

Integrated Pest Management “IPM” in Schools



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Healthy Buildings, Active Learners



Healthier Environment →

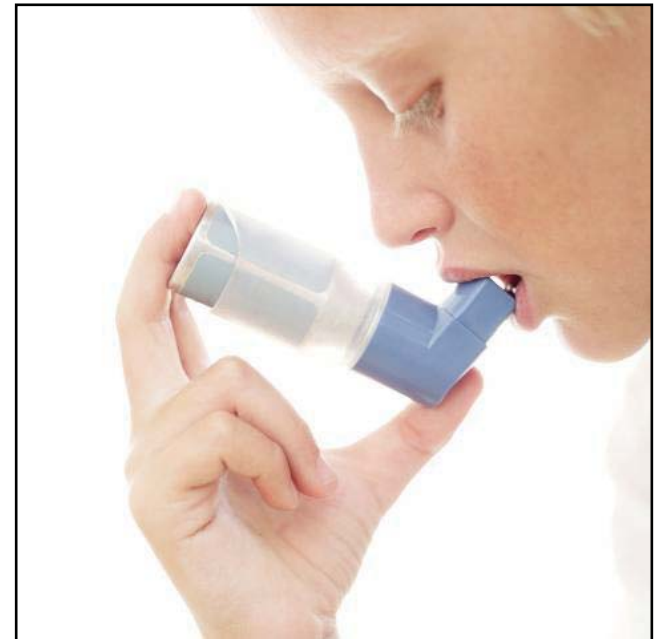
Healthier Children →

Higher Academic Achievement !

So what does this have to do with “Integrated Pest Management”?

Asthma is the most common chronic illness in children

- 4.8 million kids - U.S.
- Number one cause of absenteeism – *more than 12.8 million school days per year*
- Most exacerbations are due to environmental triggers
- Common pests in schools are triggers



Pests and pesticides in schools are an environmental health issue

- Children are especially vulnerable to problems associated with some pests
- Cockroaches are asthma triggers
- Rodent infestations can be disease vectors, asthma triggers
- Pesticides commonly used (and misused) can be asthma triggers (especially aerosols)
- Many pesticides have been associated with other short and long-term health problems



