

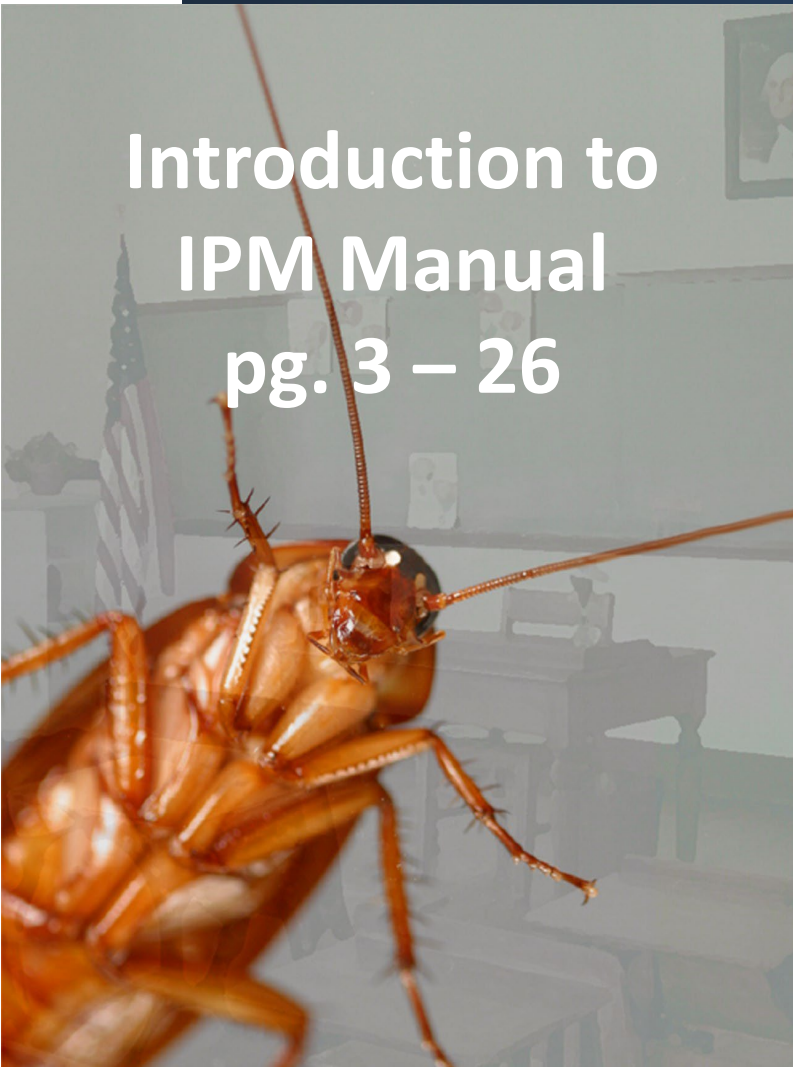


Introduction to IPM in School Settings

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What is IPM?

- A pest management strategy that relies on multiple pest control tactics,
- including the judicious use of pesticides,
- informed by accurate identification and scientific knowledge of pests,
- reliable monitoring methods to assess pest presence,
- preventative measures to avoid pest infestations, and
- thresholds to determine when corrective control measures are needed.

