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We wish our readers a Happy New Year 2024!



We want to hear from you!

**Please take this short 5-question survey about
our newsletter:**

https://uarizona.co1.qualtrics.com/jfe/form/SV_cMhZ82JodDKJgCa

School IPM – An Early Start

Shaku Nair and Dawn H. Gouge

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The beginning of a new year is a great time to start an IPM program. And what better way than to get students involved and give them an early introduction to IPM? Schools are great places to introduce students to the concepts of IPM. Lessons learned at a young age will remain with them for life. Schools present different environments in which students can observe pests and the problems caused by them, and participate in proactively managing them, while appreciating that not all creatures are pests. Proper identification helps to determine what, if anything, needs to be done. Students are curious, and younger students tend to be less fearful of insects and arachnids! In fact, children often notice insects and other pests or their signs quicker than adults, but in most cases don't know what to do about them. **Students can be great allies in a school IPM program.**

Why School IPM?

Children spend the majority of their awake life in schools, as do many adults (teachers and other staff, parents). Most schools at some point or another face pest problems that affect their proper functioning. Pest management contracts that rely on routine scheduled pesticide treatments regardless of the need have not proven effective at preventing these occurrences, and while many of the calendar-based treatments are intended to keep the school environment pest-free, they are often untimely, and fail to prevent pests. This results in children and adults in the school being exposed to unnecessary pesticide applications. Younger students, with their growing and developing bodies, are much more vulnerable to negative impacts of pesticides compared to adults. Integrated pest management (IPM) offers a cost-effective alternative to current pest management methods followed in most school environments. Ultimately healthy school environments support academic achievement and can save money in the long-run.

What is IPM?

A sustainable and cost-effective risk-reduction strategy, used to solve pest problems with the least possible risk to people, property, and the environment. IPM relies on improved site management, monitoring, non-chemical control strategies, and targeted, low-risk products to control pest infestations when needed.

Most often, the responsibility of pest management is entrusted with pest control professionals, operations and maintenance or custodial staff. However, everyone in a school community has a role in pest management because common human habits may create pest-conducive conditions in a variety of ways. Thus, it is important that children or students, who constitute the majority of a school population are made aware of their role in this process.

Here are some basic steps that can help introduce students to IPM:

Help students recognize common indoor and outdoor pests. These may include:

- Cockroaches
- Ants
- Filth flies
- Rodents

Help students identify signs left by pests. These may include:

- Shed body parts (legs, wings, exoskeleton)
- Fecal matter
- Odors
- Damage caused by feeding or nesting

Help students correlate pests with pest-favorable conditions. For example:

- Food remains (attract pests)
- Water leaks (attract pests)
- Gaps around or under doors and windows (serve as entry ways for pests)
- Landscape plants or trees touching building walls (serve as entry ways for pests)
- Clutter (provides hiding places for pests)

Students can help deter pests by:

- Only eating and drinking in designated eating areas.
- Storing lunches and snacks in sealable containers. Plastic or paper bags can leak or tear, resulting in spills.
- Avoiding clutter in classrooms by keeping them neat and well-organized.
- Using trash cans responsibly, keeping them closed and reporting when full.
- Always discarding food remains, empty food wrappers and drink containers **INSIDE** trash cans.
- Reporting or cleaning up accidental spills and food debris.
- Cleaning up after eating or class activities, and helping others clean up.
- Keeping coats, backpacks, and other belongings in designated areas in well-separated cubbies or lockers.
- Emptying lockers of food, clothing, or other personal items on a regular basis, or at least every Friday.
- Collecting lost items promptly from Lost and Found Desk, especially if food items may be present in pockets.


Students can help manage pests by:

- Reporting pests or their signs, or pest-favorable conditions to teachers or custodial staff.
- Be aware and take care not to disturb pest-monitoring traps or other devices placed by pest control staff.

Here are some resources on School IPM. Many of these are available to download, print, distribute or even use to create your own resources specific to your school:


PESTS IN YOUR SCHOOL?


I am a student. What can I do?



SEEING ANY OF THESE?