Children are NOT Little Adults



Children are still



1) Growing

&

2) Developing



Greater Metabolic Demands



Anatomic &
Physiological
Differences



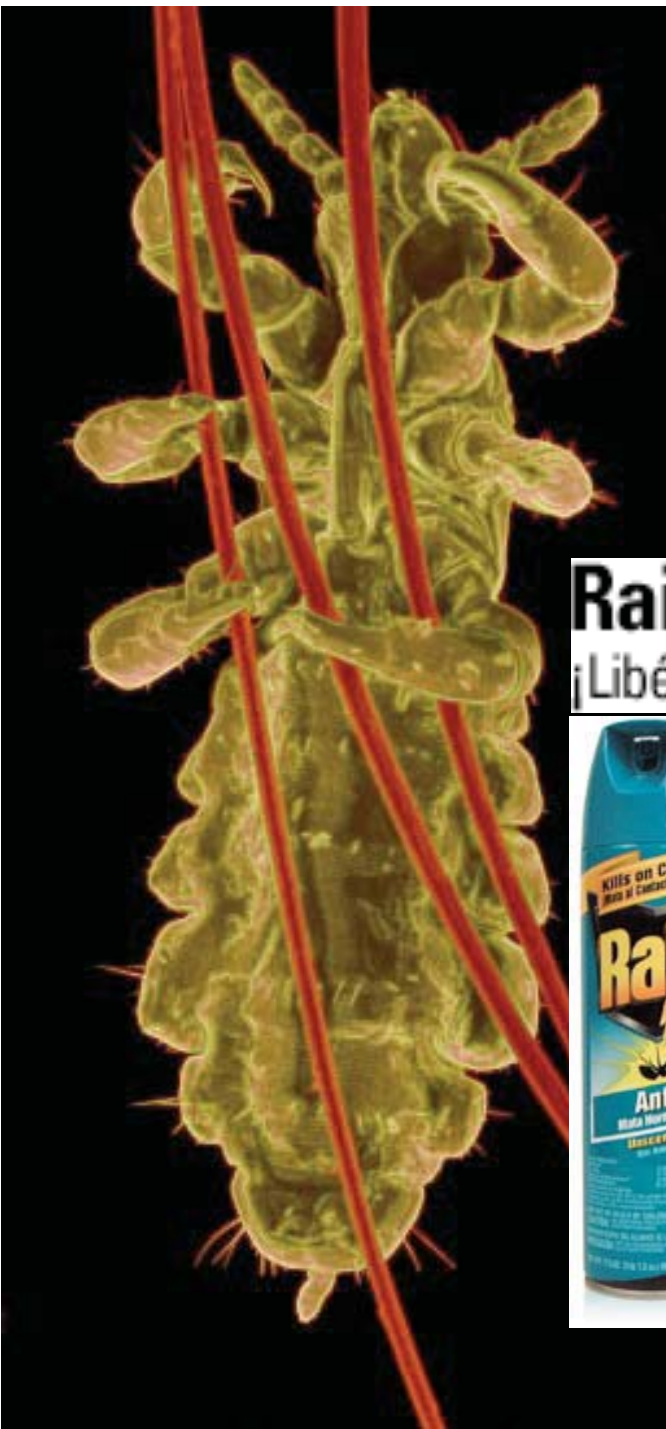
Behavior Differences

Conventional control methods often have unrecognized impacts

- Regularly scheduled spraying around the perimeter of a school: Environmental contamination, creation of pesticide resistance in pests, health risks to children
- Unsanctioned use by well-meaning teachers, parents: Environmental contamination, negative health effects to children...



Unsanctioned use of pesticides by well-meaning staff



Raid® Ant Killer
¡Libérese de las hormigas!



Integrated Pest Management (IPM)

- Common-sense strategy integrating multiple tactics – does not rely on a single tactic
- Long-term solutions (it's a process, not a magic bullet)
- Focus on minimum impact on human health and the environment
- Solutions based on understanding pest biology and behavior

IPM in Schools: Key Concepts

- Prevention and avoidance through pest exclusion and good sanitation
- Monitoring and identification of pests
- Treatment – cultural, physical, and (last of all) chemical
- Custodians, teachers, principals, pest control professionals, and others all have a role