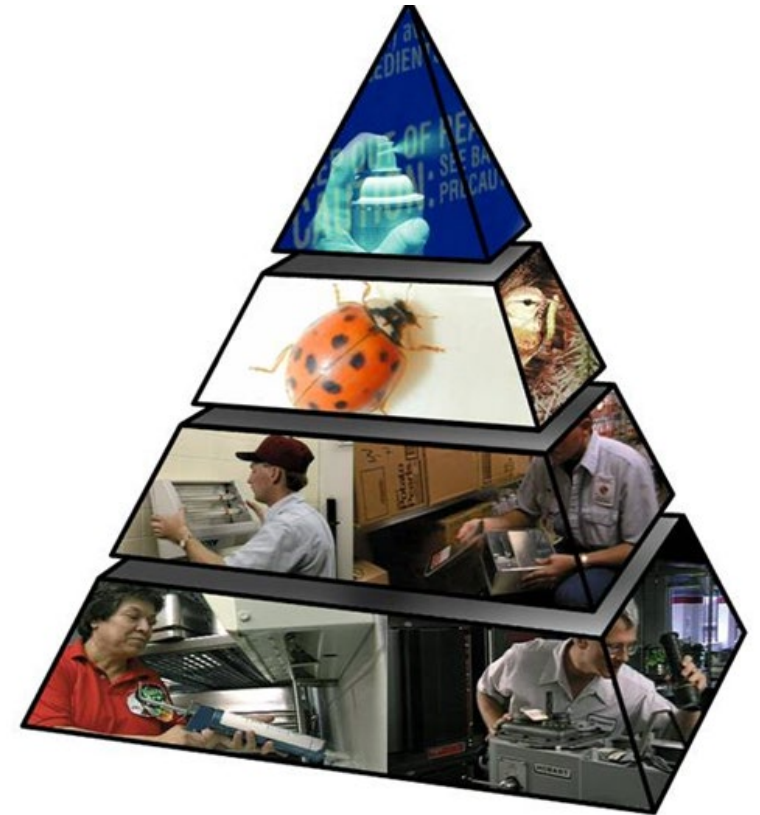


Introduction to
IPM Manual
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Why 'Integrated'?

IPM uses cultural, physical, biological, and chemical tools together.

- Combination helps to identify, manage, and reduce risks from pests, pest management tools, and strategies.
- Done in a site-specific manner that minimizes overall economic, health, and environmental risks.
- Use of multiple tactics is considered by most experts to be the most effective way to manage insects, vertebrate pests, weeds, and plant diseases.
 - In addition, the use of multiple control tactics allows us to depend less on pesticides, which is something most schools are eager to do.
- Risks from pesticides are further reduced by accurate recordkeeping and good pesticide safety practices.

