



Integrated Pest Management in Schools

Thursday, June 3, 2010
1:00 – 2:30 PM EST

[Access Number!](#)

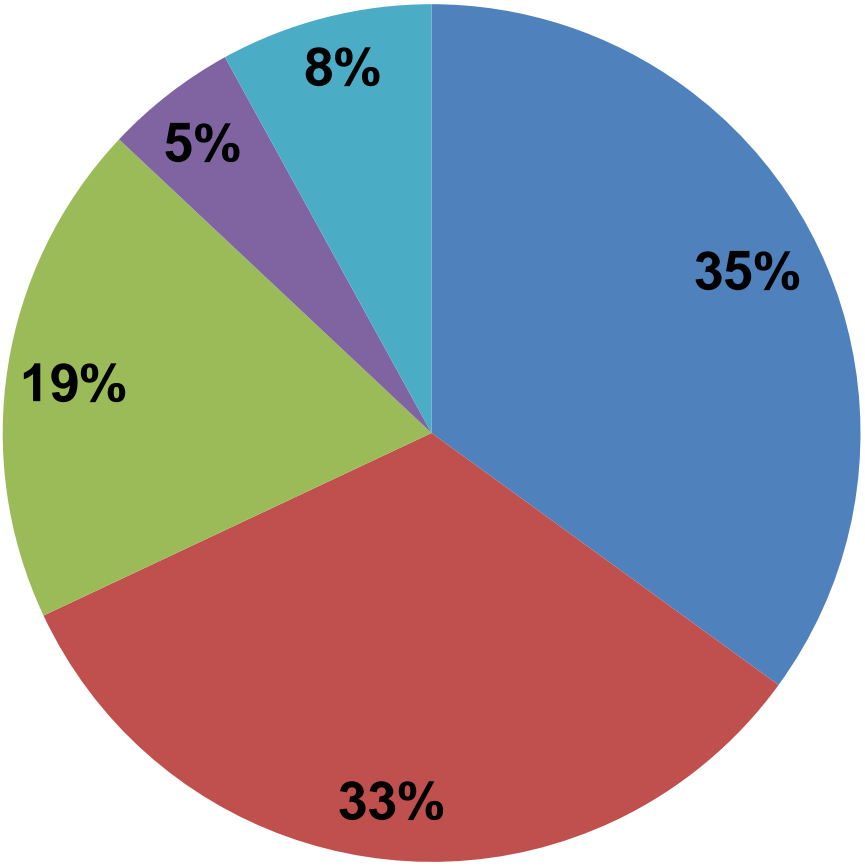
Note: To hear the audio portion of the Webinar,
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ID #: 65969834

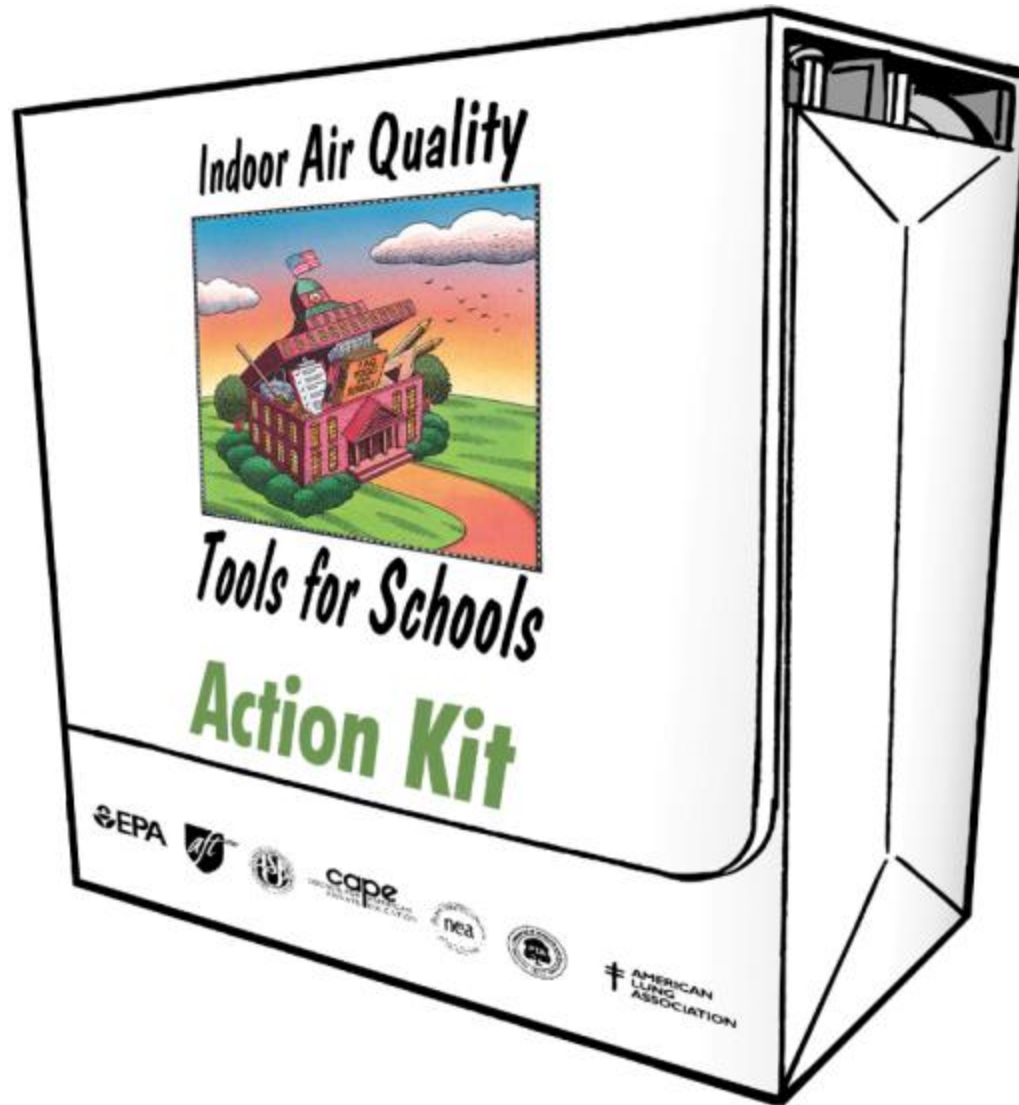


What is your experience with *IAQ Tools For Schools*?