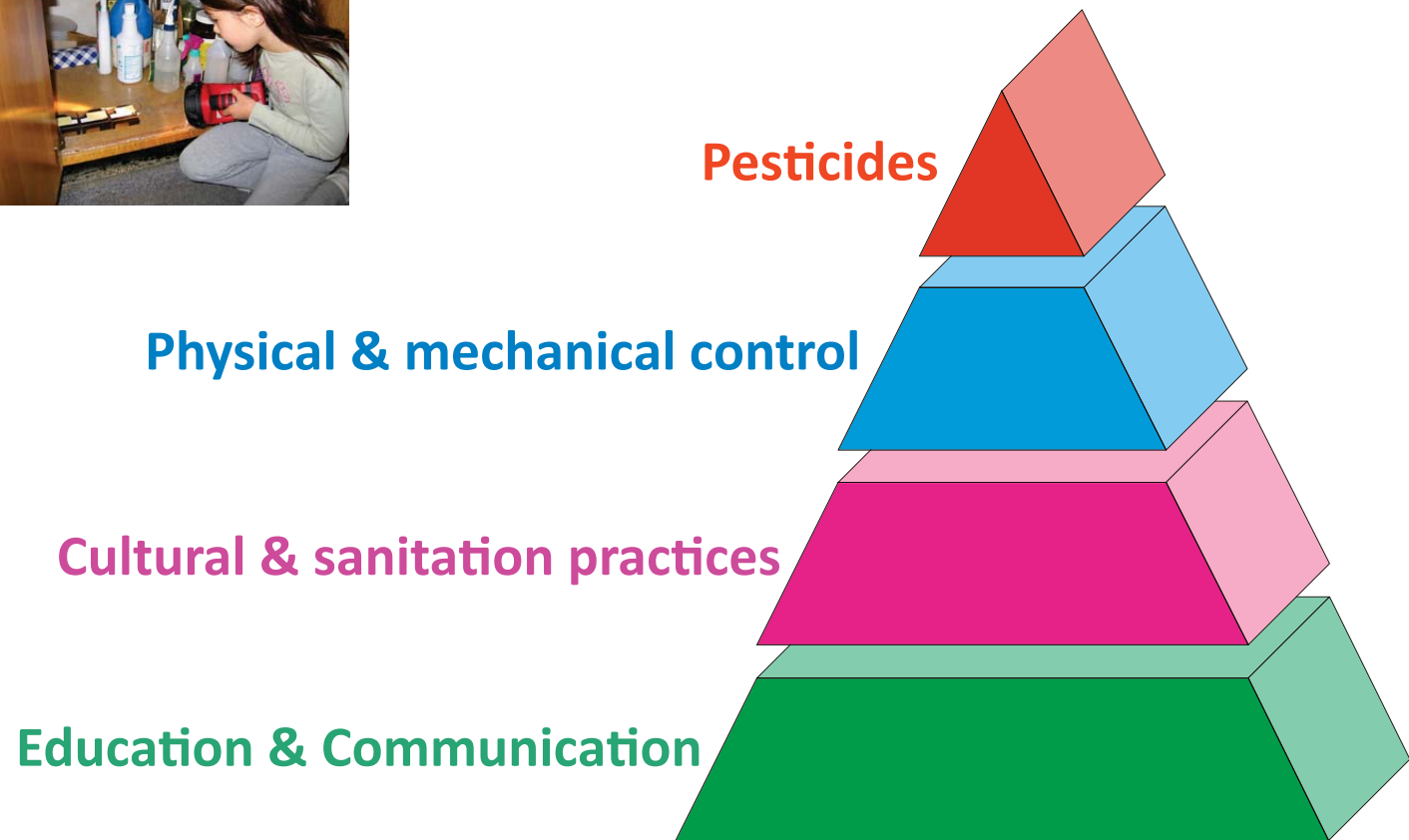
The Promise of IPM in Schools

- 71% Reduction in pesticide use
- 78% reduction in pest complaints
 - Lower costs as pest problems are reduced (IPM implementation requires initial investment)
 - Long-term monitoring with occasional treatment costs less than conventional practice
- Workload of school facilities staff not increased (“Do what you’re already doing, just think pests.”)

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IPM Basics



What IPM is NOT

- A job description added to an unwilling or unqualified individual
- A “low bid” process
- An “out of sight, out of mind” contractual function
- A chemical pesticide program
- A no-chemical pesticide program

Prevention and Avoidance: Sanitation



- Pests need food, pests need water



Sanitation

- Pests need shelter



Prevention and Avoidance: Exclusion

- Pests need an entrance, pests need an exit



Exclusion

Mice and Rats, Pencils and Quarters



Exclusion

- Eliminate pest entry points



Key Concepts: Monitoring and Identification

- Monitoring – The only way to justify a pesticide application, allows for proper diagnosis
- Correct identification contributes to proper diagnosis and action