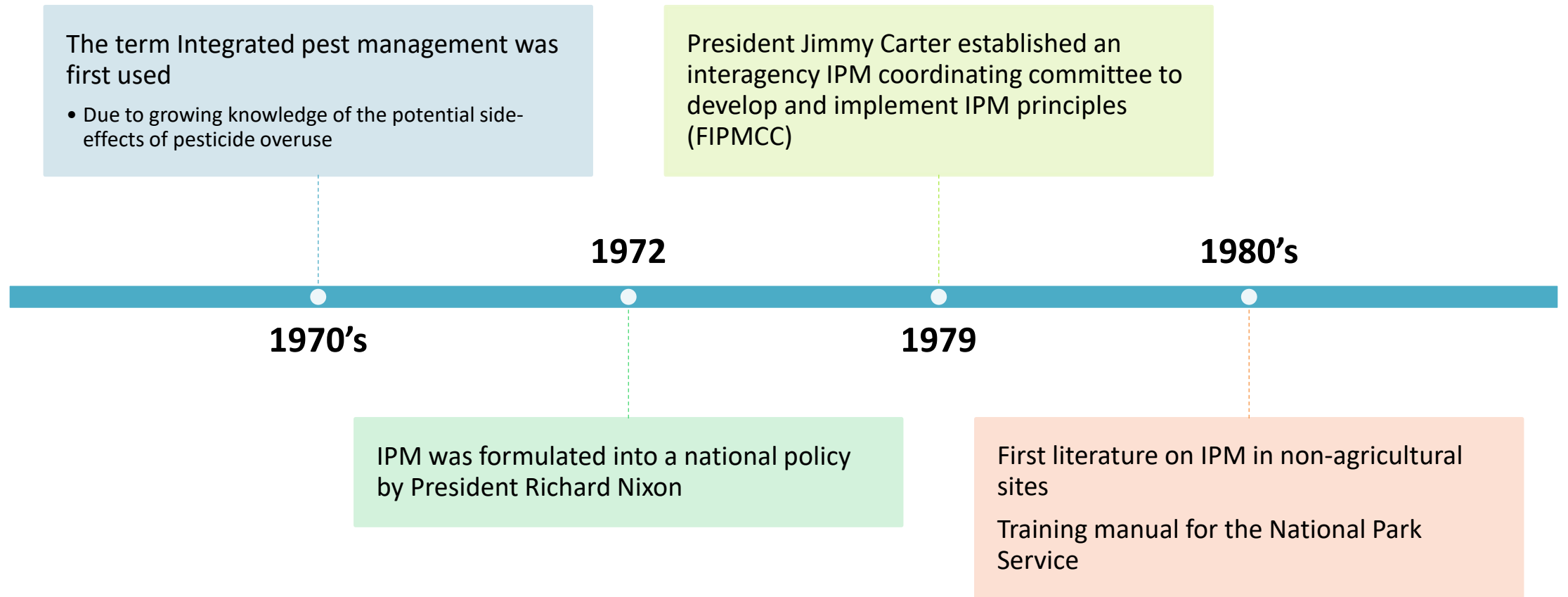




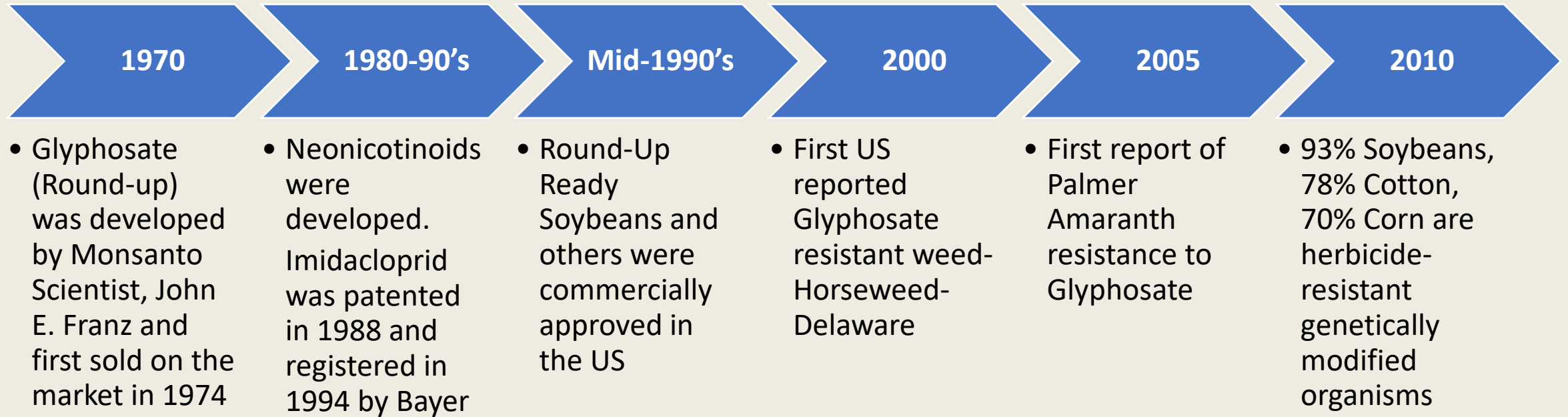
History of IPM (Agriculture)

- 1950s: integrated approaches; 1970s: term IPM widely accepted.
- 1980s: Federal Legislation passed to support IPM via USDA
- FIFRA – US EPA
 - Clean Water Acts
 - Endangered Species Act
 - Conservation efforts

IPM Program Creation Timeline

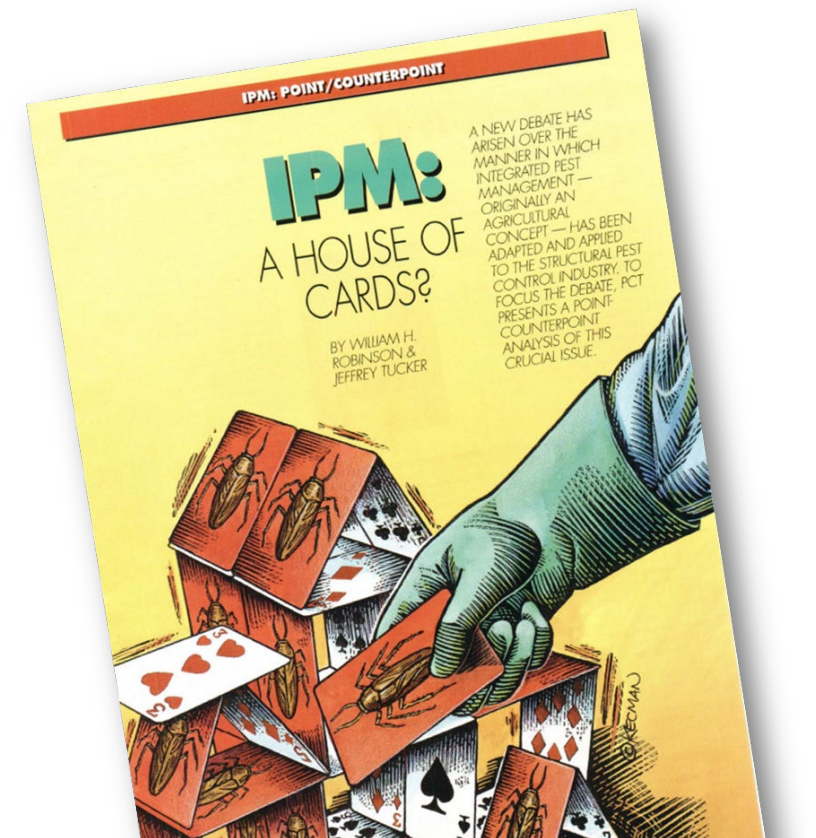


Resistance One of the IPM Battles



History of IPM (Urban)