- None, but I want to learn about it.
- I've heard a little or have a Kit, but haven't used it.
- I've used the Kit, but want to learn how to use it more.
- I love it! I routinely use most elements of the Kit
- The Kit is the foundation of our IAQ management program.

IAQ Tools for Schools Program



The Framework for Effective School IAQ Management



The Framework for Effective School IAQ Management: Six Key Drivers

ORGANIZE

- Develop Systematic Approach
- Identify Existing Assets
- Design SOPs
- Empower an IAQ Leader
- Build an Effective Team
- Create Champions
- Secure Senior Buy-In

Organize

COMMUNICATE

- Share Your Goals
- Make IAQ Meaningful
- Be Transparent & Inclusive
- Communicate Results (ROI)

Communicate

EVALUATE

- Solicit Feedback
- Capture ROI

Evaluate

ASSESS

- Walk the Grounds
- Listen to Occupants
- Use Technology
- Determine a Baseline
- Keep Customers Satisfied
- Identify and Prevent Risks

Assess

ACT

- Educate Staff About IAQ to Change Behavior
- Train Occupants to Address IAQ Risks
- Address the Source of Problems

Act

PLAN

- Prioritize Actions
- Put Goals in Writing
- Start Small
- Work in Stages
- Plan for the Future

Plan

ACTION KIT

- ★ HVAC
- ★ Moisture/Mold
- ★ IPM
- ★ Cleaning & Maintenance
- ★ Materials Selection
- ★ Source Control



The Framework for Effective School IAQ Management: **Six Technical Solutions**



The Framework for Effective School IAQ Management:

Six Technical Solutions

Quality HVAC

- Inspect HVAC systems regularly
- Establish a maintenance plan
- Change filters regularly and ensure condensate pans are draining
- Provide outdoor air ventilation according to ASHRAE Standard or local code
- Clean air supply diffusers, return registers, and outside air intakes
- Keep unit ventilators clear of books, papers, and other items

Control of Moisture/Mold

- Conduct routine moisture inspections
- Establish mold prevention and remediation plan
- Maintain indoor humidity levels between 30% and 60%
- Address moisture problems promptly
- Dry wet areas within 24-48 hours

Strong Integrated Pest Management (IPM)

- Inspect and monitor for pests
- Establish an IPM plan
- Use spot treatments and baits
- Communicate with occupants prior to pesticide use
- Mark indoor and outdoor areas treated with pesticides



Effective Cleaning & Maintenance

- Conduct routine inspections of school environment
- Develop a preventative maintenance plan
- Train cleaning/maintenance staff on protocols
- Ensure material safety data sheets (MSDS) are available to staff
- Clean and remove dust with damp cloth
- Vacuum using high-efficiency filters

Smart Materials Selection

- Maintain products inventory
- Develop low-emitting products purchasing and use policies
- Use only formaldehyde-free materials
- Use only low-toxicity and low-emitting paint
- Select products based on product rating systems
- Use least toxic cleaners possible (only those approved by the district)

Aggressive Source Control

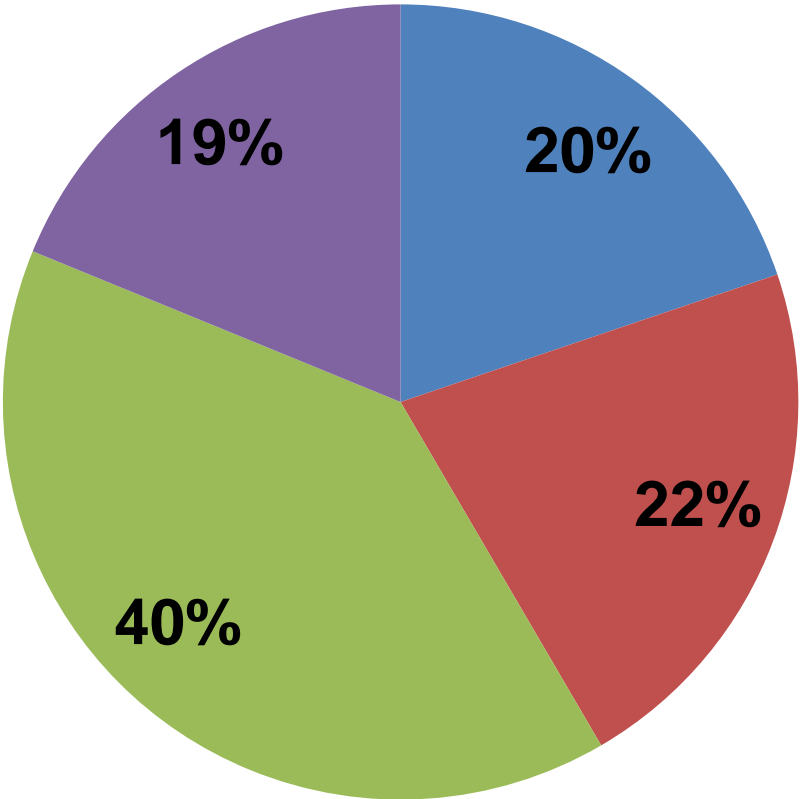
- Conduct regular building walkthrough inspections
- Test for radon; mitigate if necessary
- Implement a hazardous materials plan (use, label, storage and disposal)
- Implement Smoke-Free policies
- Establish an anti-idling school bus policy
- Use walk-off mats at building entrances
- Conduct pollutant-releasing activities when school is unoccupied

Objectives

- Discover the relationship between pest prevention methods and asthma triggers and allergic reactions.
- Learn safe and cost-effective IPM approaches for your school.
- Hear about IPM educational and training tools for your school's faculty, maintenance and facilities staff.
- Have your questions answered by IPM experts.



How confident do you feel in your school's approaches to pest prevention?



- I am not very confident, but I am eager to learn.
- I am getting more confident in facing our challenges.
- I am confident, but excited to learn more strategies.
- I am confident in our ability to prevent pests.

Introductions

Facilitator:

- Michele Curreri, U.S. Environmental Protection Agency, Indoor Environments Division

Speakers:

- Sherry Glick, U.S. Environmental Protection Agency, Office of Pesticide Programs
- Dr. Thomas A. Green, The IPM Institute of North America, Inc.
- Gregg Smith, Salt Lake City School District, Facility Services Department
- Bob Stoddard, EnviroSafe, Inc.