Monitoring

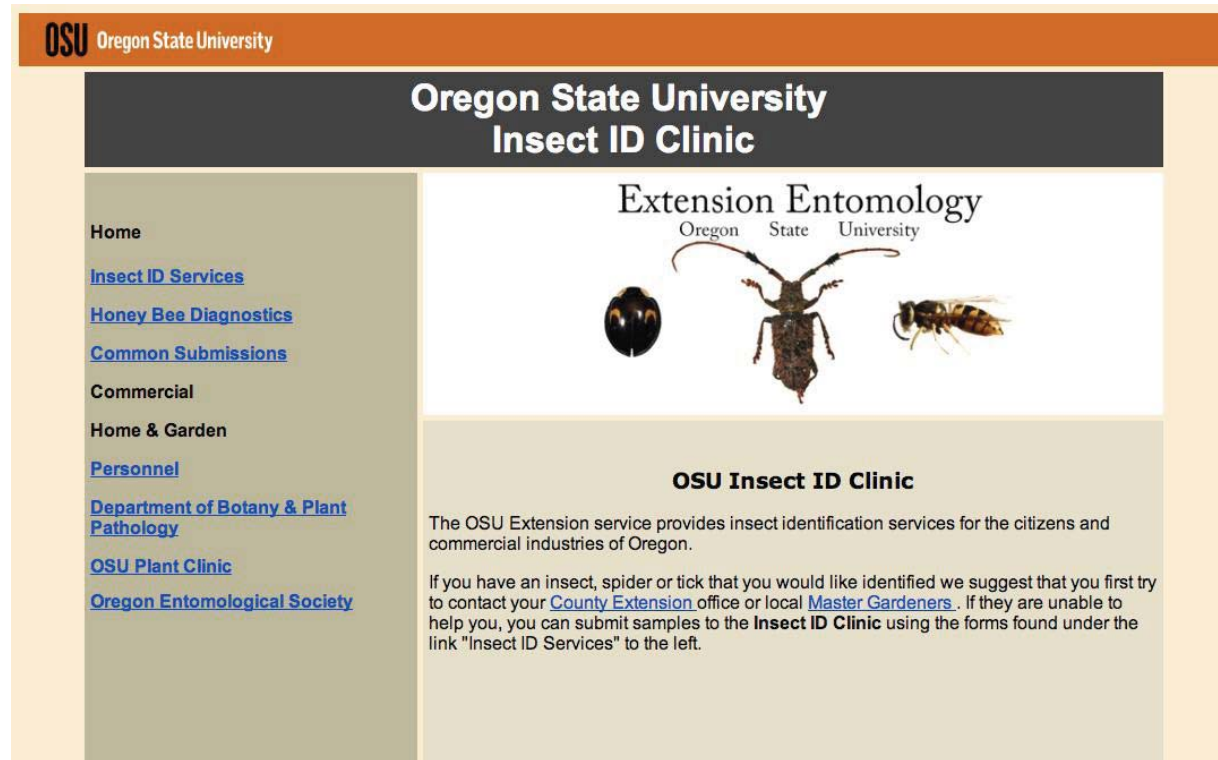
- No protocol for setting and reviewing sticky traps = No useful information



Identification

OSU Insect ID Clinic

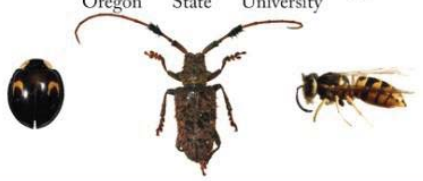
http://www.ipmnet.org/Labs_Services_OSU/Insect_ID.htm



OSU Oregon State University

Oregon State University Insect ID Clinic

Extension Entomology
Oregon State University



OSU Insect ID Clinic

The OSU Extension service provides insect identification services for the citizens and commercial industries of Oregon.

If you have an insect, spider or tick that you would like identified we suggest that you first try to contact your [County Extension](#) office or local [Master Gardeners](#). If they are unable to help you, you can submit samples to the **Insect ID Clinic** using the forms found under the link "Insect ID Services" to the left.

Home

- [Insect ID Services](#)
- [Honey Bee Diagnostics](#)
- [Common Submissions](#)

Commercial

Home & Garden

- [Personnel](#)
- [Department of Botany & Plant Pathology](#)
- [OSU Plant Clinic](#)
- [Oregon Entomological Society](#)

Inspections

- Inspect from a pest's perspective
(think **“food, water, shelter”**)



Inspections: Check “Pest Vulnerable Areas”

- Teachers’ Lounge **Food, Water, Shelter**
- Kitchen
- Locker Rooms
- Custodial Closets
- Special Ed Classrooms
- Restrooms
- Dumpsters
- “Clutter-bug” classrooms




Key Concepts: Treatment

- Monitoring, the only way to justify treatment
- Much less “treatment” when there is prevention, avoidance, monitoring, and identification.