- Urban adoption slower; concerns about pesticide exposure drove change.
- Industry suspicious as IPM introduced (1980-1990s)
 - Arguments over definitions
 - Thresholds deemed inappropriate
 - Fear of losing pesticides
 - Suspicion by manufacturers
 - Fear of increased regulation
 - Cynicism over lack of substance
- What is the cost
- Fear of change – especially with product use





Pest Control in the School Environment: Adopting Integrated Pest Management

Era of school IPM



- 1990 – present
- Texas law passed in 1991 (MI, LA)
- EPA guidance for schools in 1993
- 16 States with School IPM Rule
- 39 States with Pesticide Safety type rules



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Why IPM Matters

- Reduces risks, promotes prevention, involves entire school community.
 - Use of multiple strategies—like sanitation, exclusion, monitoring, biological controls, and, when needed, pesticides.
 - It is a question of : (Who, What, When, Where, Why and How)
 - “what do you have”
 - “where do you have it”
 - “how did it get there”



Texas IPM

History: 1981

- Chillicothe ISD lice outbreak led to unsafe pesticide use and shutdown.
- 1991 House Bill submitted, adopted as part of appropriations bill to keep Structural Pest Control Board.
- 1995 all public schools fall under regulations
- 2007 Sunset of SPCB and moved to TDA Structural Pest Control Service
- 2009 School IPM rules updated and again in 2023
- 2026 Charter schools begin to fall under the school IPM Rules
 - 1,208 school systems in TX representing (188 Charter)*
 - 5,544,255 total student enrollment
 - 9.088 School Campuses



Texas IPM History: Enforcement

- Enforcement began 1995
 - Initial inspections was to educate and help shift focus from baseboard spraying to using baits
 - 2002 – LBB mandate to inspect 20% schools a quarter resulted in appx 832 districts visited by SPCB
 - 2003 – Increase school training by AgriLife to meet demand
 - 2009 – School IPM Law requires a school IPM inspection approximately every 5 years