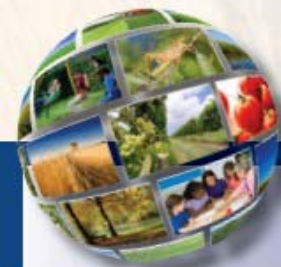




PEST PREVENTION: Integrated Pest Management in Schools

Sherry Glick

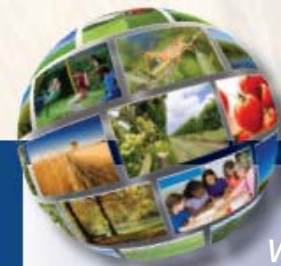
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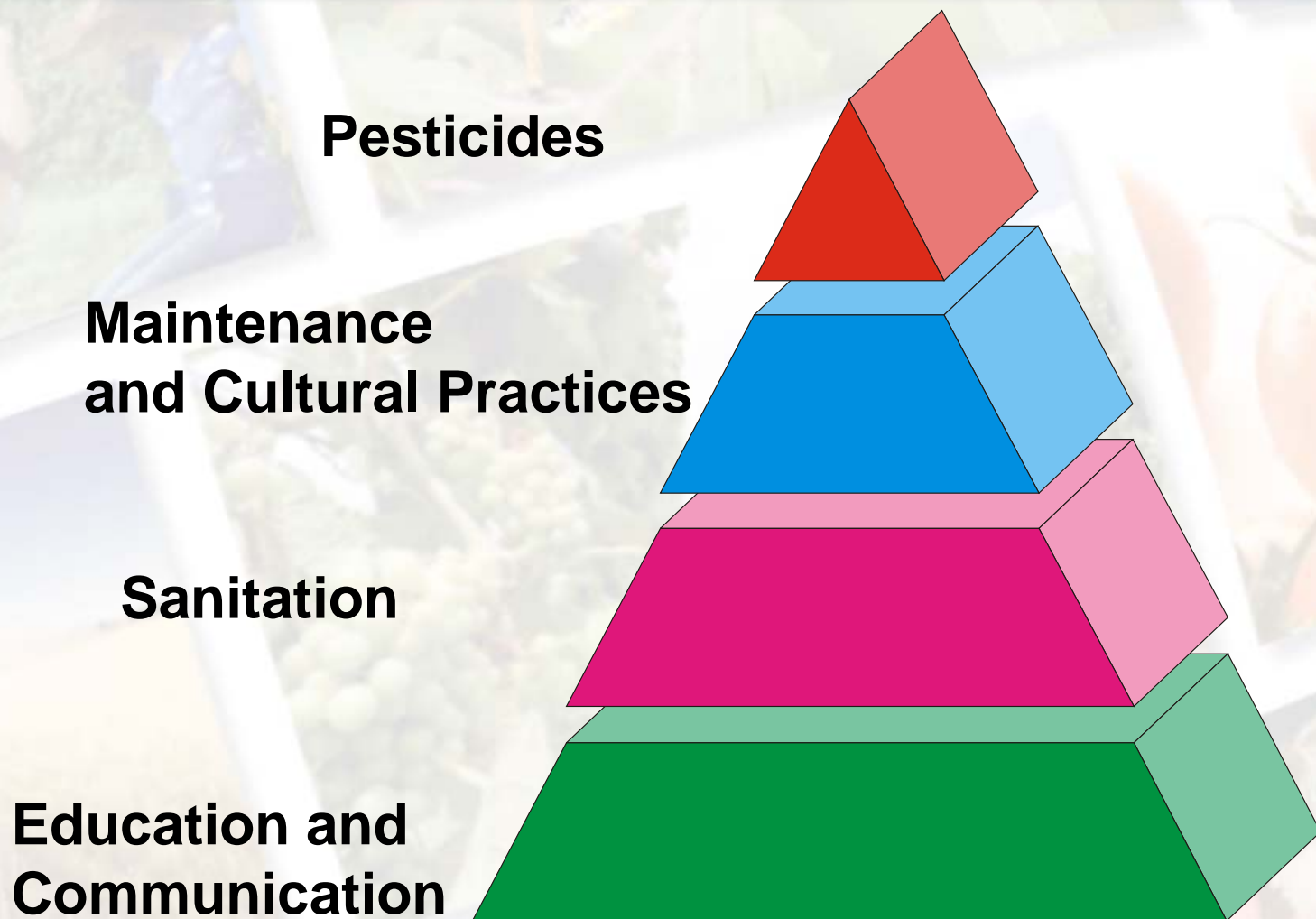
What is IPM ?

Integrated **P**est **M**anagement (IPM)

- is a safer, usually less costly option for effective pest management in the school community
- employs common-sense strategies to reduce sources of food, water and shelter for pests in buildings and on grounds
- takes advantage of all pest management strategies, including the judicious use of pesticides



