

Integrated Pest Management

Oregon School Safety Officers Association
Annual Workshop - *July 28, 2010*



Tim Stock

Integrated Plant Protection Center, Oregon State University



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. (8% of all OR kids)
- **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

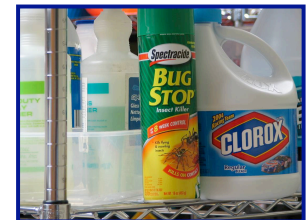


Conventional control methods often have unrecognized impacts

- 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



Not good...

“The ODA received a complaint regarding an insecticide application to a classroom in the XXXX School over the weekend of September XX-XX.... No notice made to the teaching staff, ... They also complained of an odor. Representative XXXX forwarded this complaint to ODA...”

Children are NOT Little Adults



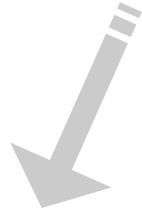
Children are still



1) Growing

&

2) Developing



Greater Metabolic Demands



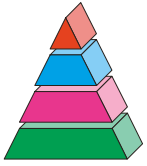
Anatomic &
Physiological
Differences



Behavior Differences

IPM Basics





IPM in Schools: Key Concepts

- Prevention and avoidance through pest exclusion and good sanitation
- Monitoring and identification of pests
- Treatments focus on minimum impact on health and the environment.
- Custodians, teachers, students, principals, pest management professionals, and others all have a role



In other words...

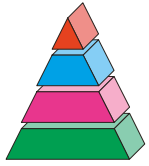
- **Don't attract pests** (pests need food, shelter, water)



- **Keep them out** (pests need an entrance)



- **When you do have them, get rid of them in the safest way possible** (least risk to people and the environment)



The Promise of IPM in Schools

- 71% Reduction in pesticide use
- **78% reduction in pest-related work orders**
- Reduced asthma triggers, **reduced absenteeism**
- **Lower costs** as pest problems are reduced (IPM implementation requires initial investment)
- **No increase to workload of school facilities staff**
("Do what you're already doing, just think pests.")

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



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



Photo by Lynn Ketchum, Oregon State University

Monitoring

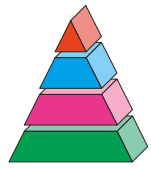
- No protocol for setting and reviewing sticky traps = No useful information



Inspections

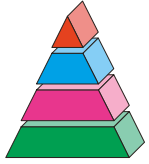
- Inspect from a pest's perspective
(think “**food, water, shelter**”)





Key Concepts: Treatment

- Monitoring, the only way to justify treatment
- Much less “treatment” when there is prevention, avoidance, monitoring, and identification.
- When you do have them, get rid of them in the safest way possible (least risk to people and the environment)



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
- Students
- Principals
- District IPM Coordinator
- Superintendents
- School Boards
- School Safety Officers!



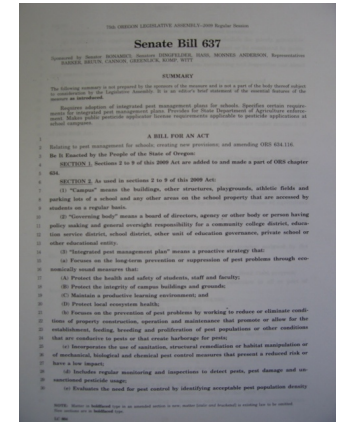
What is being done now

- EPA & USDA grant funding to conduct Pilots, provide training and support
- Preparation for Model School IPM Plans
- Statewide survey of pest and pest management issues and practices in schools
- OSFMA, OPCA, OSBA, COSA, OEA, ODE, OSSOA, OEC, NCAP, etc.
- Presentations, coalition, etc.



Quick Snapshot of Online Survey Results

- **93% response rate (184 out of 197 districts)**
- **Most frequently reported indoor pest problems**
 - small ants 73%
 - mice 53%
 - spiders 35%
- **Most frequently reported outdoor pest problems**
 - yellow jackets 73%
 - weeds 59%
 - gophers 27%
- **Top reported cause of problems: “Don’t know”**
- **Districts with IPM Policy or Plan: 14%**
(However only 7 districts said they use them for school IPM)
(OEC/ODE’s 2005 survey: 52% response rate, 28% with “written policy regulating the use of pesticides and/or their pest control activities”)
- **Districts with IPM Coordinator: 29%**
- **Budget cuts have reduced ability to manage facilities effectively: 70%**



But what does SB 637 require?