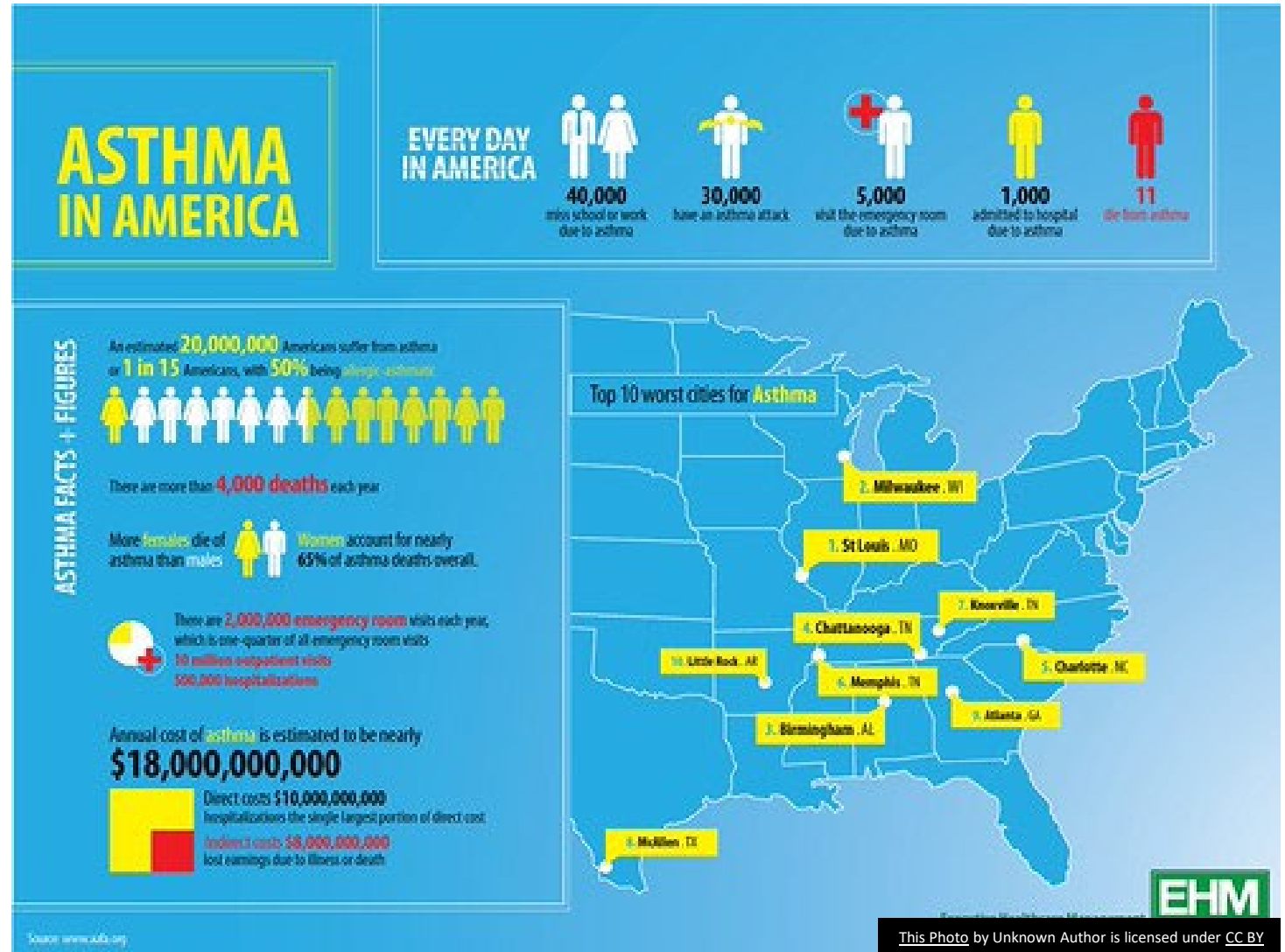
Health Importance

- The American Academy of Pediatrics (AAP) strongly supports Integrated Pest Management (IPM) for schools and childcare, promoting it as a safer, effective, and cost-efficient strategy to reduce children's pesticide exposure by focusing on prevention, monitoring, and least-toxic interventions rather than routine chemical spraying.
 - Pests: allergens, bites, disease;
 - Pesticides: exposure risks, especially for children



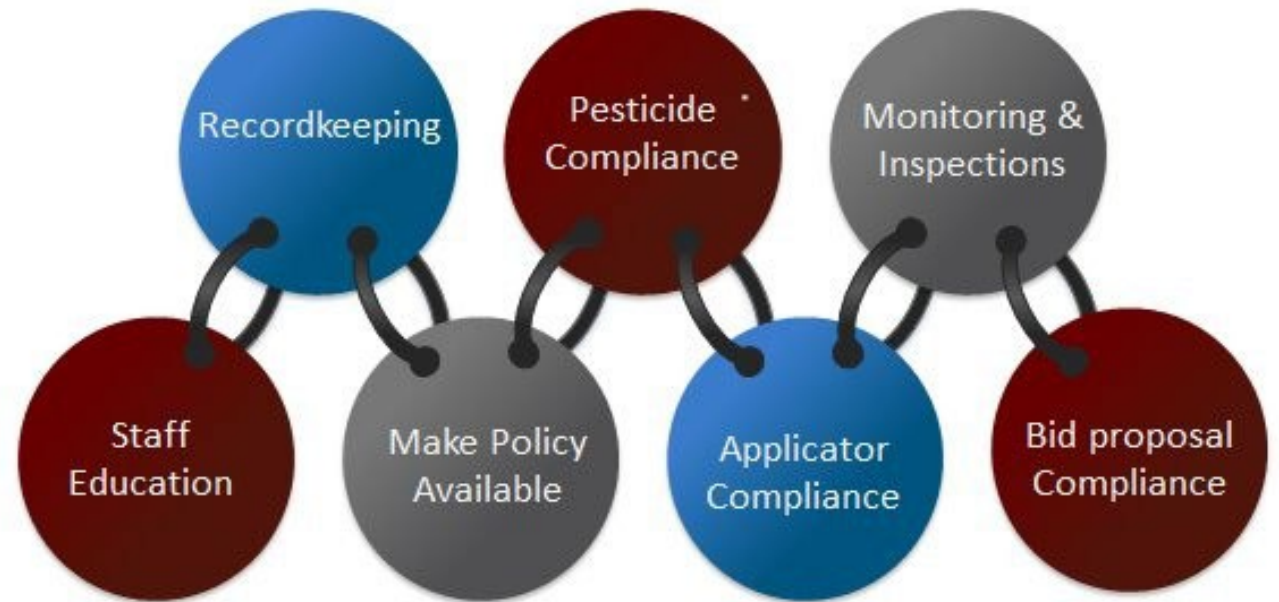
Asthma & IPM

- Asthma affects about 9.5% of school children nationally and directly affects student achievement
- US EPA, the Centers for Disease Control and Prevention, and American Academy of Pediatrics recommend IPM in schools to reduce asthma problems
- Asthma is the number one reason students miss school
- Cockroach & rodent allergens trigger asthma
- IPM reduces both pests & chemicals.