Defining IPM – The Pyramid

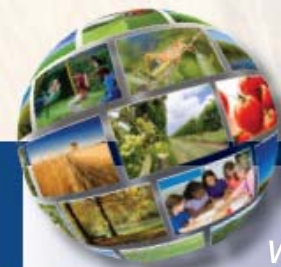


Pesticides

**Maintenance
and Cultural Practices**

Sanitation

**Education and
Communication**



EPA Regional School IPM Contacts

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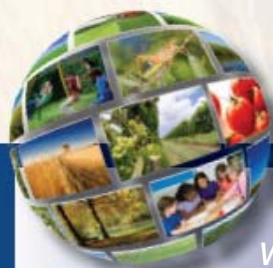
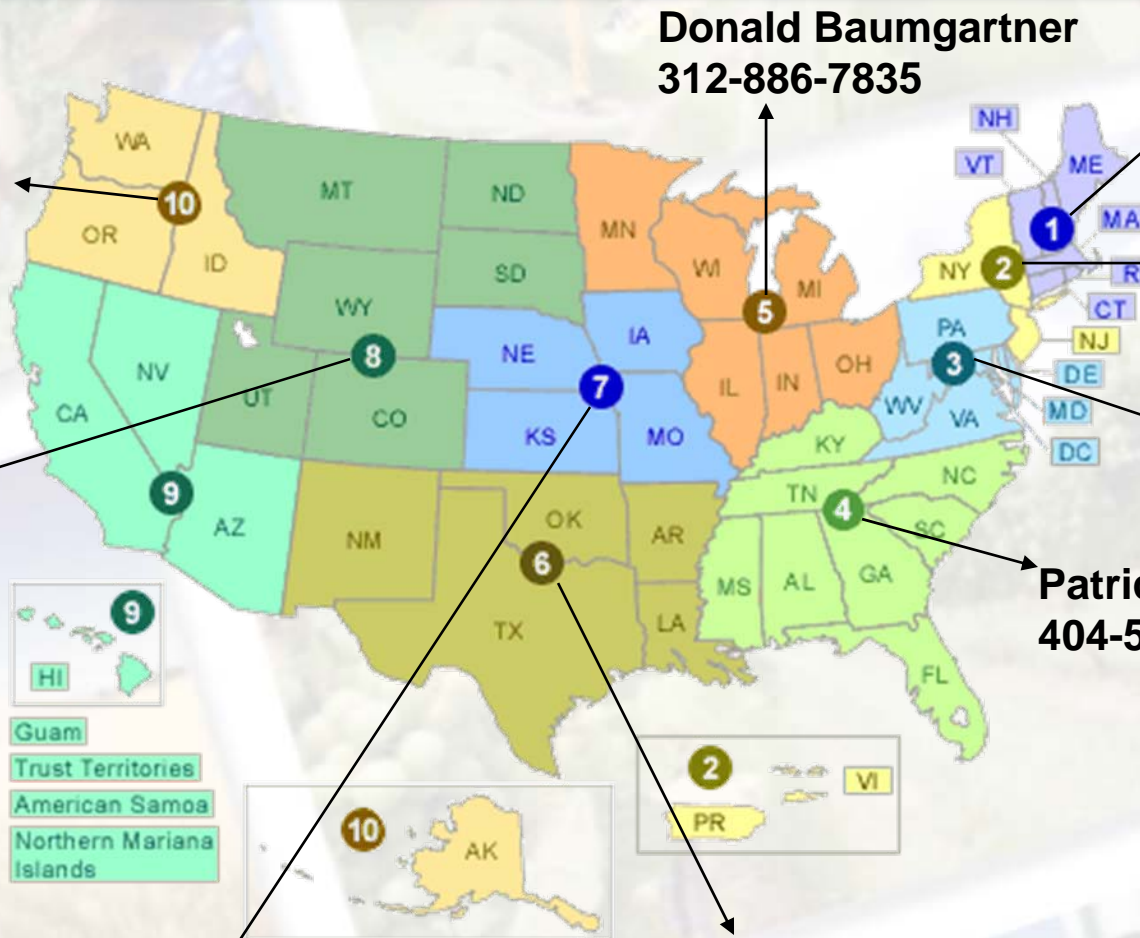
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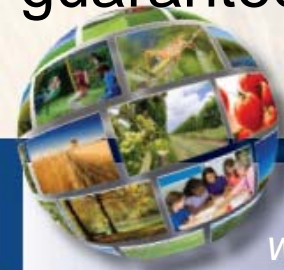
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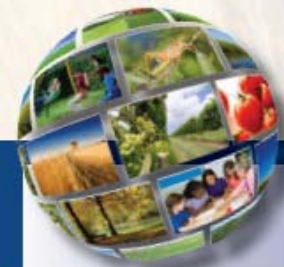
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Thomas Green

- President, IPM Institute of North America (www.ipminstitute.org)
- US EPA Pesticide Environmental Stewardship Program Champion - 2004, 2005, 2008
- US EPA Office of Children's Health Protection Award - 2005





INTEGRATED PEST MANAGEMENT (IPM)

Reducing pest problems and pesticide hazards in our nation's schools

IMPORTANCE OF PEST MANAGEMENT IN SCHOOLS



- Reduce risks and liability from pests and pesticides
- Reduce absenteeism, improve academic achievement

Every child has the right to realize their highest potential



CONSEQUENCES OF POOR PEST MANAGEMENT

- Food and fire safety risks, poor air quality and energy conservation.
- Relocations or closings
- Loss of public trust; negative media coverage

School Being Sanitized After Rodents Found On Campus

Renee [REDACTED] News Producer

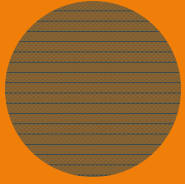
Posted: 7:51 pm MDT August 25, 2009

Updated: 8:03 pm MDT August 25, 2009

[REDACTED] Staff with the [REDACTED] [Department of Public Health](#) inspected [REDACTED] Elementary and found the school has a rodent infestation.

The inspection came after a complaint about the sanitation of the campus's food service area.

This is a statement from the [REDACTED] District: Rodent droppings were discovered at [REDACTED] Elementary School Monday. [REDACTED] District officials are working with the City of [REDACTED] Department of Public Health to eliminate the rodents and sanitize the campus thoroughly. There is no health danger to students or staff. Students have been served food prepared at another campus and the issue is expected to be resolved by the end of the week.



WHAT IS IPM?

- An approach to managing pests that focuses on eliminating the reasons pests are present.
- Choosing least-risk pesticide options when non-chemical approaches are not adequate.
- Don't attract pests, keep them out, get rid of them with the safest most effective methods possible.

WHY IS IPM IN SCHOOLS IMPORTANT?



- IPM is the most effective way to manage pests, delivering greater than 70% reductions in pest complaints and pesticide use!
- IPM is sustainable, promoting public health, environmental stewardship, pollution prevention and public education and responsibility.
- IPM is cost effective, with no long term increase in costs.
- IPM reduces exposure to pest-related diseases and allergens.
- IPM reduces exposure to pesticides; children are especially vulnerable.
- School practices influence community practices.

ASTHMA

- Asthma is the number one cause of school absences – *more than 12.8 million school days are lost per year.*
- Asthma affects:
 - 6% of school children nationally
 - Up to 28% in urban centers
- The cost of treating asthma in children under 18 years of age is \$3.2 billion per year.
- Symptoms can result from and be triggered by exposure to cockroaches, other pests and pesticides.



IPM MANAGEMENT TECHNIQUES

- Improving sanitation.
- Exclusion: Pest proofing.
- Educate, communicate, build partnerships.



IPM BEST PRACTICES



- Inspect facilities for pest-conducive conditions, pests and over-the-counter pesticides.
- Identify and monitor to detect problems early.
- Know your pest-vulnerable areas: where are food, water and shelter present?
- Clean from a pest's perspective.
- Designate an IPM coordinator and/or committee.