- Cockroaches
- Ants
- Flies
- Mouse poop






STUDENTS CAN HELP KEEP PESTS AWAY


- Use trash cans responsibly.
- Discard food remains, empty food wrappers and drink containers **INSIDE** trash cans.
- Report accidental spills and food debris.
- Clean up after yourselves and help others clean up!




- Only eat and drink in designated eating areas.
- Store lunches and snacks in sealable containers.
- Keep your classrooms tidy and well-organized.



STUDENTS CAN HELP MANAGE PESTS




- Report pests or their signs, or pest-favorable conditions to teachers or custodial staff.
- Take care not to disturb pest monitoring traps placed by pest control.



- Keep coats and backpacks in designated areas.
- Empty clothing and food items from lockers every Friday.
- Collect lost items from Lost and Found promptly, especially if you may have left food in your pockets!

IPM IS THE SOLUTION!

- What is IPM?
- IPM or Integrated Pest Management is a sensible, effective and environment-friendly way to solve pest problems.
- IPM is a proactive approach in which pests are managed by limiting food and water and the ways pests enter buildings. This reduces risks associated with pest and pesticide exposure.




IPM IS EVERYONE'S RESPONSIBILITY

- Avoid littering.
- Do not feed pigeons or animals on the school campus.
- Do not bring pesticides to school (but insect repellents to deter mosquitoes and ticks may be allowed).
- If you are allergic to wasp, ant or bee stings, notify your teachers and school nurse.


BENEFITS OF IPM

- Proactive. Prevention is better than cure!
- Reductions in pests and pesticide exposures.
- Improvements in indoor air quality can improve student health and academic achievement.



IPM IS THE BEST WAY TO MANAGE PESTS IN SCHOOLS.

Shaku Nair & Dawn H. Gouge, University of Arizona



Resources for children or youth

Pests In Your School?

This infographic addresses pests and pest management from a students' perspective. Using concise text and graphics, it lists steps students can take to help keep their school environment pest free. It also briefly describes IPM and its benefits. This can be used as a handout at school events or printed out as a poster to be displayed at suitable locations in a school.

View or download the infographic at: [Pests in your school? \(arizona.edu\)](https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1579-2014.pdf)

IPM with Diego: UC IPM YouTube Series

Check out UC IPM's YouTube series *IPM with Diego!* These short videos are presented from the viewpoint of Diego, a teenager who is not an expert in pest management. However, he explains basic integrated pest management concepts using simple terms and examples that anyone can do. View the playlist on YouTube at:

https://www.youtube.com/playlist?list=PLo3rG4iqv4gFbkbqphLFuN65_LW_Z0DQZ



Resources for adults working in a school environment:

Integrated Pest Management Works Inside and Outside School Buildings.

This short two-fold brochure lists out the importance and benefits of using IPM in schools. The basic components of IPM are briefly described. View or download the publication here:

<https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1579-2014.pdf>.

WHY SCHOOL IPM ?



Children spend a major part of their time in schools, as do many adults (teachers, parents, and other staff). Most schools face pest and pest management problems that affect their proper functioning. IPM offers safe, cost-effective and environment-friendly alternatives to regularly scheduled pesticide applications.

Using IPM at schools

Know your enemies Pests in schools include insects and other arthropods, vertebrates, and weeds. Knowing what pests are present helps to select the appropriate control measures.

Maintain records Keep a log of pest sightings and action taken. This will help in preventing future invasions and making correct management decisions.

Keep pests away Install door sweeps and mesh screens on windows and doors. Keep food and drinks in tightly sealed containers. Don't invite pests in for dinner.

Avoid clutter Organize books and supplies. Use plastic storage bins with lids, instead of cardboard or paper cartons and boxes. Don't give pests places to hide and feed.

Clean up Clean up spills promptly. Use trash cans with tight-fitting lids. Don't provide pests with food and water.

Maintain healthy landscape Healthy and vigorous landscape plants and playground turf will resist pests. Place and trim plants away from buildings so that pests don't gain access. Irrigate adequately, but don't leave standing water.



COLLEGE OF AGRICULTURE AND LIFE SCIENCES
COOPERATIVE EXTENSION



Integrated Pest Management Works Inside and Outside School Buildings



IPM can help make schools safer and healthier places to learn and work.