IPM Program Goals

- Protect health, reduce pest damage, minimize pesticide exposure.
- Key Elements of an IPM Program
 - Designated IPM Coordinator
 - Identification
 - Inspection and monitoring
 - Thresholds to guide response
 - Reporting
 - Sanitation and waste management
 - Maintenance and pest-proofing
 - Selecting management methods and products
 - Education and communication
 - Evaluation
 - Rules, regulations and policy



Key Elements: Policy

- Policy sets district commitment to IPM; should be general and flexible.
- A policy is defined as a course or principle of action adopted by a governing body.
 - A school district might have a safety policy, for example, that states its commitment to providing a safe place for children to study and play. To implement such a policy, a school might implement several plans.
- A plan provides a detailed set of instructions on how to do something. Plans are often written to help an organization implement a policy.
 - IPM plans might include a detailed set of instructions for how school personnel might implement IPM for specific pests, or make pesticide purchases, or store pesticides.

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BUILDINGS, GROUNDS, AND EQUIPMENT MANAGEMENT
MAINTENANCE

CLB
(LOCAL)

Integrated Pest Management Program

The District is committed to following integrated pest management (IPM) guidelines as required by Chapter 1951 of the Occupations Code and Title 4, Chapter 7 of the Administrative Code in all pest control activities that take place on District property.

Definition

IPM is a pest management strategy that relies on accurate identification and scientific knowledge of target pests, reliable monitoring methods to assess pest presence, preventative measures to limit pest problems, and thresholds to determine when corrective control measures are needed. Under IPM, whenever economical and practical, multiple control tactics shall be used to achieve the best control of pests. These tactics shall include, but are not limited to, the judicious use of pesticides.

Standards

The District's IPM program shall govern the District's use of pesticides, herbicides, and other chemical agents for the purpose of controlling pests, rodents, insects, and weeds in and around District facilities, including residential property primarily used as student housing.

IPM Coordinator

The Superintendent shall designate the IPM coordinator(s), who shall be registered with the Texas Department of Agriculture. The IPM coordinator(s) shall receive training in accordance with law and shall provide training to District employees, as necessary.

Application Time Frame

The IPM coordinator(s), in addition to the responsibilities set out in CLB(LEGAL), shall coordinate with appropriate District administrators or other designated and trained employees regarding pesticide or herbicide applications in accordance with law. The IPM coordinator(s) shall determine when an emergency situation exists and an exception to the 48-hour notice requirement may be made.

No Unauthorized Application

If the IPM coordinator is a licensed applicator, the IPM coordinator may apply pesticides in accordance with law. No other employee or other person or entity shall be permitted to apply a pesticide or herbicide at a District facility, including residential property primarily used as student housing, without the prior approval of the IPM coordinator and other than in the manner prescribed by law and the District's IPM program.

Key Elements: Coordinator (job description handout)

- Coordinator oversees pest management, records, training, and communication.
 - Oversees district pest management personnel, either in-house employees or outside contractors. The coordinator ensures that employees who apply pesticides have adequate training, appropriate protective gear, and maintain all required licenses and insurance.
 - Ensures that all pesticides used on district property are appropriate and approved by the district for such use; and ensures that pesticides are appropriately applied, transported, and stored.
 - Responsible for authorizing all necessary treatments, including emergency treatments, if needed.
 - Maintains necessary pesticide application records, pesticide labels, Safety Data Sheets, and other required records.
 - Serves as a liaison between contractors and district administration to ensure that bid specifications conform to the district's IPM policy and the general principles of IPM.
 - Maintains a prioritized list of needed structural and landscape improvements relevant to the pest control program.