IPM BEST PRACTICES

- Develop an IPM policy: We do IPM and this is why and how.
- Inform parents of the policy and any pesticide use.
- Train staff and teachers how they can help “think pest.”
- Only certified applicators should apply pesticides.
- Use least-hazardous options.
- Educate, communicate and build partnerships.
- Evaluate and reward.



DOCUMENT PEST PROBLEMS AND PESTICIDE USE

Pest sighting logs

Pest Sighting Log

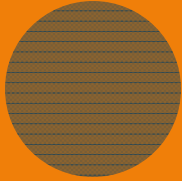
Record the pest seen and recommended actions initially. When the recommended actions are completed, fill in the date of completion.
Date and Time Pest seen Number of pests Person who saw pest Recommended actions Date completed

Date and Time	Pest seen	Number of pests	Person who saw pest	Recommended actions	Date completed



**Communication
is key**





NATIONAL SCHOOL IPM EFFORT

- A broad, growing national working group of leaders in government, research, education, public health, indoor air quality and pest management committed to improving success for children using Integrated Pest Management (IPM) in a new, sustainable, coordinated and comprehensive approach.
- Pest Management Strategic Plan (PMSP)
 - Assess the current status of pest management in our school systems.
 - Compile our current understanding of best practices.
 - Set out a plan of action to achieve full implementation of high-level IPM in all U.S. K-12 public schools by 2015.

To view the full-length PMSP document, please visit:
www.ipmcenters.org/pmsp/pdf/USschoolsPMSP.pdf

School IPM 2015 National Effort
www.schoolipm2015.com

School IPM 2015
Reducing Pest Problems and Pesticide Hazards in Our Nation's Schools

About School IPM
School IPM 2015 Implementation
Home
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School IPM 2015 Full Text (2.3 MB)
Updates
Get Involved
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Resources
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Regional Working Groups
North Central
Northeastern
Southern
Western

More School IPM Links & Resources
University of Florida
School IPM Resources
IPM Standards
School IPM Headlines
Building Mgt.
Massachusetts Urges Parents to Ask About School IPM
Grounds Mgt.
Other Sensitive Environments
IPM STAR Certification
Supplier Status

News
Is Tick Spit the Cure?
Thu, 24 Sep 2009 16:17:00 +0000
There are a lot of places you might think to look for a cure for cancer, but chances are tick spit isn't one of them. Yet that's where a hunch took Br...
National Toxic Encephalopathy Foundation Partnering with the EPA for School Pesticide Management
Thu, 24 Sep 2009 18:15:00 +0000
Jack Thrasher, Ph.D., Technical Director of the National Toxic Encephalopathy Foundation (NTEF) today announced a partnership between the Foundation a...
CDC and NEHA teach IPM
Thu, 24 Sep 2009 17:58:00 +0000
For the past year, the CDC-in partnership with the National Environmental Health Association-has sponsored regional workshops to teach health inspecto...
School IPM 2015 PMSP update
Thu, 10 Sep 2009 18:51:00 +0000
Since January 2009, more than 20 sets of comments and suggestions have been received on the School IPM 2015, the national strategic plan for IPM in s...
Crazy Ants' Get Under Skin of Gulf Coast Residents
Wed, 09 Sep 2009 14:33:00 +0000
PEARLAND, Texas - Swarms of foreign "crazy ants" are spreading through Texas and Florida, raising alarms that the tiny, frenetic bugs will rival the ...
Massachusetts Urges Parents to Ask About School IPM
Tue, 08 Sep 2009 15:20:00 +0000
As the new school year approaches, the Massachusetts Department of Agricultural Resources (DAR) is urging parents to ask whether their child's school ...

Get Involved

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SCHOOL IPM LISTSERV
New! School Inspection Tools for Sale
Requires Adobe Reader 9

GET INVOLVED

- Join the **schoolbugs listserv** to ask questions, learn from others, and share successes and challenges:

<http://schoolipm.ifas.ufl.edu/Florida/list.htm>

- Join a volunteer committee:

http://www.ipminstitute.org/school_ipm_2015/get_involved.htm

- School Sector
- Parent
- Industry
- Outreach
- Metrics
- Research
- Regulatory
- Advocacy
- Extension
- Funding

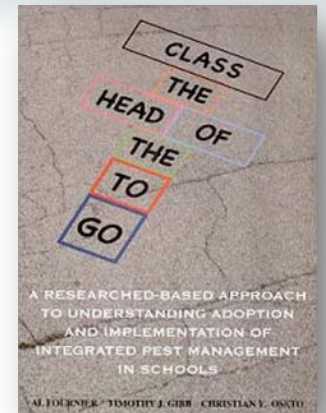


RESOURCES

- Books and handouts:

- IPM handout: <http://ag.arizona.edu/pubs/insects/az1234.pdf>

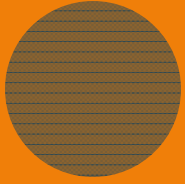
- **“Go to the Head of the Class: A Research-Based Approach to Understanding Adoption and Implementation of Integrated Pest Management in Schools”** by Fournier, A., T. Gibb & C. Oseto. 2009. <http://cals.arizona.edu/apmc/westernschoolIPM.html>



- IPM tools and curriculum: www.ipminstitute.org/school_ipm_2015/resources.htm

- **Tools:** sample IPM policies, plans, manuals, checklists, pest sighting logs, sample Pest Press newsletters and model indoor air quality (IAQ) checklists

- **Curriculum:** pest-specific fact sheets, training materials for school professionals, sample school IPM newsletters, IPM recognition awards, speakers bureau and top ten school IPM websites



ACKNOWLEDGEMENTS

Northeastern Working Group, 32 members

www.nepmc.org/work_school.cfm

Working group leaders:

- Lynn Braband, Cornell University
- Kathleen Murray, Maine Dept. of Agriculture

Southern Working Group, 45 members

www.sripmc.org/schoolIPM/

Working group leaders:

- L.C. Fudd Graham, Auburn University
- Janet Hurley, Texas AgriLife Extension

North Central Working Group, 53 members

www.ipminstitute.org/NC_IPMIS_Working_Group/main.htm

Working group leaders:

- Thomas Green, IPM Institute of North America
- Bob Stoddard, EnviroSAFE

Western Working Group, 66 members

<http://cals.arizona.edu/apmc/westernschoolIPM.html>

Working group leaders:

- Carrie Foss, Washington State University
- Dawn Gouge, University of Arizona
- Tim Stock, Oregon State University

The National School IPM Working Group includes over 190 professionals from across the country including:

- 43 government officials.
- 65 university scientists and Extension educators.
- 14 industry experts.
- 16 representatives from non-governmental organizations.

