,
- Remove infested stumps and trees near buildings,
- Hire professional to assist and bait

Got Pests? What is it?

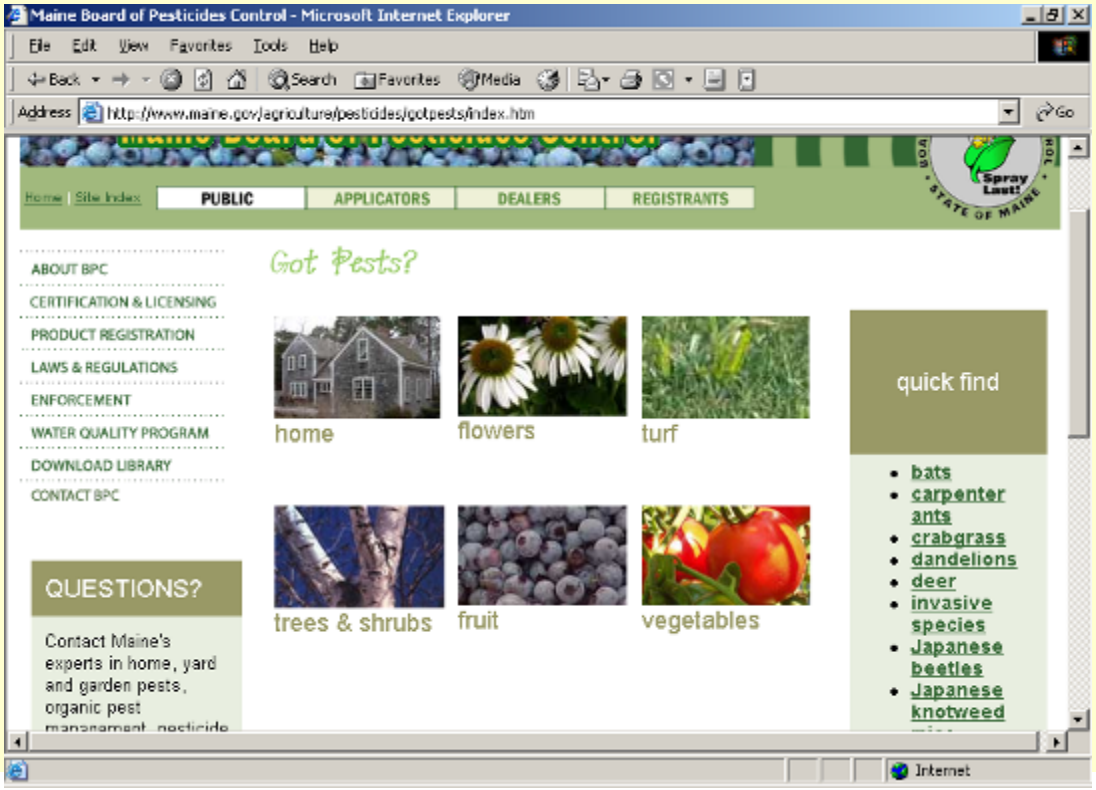
- Maine Cooperative Extension:

  1-800-287-0279 (in Maine)

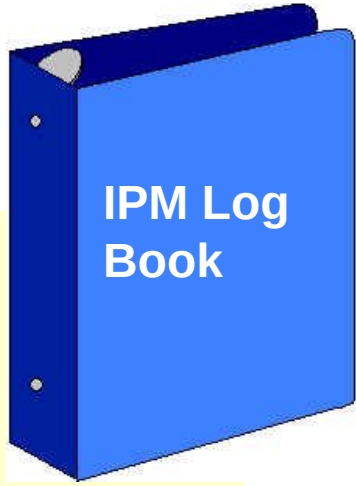
  http://www.umext.maine.edu/topics/pest.htm

- Internet

- Books



Monthly Pest Monitoring & Action Records



Record….

- **How Observed?** (inspection, trap, sample, random observation, etc)
- **How Many?** No. of each pest per trap or observation
- **When & Where?** Location, date, time.