Coordinator Duties – Pest Management

- Oversees pest control personnel
 - All in house employees including grounds, teachers, and coaches.
- Ensures training & licensing
 - Incidental Use and/or TDA 3A/B direct supervision training
 - Maintaining copies of CEU certificates
- Engages with Administration on Pest Control Contracts (Bid Specs)
 - Make sure pest control contracts follow district IPM program

Coordinator Duties

- Approves treatments
 - Works with Pest Control Contractor, Responsible Noncommercial Certified Applicators, and/or Noncommercial political subdivision license holders in all categories to use IPM tactics from prevention to treatments.
- Maintain all records important to IPM and Indoor Air Quality
 - Inspection reports, complaints, monitoring reports, even images can help with indicating problems and future solutions
- Liaises with administration to report on IPM program
 - Use the information you save and collect to report to others about your success and failures. Build a case for your program.



Teamwork Importance

- IPM requires cooperation across staff; communication and training essential.
- Use educational posters
- Help explain processes to:
 - Food Service handlers
 - Custodians
 - Maintenance
 - Plumbers
 - Electricians
 - Teachers & Principals
 - Volunteers & Parents

Training

- All staff should understand sanitation, reporting, and pesticide policies.
- Make sure leadership is aware of IPM Policy Statement

Don't Let the Bed Bugs Bite!



1 Identify

- ▶ Be certain that what you've found is a bed bug.



2 Monitor

- ▶ Make a careful visual inspection of the area where bed bugs were seen and use a bed bug trap to determine if additional treatment measures are needed.
- ▶ Learn how to build your own bed bug trap to attract and monitor bed bugs.
- ▶ [What is a bed bug interceptor?](#)
- ▶ If a student has bed bugs, also check other schools that their siblings attend.

3 Educate

- ▶ Help school officials, teachers, and students know more about bed bugs.
- ▶ [Bed bug protocol for schools](#)
- ▶ Notify the principal, teacher, and nurse.



4 Treat

- ▶ Vacuuming and trapping solve most bed bug introductions. Schools rarely become infested, so pesticides are not recommended in classrooms.
- ▶ Check out this resource to learn more about managing bed bugs.
- ▶ [IPM action plan for bed bugs](#)



If you see something, say something. Contact your IPM Coordinator:

Name: _____ Phone: _____

Adapted from Merchant, M. E., Hurley, J., & Renchie, D. (2004). *An introduction to IPM in schools: A manual for facilities maintenance professionals*. Texas A&M AgriLife Extension Service.

Principles: Know Your Pest

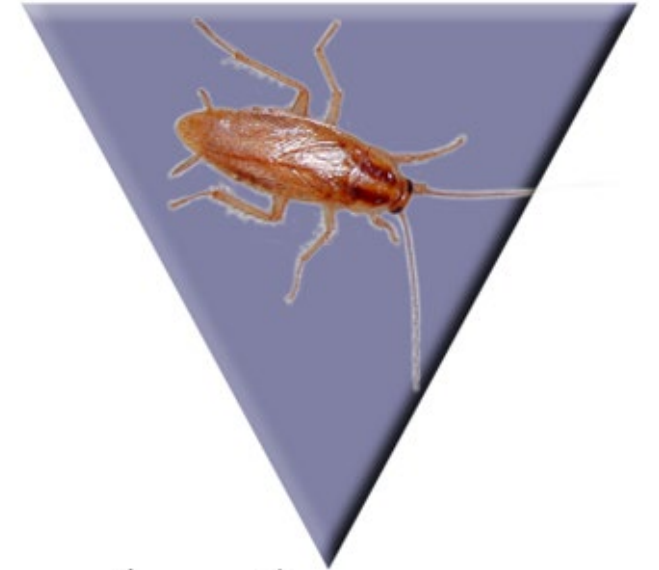


- Correct identification essential; species matters for control.
- Questions you will be asked in your IPM program at least once:
- What are the pests?
 - Ants, Cockroaches, Spiders, etc.
- Why are they occurring?
 - How did they get in?
 - Where do they live?
- How can we make our school less pest-friendly?
- What treatment methods are most effective?
 - Can we use a non-chemical control



food

water



harborage

Principles: Pest Requirements

Food, water, harborage drive pest problems; remove one to reduce pests.

Principles: Thresholds

- Understand tolerable pest levels; thresholds differ by location.
- Action thresholds:
 - Thresholds are boundaries between acceptable and unacceptable pest levels
 - Establish pest specific tolerance levels for pests in specific locations
 - e.g., 1 German cockroach in a kitchen is cause for further investigation and action
- The IPM coordinator and the Pest Management Professional will establish indoor and outdoor action thresholds
- TDA requires each district to have written thresholds for important insects, weeds.