THANK YOU TO OUR FUNDERS



More than 18 school IPM projects nationwide
are currently supported by:

US EPA

USDA NIFA Regional IPM Centers

USDA Smith-Lever Grant

Center for Disease Control and Prevention

National Environmental Health Association

CDC



Integrated Pest Management Costs and Benefits

A Facility Director's Perspective



Gregg Smith, P.E.
Director of Facility Services
Salt Lake City School District
Salt Lake City, Utah





IPM Challenges

- Motivating people
- Ongoing education and training
- Aging and deteriorating facilities
- Maintenance and operation practices
- Sanitation and housekeeping practices
- Maintenance and custodial budgets
- Organizational structure
- Geographic location





Pest Management Practices

- No restrictions on pesticide use
- School personnel apply pesticides
- Contracted pest management
- Combined in-house / contracted
- Integrated Pest Management





Traditional Pest Management Costs

- Contracted pest management
 - District practice for past 30+ years
 - Routine monthly inspections and spraying
 - Pest Management Budget (FY07-08) – \$28,000
 - <0.2% of total M&O budget
 - Level of satisfaction – Acceptable





IPM Costs

- Personnel costs
 - Initial training
 - On-going training and education
 - Monitoring and reporting
 - Tools and resources
 - Professional development
- Material costs
 - Monitoring
 - Exclusion
 - Insecticides and herbicides



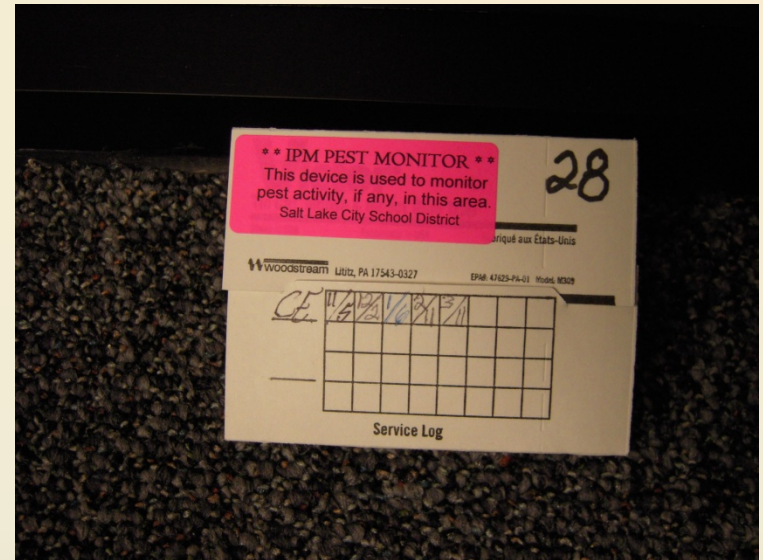
IPM Training and Education

- Initial training may have associated costs if hired consultants are utilized
- On-going education takes time but there are no new dollars spent, just time spent on new tasks
- Training materials cost <\$15/person (40) for binders, tabs and copying, etc.



IPM Monitoring and Reporting

- Monitor traps
 - Approx 3,600/yr @ \$0.50 ea
- Time required to inspect monitor traps and report findings is part of the normal custodial building inspections



IPM Tools of the Trade

- Flashlight, UV light, eye loupe, collection jars, camera, gloves, caulk, sealant, knee pads, field guides, etc.
- \$100 to \$300 per person (3) initially and \$100/yr there after for supplies





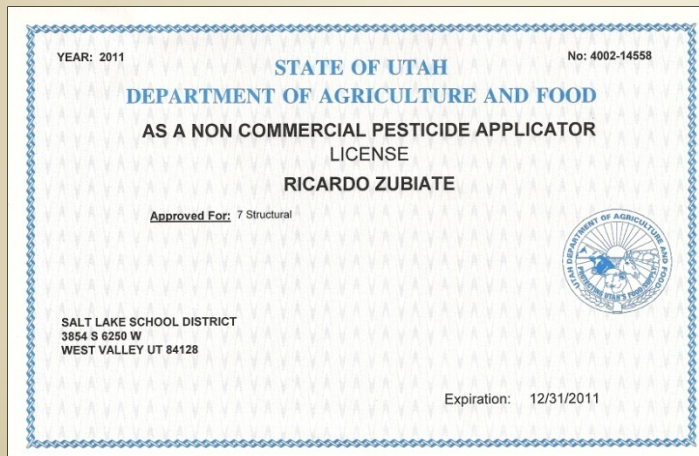
IPM Diagnostic Tools

- Microscope – \$700
- Reference – \$125
*Truman's Scientific Guide to
Pest Management Operations*
- Other texts – \$150



Professional Development

- Custodial Supervisors and key Grounds staff hold Utah Non-Commercial Pesticide Applicator licenses*
- \$20 per license, valid for 3 years – varies with state
- Requires time for studying and exam preparation

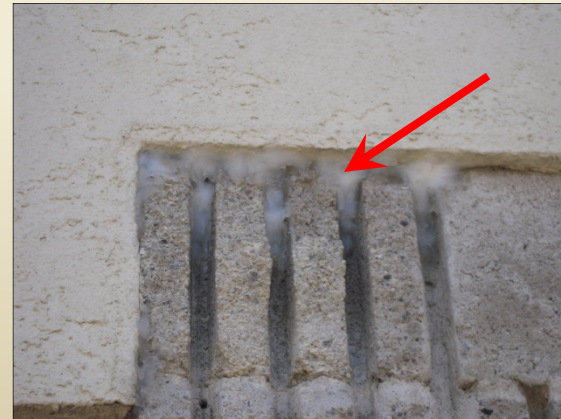


* Not required for school personnel in the State of Utah



Exclusion

- Goal is to seal building from pests
- Overall costs will vary greatly depending upon:
 - Building age
 - Level of maintenance
 - Maintenance budget
- Estimated – \$4,000 for door sweeps, screens, caulking, lift rentals, etc., over first 2 years of program





Other IPM Tools

- Insecticides

- Used ONLY if required to control severe infestations
- Use approved and listed **Caution** labeled products only
- Products are used in the least amount possible and only in the target area
- Products are only applied by **Licensed Applicators**

- Herbicides

- Used ONLY as needed if turf areas have weed infestations that exceed an established threshold
- Not used as a substitute for weeding in planting beds
- Use approved and listed **Caution** labeled products only
- Products are only applied by **Licensed Applicators**





Perspectives on IPM Costs

- Is the cost to repair something because of a new program really a new cost if it should have been repaired for other reasons?
- Should new activities that replace or enhance existing activities be considered a new cost?
- Is the time required to increase staff awareness, create an atmosphere of cooperation, improve the environment and foster sustainability a cost?