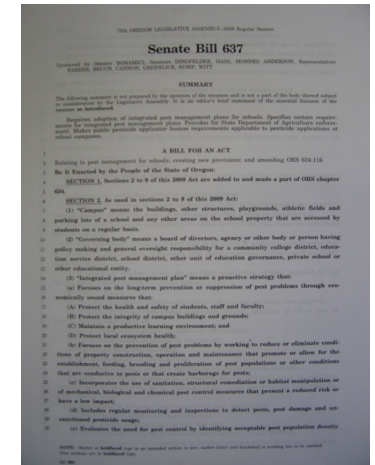
- a) Requires districts to reduce workload of facilities staff
- b) Requires districts to reduce pests, pesticides, & pest-related work orders
- c) Requires districts to reduce asthma triggers
- d) Requires districts to partake in a free lunch
- e) All of the above
- f) None of the above

But what is the vision of the OSU School IPM Program?



- a) All districts reduce workload of facilities staff
- b) All districts reduce pests, pesticides, & pest-related work orders
- c) All districts reduce asthma triggers
- d) All districts partake in a free lunch
- e) All of the above

Key Points of SB 637



- School IPM Coordinator for each district
- IPM Plans
- No pesticides applied without a license
- “Low-impact” pesticides
- Notification, posting, record-keeping



Proper mouse control isn't one of them

Current Challenges



Proper bug ID isn't one of them

- Facilities folks have too many hats (IAQ, lead paint, asbestos, safety/security, etc. etc. etc.) and shrinking budgets
- Baseline data collection: Difficult to get what funders require to measure impact
- Monitoring → Reporting → Action Protocol:
Difficult for districts to internalize/institutionalize need for protocol as a precursor to effective IPM plan adoption/implementation
- Lack of Federal and State Support

Summary and Final Points (part 1)

- **There are real and potentially serious problems** with pests and pesticides in our schools.
- **IPM in schools** creates healthier environments, healthier children and higher academic achievement.
- **OSU School IPM Program** works with schools to improve pest management and reduce costs.
- **IPM Plans are core to SB 637**, but will not work without district participation in their development.

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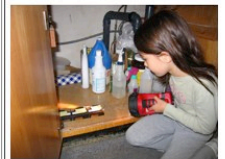
OSU Extension Agriculture

Pesticide Safety and IPM Education Program

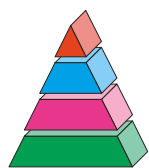
WHAT'S NEW....

[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 it's 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."



Summary and Final Points (part 2)

- **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. Monitoring → Reporting → Action protocol is key to fulfilling the “promise”.
- **School IPM** is as much “people management” as it is pest management. Custodians, teachers, students, 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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IPM in Schools link at ipmnet.org/tim



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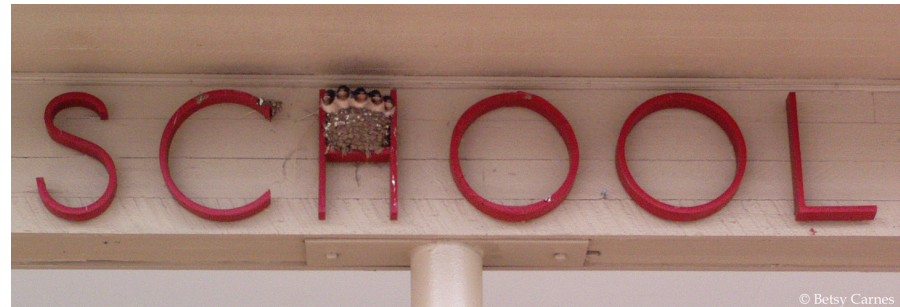


Photo courtesy of Betsy Carnes