Treatment

- Rodents: With a few exceptions, traps, not baits (baits can be moved around by rodents and eaten by small children, dead rodents smell bad and can be difficult to find)
- Ants: NEVER use Raid or similar spray.  Counterproductive! Better to wipe the trail clean and eliminate the food source. Most pesticide baits used on ants require the foraging ants to carry the bait back to the colony to be effective.

Pesticides - **When Appropriate**

- Require in-house applicators to be trained and licensed or contract with a Pest Management Professional
- Treat every pesticide like it might be banned... be cautious!
- Timing and coverage based on targeted pest
- Use the absolute minimum required
- Pre-application notification

Note: This slide is from Ricardo Zubiate, Head Custodian and IPM Coordinator, Salt Lake City School District. There is no legislation requiring IPM in Utah schools.

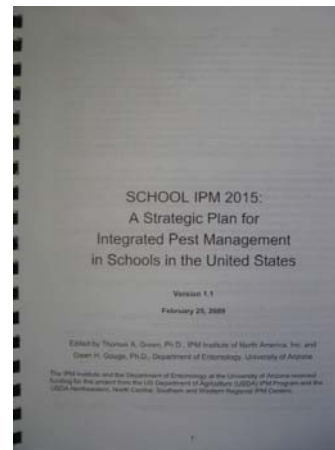
Key Concepts: Everyone has a role

- Custodians
- Pest Management Professionals
- Teachers
- Principals
- District IPM Coordinator



What is being done now

- National Pest Management Strategic Plan for IPM in Schools
- Western Region School IPM Working Group
- OSU School IPM Program: Active, Current, Expanding
- Senate Bill 637



“High Level IPM in all Schools by 2015”

The National Pest Management Strategic Plan

- Funded and created by multiple stakeholders
- Increase awareness among school community and key influencers
- Generate commitment from agencies, organizations, and individuals
- Address research questions that lead to less hazardous approaches
- Educate staff and students on the benefits of IPM and how they can apply it in home and workplace

Western Region Working Group

- Established in 2006 with funding from USDA's Western IPM Center
- Focal point for interactive collaboration between universities, fed & state agencies, schools, advocacy groups
- Priority setting in Portland in 2007
- Pilot project in Salem in 2009

Western Region Working Group

Everybody knows something. Nobody knows everything. Although the individual may know little, the group as a whole knows a lot.

“Expanding foam will degrade outside and some pests chew right through it and even use it as nesting material. The Poly may work well. However, whenever possible I use 100% pure silicone. For large gaps, stuff (tightly pack) the interior portion with a fine mesh steel wool and then seal over it. For larger voids use plating material (sheet aluminum, sheet metal) and seal all your edges. You can also use a very fine mesh screening (copper for plumbing areas or outdoor applications) and then seal all your edges. Keep in mind that if the area repaired needs to be painted - use a sealant that is paintable.”

“Looks like Allen and I think alike. I also like Sonneborn concrete fillers, etc.”

<http://www.buildingsystems.basf.com/specificbrand.asp?brandID=60>



OSU School IPM Program

- EPA funding to conduct Pilot in Salem
- USDA funding to provide training, build coalition
- Model School IPM Plans to be developed
- Statewide survey of pest and pest management issues and practices in schools
- OSFMA, OSSOA, OEA, OSBA, etc.