Cost Summary

- IPM Costs
 - No new personnel
 - Initial start-up costs
 - \$2,400 – tools, training, etc.
 - \$2,000 – exclusion
 - Continuing costs
 - \$1,500-\$1,800/year – monitoring supplies
 - \$1,000-\$2,000/year – exclusion
 - \$0/year – insecticides , no change for herbicides
 - \$1,500/person (3)/year – professional development (highly recommended but unable to budget)





Benefits

- Savings from eliminating contracted pest management – \$28,000/year
- Cost savings – Yes, expect some but will vary greatly with the situation
- Health Benefits – Unable to quantify at a District level but are well documented
- Regulatory Compliance – Unable to quantify but IPM reduces OSHA and State Risk Management worries
- Public Relations – **Priceless!**





EnviroSafe
safer pest and turf management

What to look for in an Integrated Pest Management Provider for K-12 Schools



Presented by Bob Stoddard
June 3, 2010

Philosophy

- Pesticides used as a last resort
- No use of carbamates, organophosphates or synthetic pyrethroids
- All pests covered, including head lice, wood-destroying insects and stinging insects
- Customers are colleagues and partners in their IPM program, not just clients
- GreenShield Certified

What makes a strong IPM program?

Integrated pest management is a comprehensive approach to preventing, managing, and eliminating pest problems through:

- Ongoing education and communication
- Responsive coordination and leadership
- Least- to non-toxic toolkit

Education & Communication

Education and communication build staff capacity, identify vulnerable areas before pest problems occur, and provide clear, least-toxic solutions.

- Complete inspection of each site
- Staff in-services
- IPM manual for each school
- Monthly fact sheets
- Refresher in-services
- Detailed written reports

Coordination & Leadership

Responsive, consistent coordination creates stronger relationships, buy-in and opportunities for candid discussion about your IPM program.

- Monthly visits
- Administrative support, such as parent notifications
- Regular scheduled contact with staff, as well as accessible staff available for consultation as needed

Toolkit

What tools the contractor uses supports the service aspects of a strong IPM program and ensures it is implemented safely and effectively:

- Head lice shampoo (e.g., De-Licer)
- Dust applications (diatomaceous earth, Nibor)
- Traps (pheromone, glue)
- Bait stations and gel applications
- No liquid or aerosol applications

Common problems

When hiring an integrated pest management provider, schools generally experience the following challenges:

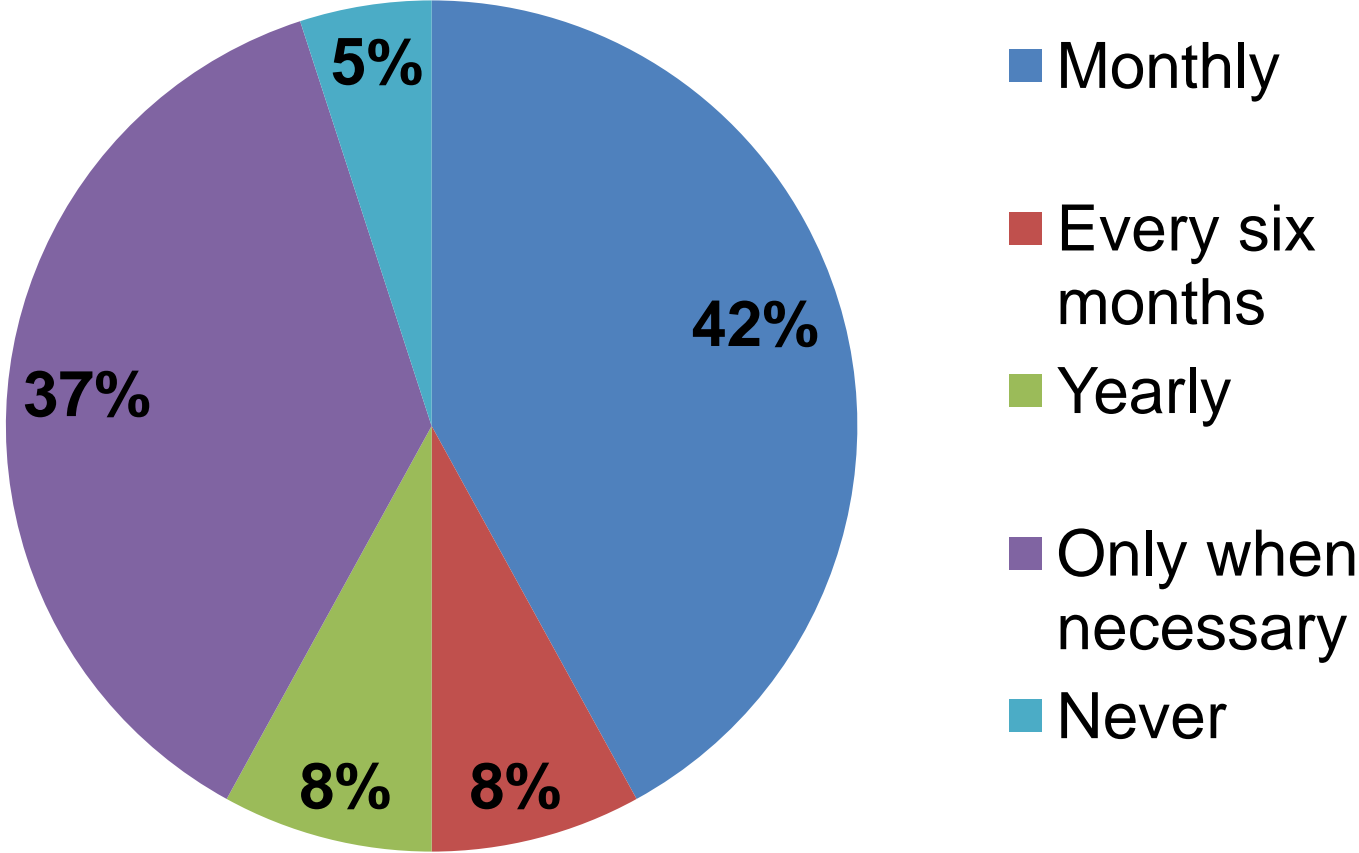
- Hiring a contractor who is state-licensed and claims to do IPM but does not. These are really “include pesticide monthly” programs.
- Failing to have an IPM and/or pesticide policy within the district to use as a tool to guide the contractor.
- Having too general of an RFP which does not weed out imposters.
- Having a low bid mentality even to the point of ignoring the specifications in the district’s own RFP.
- Having a blanket purchase order with the provider and not controlling who can order service.
- Not having a central point of contact within the district’s Operations Department.
- Provider failing to address head lice, a major problem for schools.

