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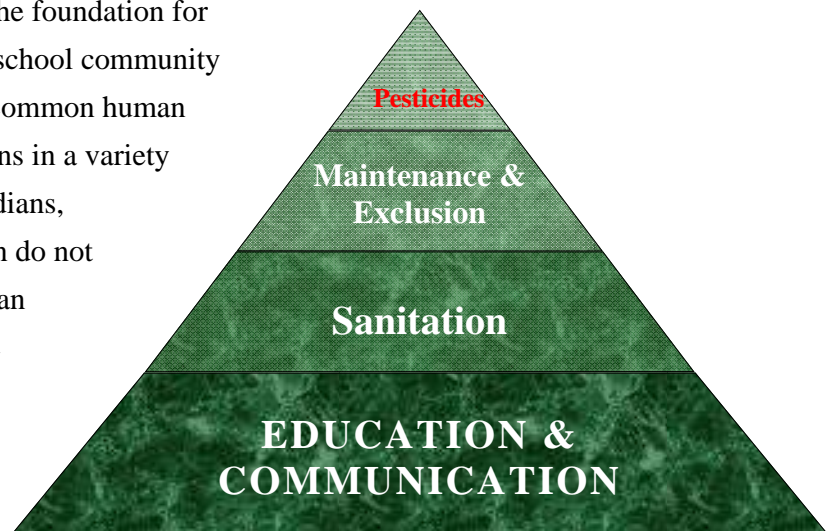
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What is IPM in Schools?

IPM stands for Integrated Pest Management. IPM is a strategy for managing pests by using simple and effective principals that everyone can understand. In urban environments, IPM utilizes a combination of techniques including: education and communication, sanitation, maintenance and exclusion, and pesticides.

Education and **communication** provide the foundation for successful IPM programs. Everyone in a school community plays a role in pest management because common human habits may create pest-conducive conditions in a variety of ways; however, the kitchen staff, custodians, teachers, maintenance personnel, etc. often do not make the connection. For example, German cockroaches may be transported inside the corrugations of cardboard. Staff can help prevent or reduce an infestation of this public health pest simply by eliminating the use of corrugated



cardboard for storage. Education and communication of these simple concepts to faculty, staff, and students will increase awareness of how their every day choices affect whether there are pests in the building. This is critical to effective pest management and helps create a sustainable IPM program.

Following education, **sanitation** and the physical **exclusion** of pests are cornerstone concepts to good IPM. Corner-cleaning in kitchens is a job nobody envies; however, this is most often where the grease and food debris collects and where the pest activity occurs. Teachers may improve classroom sanitation by keeping food to a minimum and only in designated (preferably tile) areas. Students get involved in the program by helping to clean-up after snacks.

Introduction to School IPM

Excluding pests often involves performing maintenance upgrades, such as installing door sweeps and replacing worn out thresholds. Many of the maintenance issues addressed for pest exclusion have secondary benefits to energy cooling/heating efficiency, improved structural integrity, and the prevention of more extensive repairs down the road. Good IPM practices benefit schools in many ways! Habitat manipulation might also be used to discourage pests from an area. For example, trimming trees away from buildings reduces opportunities for insects and other arthropods to access eaves, rooftops, and similar areas that may serve as entry points.



Hedgerows pruned away from buildings help prevent pest access.

Biological control involves employing an organism to help control the population of a pest. It is used less often in urban/school environments; however, one familiar example is “mosquito dunks” which are an over-the-counter product that contain bacteria lethal to mosquito larvae. **Reduced-risk chemical pesticides** are used when necessary, but overall applications drop dramatically when the other IPM measures are in place. Few “sprays” are ever used and pesticides are usually formulated and applied using other methods, such as target-specific baits. Pest control materials are selected and applied in a manner that minimizes risks to human health, non-target organisms and the environment. Outdoor pest management efforts are carried out with the goal of removing only the target organism, keeping in mind that the vast majority of outdoor life benefits our soil and plants.



Monitoring traps provide early detection of possible pest problems

IPM practices are based on information gathered from *monitoring*.

Specific information can be gathered from a monitoring trap as show here (i.e. what species of pest is it? What is the life stage? How many are there? Where are they coming from?). By answering these questions, monitoring traps provide a foundation for knowing what type of action – if any – is to be taken. Establishing a pest monitoring program is a critical first step in any IPM program; it takes the guesswork out of pest management and maximizes school district resources.

School staff also becomes involved in monitoring by using “pest sighting logs” located in teacher’s lounges, main offices and kitchens. These logs augment information obtained from monitoring traps and also help staff become aware of their role in pest prevention. **Action thresholds**, overseen by the school district, indicate when it is time to take action on pest remediation, and thereby provide a district-wide standard for pest management efforts.

Where to begin?

An IPM program will begin with bringing all school staff up to date on their unique role in pest prevention and exclusion. Training programs and educational tools for school administrators, teachers, kitchen, maintenance and custodial staff address how IPM is not another job, but rather an informed choice on decisions they already make each day. Students may create their own classroom IPM project, thereby assisting the teacher and custodial staff in general sanitation improvement and pest awareness. Parents are among a district's biggest supporters; their children are learning in an environment free of unnecessary pesticides, and the *principles* of school IPM are easily transferred to a home environment.



Dr. Marc Lame, Indiana University, speaks with a group of school staff about their role in integrated pest management.

The Arizona Children's Environmental Health Coalition. Arizona's School IPM Program expansion led to the development of the Arizona Children's Environmental Health Coalition. This group is made up of participating school districts, university staff, AZ Arizona Department of Environmental Quality (DEQ), Arizona Department of Health Services (DHS), activist organizations, industry partners, and national IPM implementers. Coalition members benefit from the shared knowledge and expertise of entomologists, pest management professionals, those with building maintenance/structural knowledge, and others who are proponents of children's environmental health.



School IPM involves team-building and sharing ideas.

Start an IPM program in your school. Ask your facility manager or school administrator to call or e-mail the below contacts for guidance.

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Please support the IPM in Schools initiative. Adopt an IPM program in your school, and use the same principles at home.