Teacher Training

- Health problems associated with rodents vs. those associated with ants
- Health risks from pesticides including translocation of baits
- Conducive conditions for pests
- Limitations of custodial staff and pest management professionals
- Teacher's role in an IPM program:
 - Monitoring and reporting pest problems and conducive conditions
 - Serving as a role model (keeping classrooms and teachers' lounge clean)
 - IPM education to children
- Consequences of not fulfilling their role
- "Pest Presses" or handouts on common pests

Senate Bill 637

- SB 637: States across the political spectrum already have similar legislation, strongly supported by the pest control industry, school facilities managers, and others
- Includes designating district IPM coordinator, educating staff, model plans

Senate Bill 637

“(3) ‘Integrated pest management plan’ means a proactive strategy that:

“(a) Focuses on the long-term prevention or suppression of pest problems through economically sound measures that:

“(A) Protect the health and safety of students, staff and faculty;

“(B) Protect the integrity of campus buildings and grounds;

“(C) Maintain a productive learning environment; and

“(D) Protect local ecosystem health;

“(b) Focuses on the prevention of pest problems by working to reduce or eliminate conditions of property construction, operation and maintenance that promote or allow for the establishment, feeding, breeding and proliferation of pest populations or other conditions that are conducive to pests or that create harborage for pests;

“(c) Incorporates the use of sanitation, structural remediation or habitat manipulation or of mechanical, biological and chemical pest control measures that present a reduced risk or have a low impact and, for the purpose of mitigating a declared pest emergency, the application of pesticides that are not low-impact pesticides;

“(d) Includes regular monitoring and inspections to detect pests, pest damage and unsanctioned pesticide usage;

“(e) Evaluates the need for pest control by identifying acceptable pest population density levels;

“(f) Monitors and evaluates the effectiveness of pest control measures;

“(g) Excludes the application of pesticides on a routine schedule for purely preventive purposes, other than applications of pesticides designed to attract or be consumed by pests;

“(h) Excludes the application of pesticides for purely aesthetic purposes;

“(i) Includes school staff education about sanitation, monitoring and inspection and about pest control measures;

“(j) Gives preference to the use of nonchemical pest control measures;

“SECTION 4. (1) The governing body shall provide for the designation of one or more persons as integrated pest management plan coordinators for the governed schools. A plan coordinator must be an employee of the governed district, unit, school or entity, unless the governing body delegates pest management duties to an independent contractor. Each school shall have the services of at least one integrated pest management plan coordinator. A plan coordinator may serve more than one school. The responsibilities of the plan coordinator shall include, but need not be limited to:

“(a) Giving notice and posting warnings under section 7 of this 2009 Act;

“(b) Overseeing pest prevention efforts;

“(c) Providing for the identification and evaluation of pest situations;

“(d) Determining the means of appropriately managing pest damage that will cause the least possible hazard to people, property and the environment;

“(e) Ensuring the proper and lawful performance of pesticide applications;

“(f) Evaluating pest management results; and

“(g) Keeping records as required by section 8 of this 2009 Act.

“(2) A plan coordinator shall complete not less than six hours of training each year. The training shall include at least a general review of integrated pest management principles and the requirements of sections 2 to 9 of this 2009 Act.

Summary and Final Points

- **School IPM** eliminates conducive conditions and reduces pests through multi-stakeholder education, exclusion, sanitation, monitoring, and action
- **School IPM** is a process, not a miracle
- **School IPM** is as much “people management” as it is pest management. Custodians, teachers, principals, kitchen staff, and pest control professionals all have a role to play
- **For more information**, visit “IPM in Schools” link at www.ipmnet.org/tim

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INTEGRATED PLANT PROTECTION CENTER

OSU Extension Agriculture


Pesticide Safety and IPM Education Program

WHAT'S NEW...


[Senate Bill 637 \(Requiring IPM in schools\)](#)
[Can You Identify fatal hazards on your farm or ranch?](#)
[Pesticide Advisory - Furadan](#)

Program Areas


Pesticide Education
The Program organizes and provides training expertise in numerous pesticide safety events in English and Spanish. It provides technical and methodological support to county extension agents, personnel from community colleges, commodity commissions, and others who conduct pesticide safety education events.



Farm Safety
The Program promotes farm safety within the agricultural community via "Farm Safety Tips" and providing information on its website. The Program also provides certification to OSU Extension faculty who want to conduct youth tractor safety training.



IPM in Schools
The Program will develop an outreach and training program to promote the implementation of IPM in schools.



"Everybody knows something. Nobody knows everything. Although the individual may know little, the group as a whole knows a lot."