- IPM reduces pest problems
- IPM encourages the use of safer pesticides when needed
- IPM enhances the campus landscape and reduces plant and tree losses
- IPM creates a healthier campus for improved academic achievement and reduced absenteeism

Why Should We Care About School IPM?

An informational poster/infographic that discusses different aspects of school IPM and why it is important. Using concise bullet points and graphics, the poster describes the importance of schools to children and to the society at large, as well as how schools are affected by pests. The concept of IPM is introduced, along with its benefits, and challenges to adoption are described. Simple examples of IPM practices are

WHY SHOULD WE CARE ABOUT SCHOOL IPM?

Shaku Nair, Dawn H. Gouge, Kai Umeda, Alfred Fournier, Shujuan Li, Ursula Schuch
University of Arizona

SCHOOLS AND PESTS

- Pests in schools affect proper day-to-day operations.
- Many schools follow calendar-based pesticide sprays, regardless of pest presence.
- Ineffective pest management practices often result in unnecessary exposure to pesticides, unnecessary expenses and underutilization of school spaces.

SCHOOLS AND SOCIETY

- Schools keep children engaged during the day, enabling parents and guardians of school-age children to pursue their jobs and other activities.
- Schools serve as meeting places and community resource centers during crisis situations and many other functionally important community members.

SCHOOLS AND CHILDREN

- Children spend the major part of their day at school.
- Over and above academics, schools offer opportunities for interaction with peers, team work, developing life skills and overall well-being.
- Schools provide the foundation and environment for children's growth and development, molding our future citizens.

"The state of our schools is a national emergency, one that compromises the precious opportunity of all our children and the very future of American prosperity."

Filardo M. 2021. 2021 State of Our Schools America's PK-12 Public School Facilities 2021. Washington, D.C.: 21st Century School Fund.

PROBLEMS CAUSED BY PESTS AT SCHOOL

- Unhealthy learning environments with hazards from pests and pesticides have profound effects on human health.
- For example, mice and cockroaches produce asthma-triggering allergens.
- Over-reliance on pesticides exposes children and staff to dangerous chemicals.

WHAT'S A BETTER WAY TO MANAGE PESTS AT SCHOOLS?

IPM IS THE SOLUTION!

- What is IPM?
- IPM or integrated pest management is a sensible, effective and environment-friendly way to solve pest problems.
- In IPM, pests are managed by the most economical means with the least possible risk to people, property and the environment.

IPM IS NOT MORE WORK

- IPM practices are part of daily tasks.
- Just think "pests".
- Trash management = no food.
- Repair leaky faucet = no water.
- De-clutter a no shelter.

BENEFITS OF IPM

- Proactive. Prevention is better than cure!
- Reduction in pest complaints, pesticide applications and costs.
- Better indoor air quality
- Reduction in asthma incidence
- Improvement in student absence
- Improvement in student scholastic achievements.
- Improvements in staff work performance.

HOW DOES IPM WORK?

EXAMPLE 1: DOOR SWEEPS

- Principles Pest exclusion.
- Stops crawling pests from getting indoors.
- Can reduce pest complaints by up to 65%.

EXAMPLE 2: CLEANING FLOOR DRAINS

- Principles Sanitation.
- Stops drain flies, house flies, and rodents from getting established.
- Can prevent bacteria, including Listeria, carried by pests from drains to food and food preparation surfaces.

EXAMPLE 3: TRAPS

- Principles Monitoring.
- Informs and alerts about pest presence.
- Can help to take steps proactively to remedy pest-favorable conditions and prevent pest population buildup.

ANYONE WITH AN INTEREST IN SAFE AND HEALTHY LEARNING ENVIRONMENTS CAN HELP SCHOOLS TO PRACTICE IPM. WANT TO LEARN MORE?

School IPM Resources:
University of Arizona School IPM <https://cola.arizona.edu/apmc/schoolIPM.html>
EPA School IPM <https://www.epa.gov/ipm/integrated-pest-management-tools-resources-support-implementation>
Pest Defense for Healthy Schools <https://pestdefenseforhealthyschools.org/>

IPM IS THE BEST WAY TO MANAGE PESTS IN SCHOOLS.

described, and school IPM resources are listed. View or download the poster here: [whyschoolwecareaboutschoollipm-2024.pdf](https://www.arizona.edu/whyschoolwecareaboutschoollipm-2024.pdf) (arizona.edu)

What the Heck Was This?