Good practice

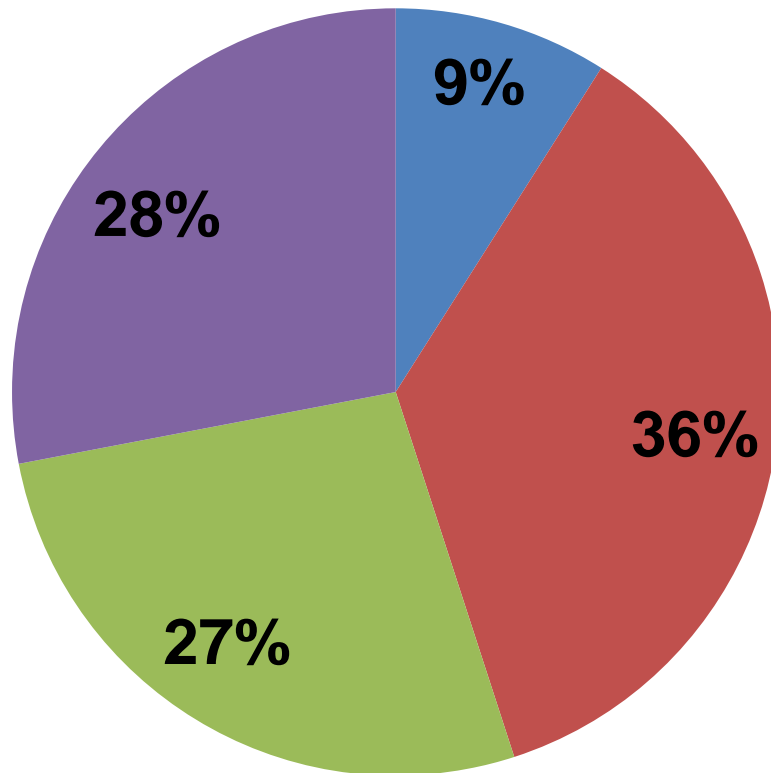
In addition to education, coordination, and a strong toolkit, your program can benefit when you:

- Hire a contractor who is certified by a third party (e.g., Green Shield Certified).
- Adopt a policy which states who can purchase and use a pesticide, what pesticides can be used, as well as where, how and when they can be used.
- Write a very detailed and specific RFP and adhere to it.
- Adopt a policy that pesticides may not be applied without approval from designated staff within the Operations Department.
- Have your pest management contractor review plans and do a walk-through of all construction projects.
- Require contractor to provide staff training on what to look for regarding pests, and steps they can take to help resolve pests issues.
- Review maintenance from a pest management perspective and use a scheduling system to track repairs.

How often does your school conduct pest management inspections?



After participating in this webinar, how confident do you feel in your school's approaches to pest prevention?

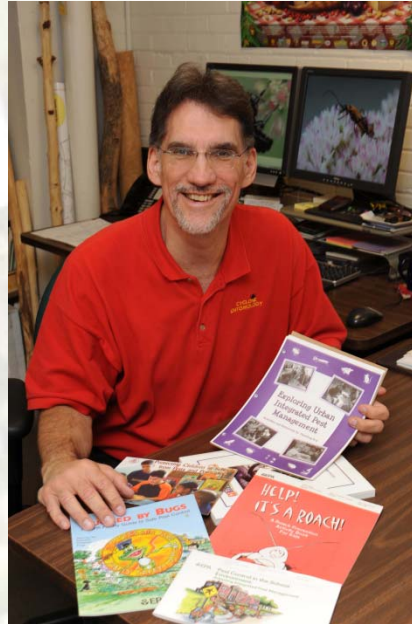


- I learned a lot, but would like additional mentorship.
- I am now more aware, but anxious to learn more.
- I am very excited to try these strategies in my district.
- I am very confident in our ability to prevent pests.

Questions?



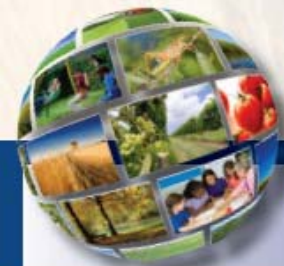
Lynn Braband
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Mark Shour
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Oregon State University



Where to get more *INFO* on School IPM

<http://www.epa.gov/pesticides/ipm>

<http://www.epa.gov/pesticides/ipm/brochure>

<http://www.epa.gov/pestwise>

<http://schoolipm.ifas.ufl.edu>

http://www.ipminstitute.org/school_directory.htm

<http://www.ipmcenters.org/pmsp/pdf/USschoolsPMSP.pdf>



IAQ Tools for Schools Resources

- *IAQ Tools for Schools* Program
 - www.epa.gov/iaq/schools
- *IAQ Tools for Schools* Updates and E-mails:
 - Send an e-mail to: IAQTfSConnector@cadmusgroup.com
 - View archives at: <http://www.epa.gov/iaq/schools/bulletins.html>
- Schools IAQ Connector Listserv:
 - Send a blank e-mail message to schools_iaq_connector_subscribe@lists.epa.gov. Then, check your e-mail inbox for your confirmation and membership details.
- *IAQ Tools for Schools* Webinar Resources
 - <http://www.epa.gov/iaq/schools/webconferences.html>



IAQ Tools for Schools Resources

- *IAQ Tools for Schools* Action Kit: IPM Checklist
 - <http://www.epa.gov/iaq/schools/actionkit.html>
- IPM for Schools: A How-to Manual
 - <http://www.epa.gov/pesticides/ipm/schoolipm/>