Pest Sighting Log

Facility: Middle School Date: 9/4/04 Time: 6:30 am

Person Monitoring: Custodian

Area	Pest Problem Found	Conditions	Recommendations
Kitchen	Small ants	Sugar on Counter	Clean area better
Food Storage	Mouse droppings	Hole around pipe	Seal hole and put out traps
Kitchen	Flies	Dumpster too close to kitchen door	Clean dumpster and move it away from door
Entry Way	Yellowjackets	Nest in eaves above door	Check area regularly over the summer and remove first signs of a nest
Boys Bathroom	Small flies	Floor drains dirty	Scrub floor drains and flush with enzyme cleaner

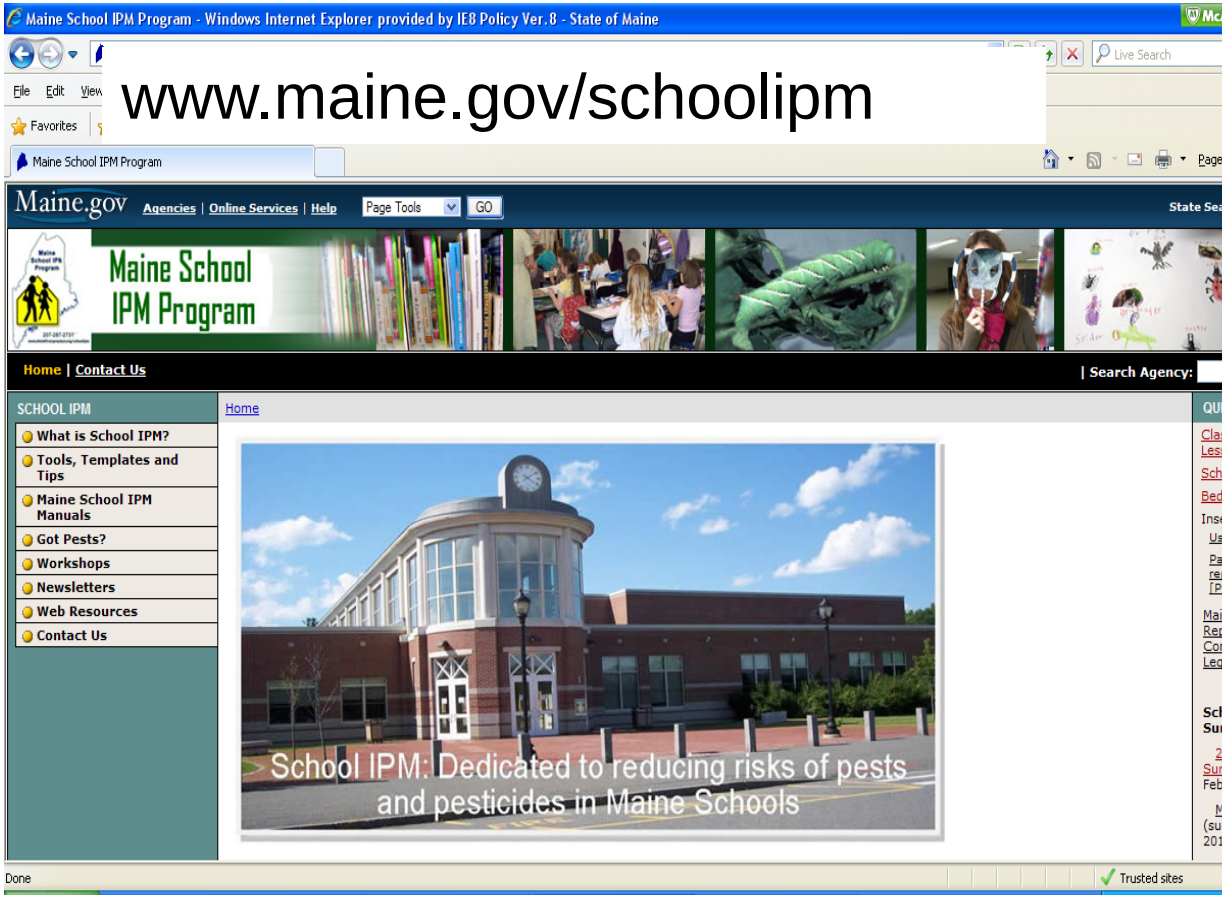
Key Elements for Success

- **Establish a written IPM Plan**
- **Collaborate and Communicate with** administrators, custodial/maintenance staff, teachers, students, contractors, community.
- **Provide Good Training for** staff.
- **No unauthorized pesticide use.**
- **Regularly Inspect and Monitor for Pests and Pest Prevention Needs**
- **Keep Records and Track Complaints**
- **When Pest Control is Needed: Select least-risk IPM solutions.**
- **Recognize and Reward** staff, classrooms for job well done

Maine School IPM Program

ME Department of Agriculture, Conservation and Forestry

- Templates
- Training
- Tools
- Guidelines
- Newsletter
- Consultation
- Pest Identification



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Additional IPM Resources

- EPA (www.epa.gov)
  - Healthy SEAT (downloadable school environmental management program)
  - IPM (www.epa.gov/pesticides/ipm)
  - Indoor air quality (www.epa.gov/iaq
- NE IPM Center (neipmc.org)
  - Searchable IPM resource database
- Informed Green Solutions www.informedgreensolutions.org