Identify this rodent (from our November newsletter)

Answer: [Desert kangaroo rat](#).

Congratulations to Master Pest Detectives:

William Simonson, City of Glendale Water Services; Yavapai County Master Gardeners - Wendy Raver, Kathleen Corum, Terri Thomas, Karen Austermilller, Pam Edwards and Nancy Parks AKA Nancy Jane, Maricopa.

What the Heck is This?



If you know the answer, email Dawn at dhgouge@arizona.edu. You will not win anything if you are correct, but you will be listed as a **“Master Pest Detective”** in the next newsletter issue.

Please share your thoughts about our newsletter at

https://uarizona.co1.qualtrics.com/jfe/form/SV_cMhZ82JodDKJgCa

Upcoming Events

Save the Dates!!

7TH ARIZONA SCHOOL IPM CONFERENCE 2024.

In-person April 23-24, 2024
Online April 29 – May 31, 2024

Registration and more information coming soon!

Save the Dates!!

33rd DESERT HORTICULTURE CONFERENCE

MAY 10, 2024

(In-person only)

EL CONQUISTADOR HOTEL, TUCSON

Registration and more information coming soon!

EPA Webinars about Integrated Pest Management (AZ CEUs available)

Upcoming webinar: “Managing Boxwood Blight and Box Tree Moth”. Tuesday, March 5th, 2024, 12:00 PM - 1:30 PM MST (Arizona).

Boxwood blight is a fungal disease that first appeared in the U.S. in 2011. It affects all types of boxwoods. Once the fungus is present, its symptoms are only reduced by pesticides. There is no treatment to cure boxwood blight; however, there are preventive treatments. Speakers during this free webinar will review how to identify this disease and the steps to take to prevent the blight from spreading to other boxwoods. Additionally, this webinar will discuss the box tree moth, another significant pest of boxwoods. Experts will describe the importance of quarantines, as well as the lures, traps, and other integrated pest management-based controls for this pest.

Register at <https://register.gotowebinar.com/register/8772031743727691354>

View recordings of archived EPA Integrated Pest Management Webinars at <https://www.epa.gov/managing-pests-schools/upcoming-integrated-pest-management-webinars>.

For more information about the EPA Schools program: <http://www.epa.gov/schools/>

What's Bugging You? First Friday Events (New York State IPM Program) **Fridays | 12:00 pm. – 12:30 p.m. EDT | Zoom | Free but registration required.**

In this monthly virtual series, we explore timely topics to help you use integrated pest management (IPM) to avoid pest problems and promote a healthy environment where you live, work, learn and play. What is IPM? It's a holistic approach that uses different tools and practices to not only reduce pest problems, but to also address the reasons why pests are there in the first place. Each month, our speakers will share practical information about how you can use IPM. **Register for upcoming events.**

What's Bugging You First Friday events are also available in **Spanish**. Individuals interested in these events can find more information on this website: <https://cals.cornell.edu/new-york-state-integrated-pest-management/outreach-education/events/whats-bugging-you-webinars/conozca-su-plaga>

Urban and Community IPM Webinars (Host: University of California)

UC Statewide IPM Program Urban and Community webinar series is held the third Thursday of every month to teach about pest identification, prevention and management around the home and garden. This series is free but advanced registration is required. Dates and topics below, all begin at noon Pacific. <https://ucanr.edu/sites/ucipm-community-webinars/>

Save the Dates!!

Coming this Winter:

Pest Management and Pesticide Safety Seminars for Turf and Landscape 2024

In-person November 21 (Chandler) and November 22 (Sun City West), 2024.

Registration and more information will be updated later.

For more information about the EPA Schools program: <http://www.epa.gov/schools/>.

To view previous University of Arizona newsletters, visit:

<https://acis.cals.arizona.edu/community-ipm/home-and-school-ipm-newsletters>.

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We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.