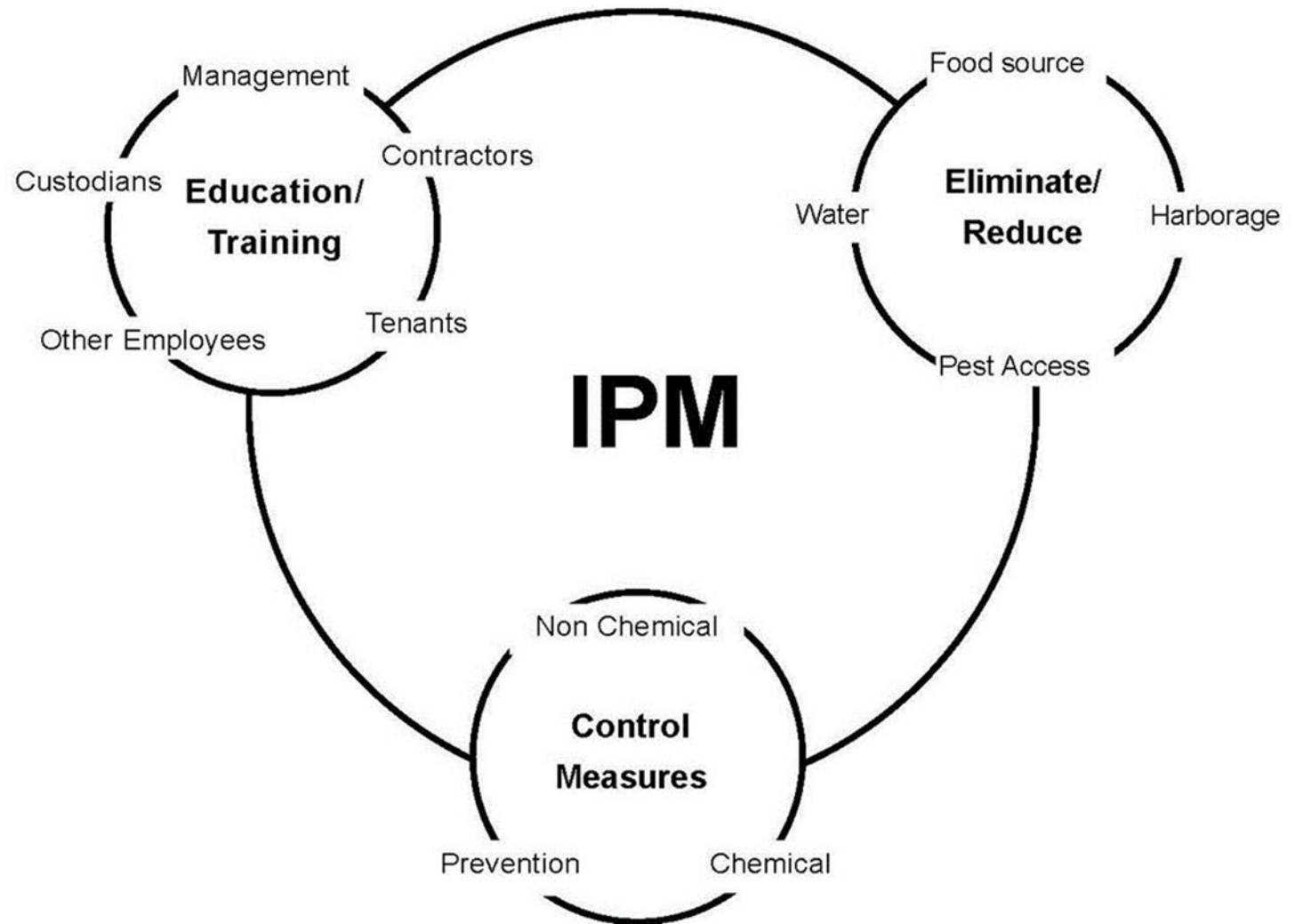
Inspections

- Backbone of the entire IPM Program
- Look for conducive conditions and evidence of pests indoors & outdoors.
- Why inspect?
 - To detect pest problems as early as possible
 - To address pest conducive conditions before problems occur, especially in pest vulnerable areas (PVA's) like kitchens, food service areas, classrooms, mechanical areas, any place employees can store items for 'future' use.



The IPM Process

- 4 - Steps:
 - Inspect,
 - Identify,
 - Take Action,
 - Evaluate.



Monitoring Tools: Sticky Traps

- Place in hidden areas; check regularly; record findings.
- Track pest numbers over time; adjust strategies accordingly.
- Inspections provide qualitative assessment (are pests present? and where?)
- Monitoring traps allow objective measuring of the problem (how many?)



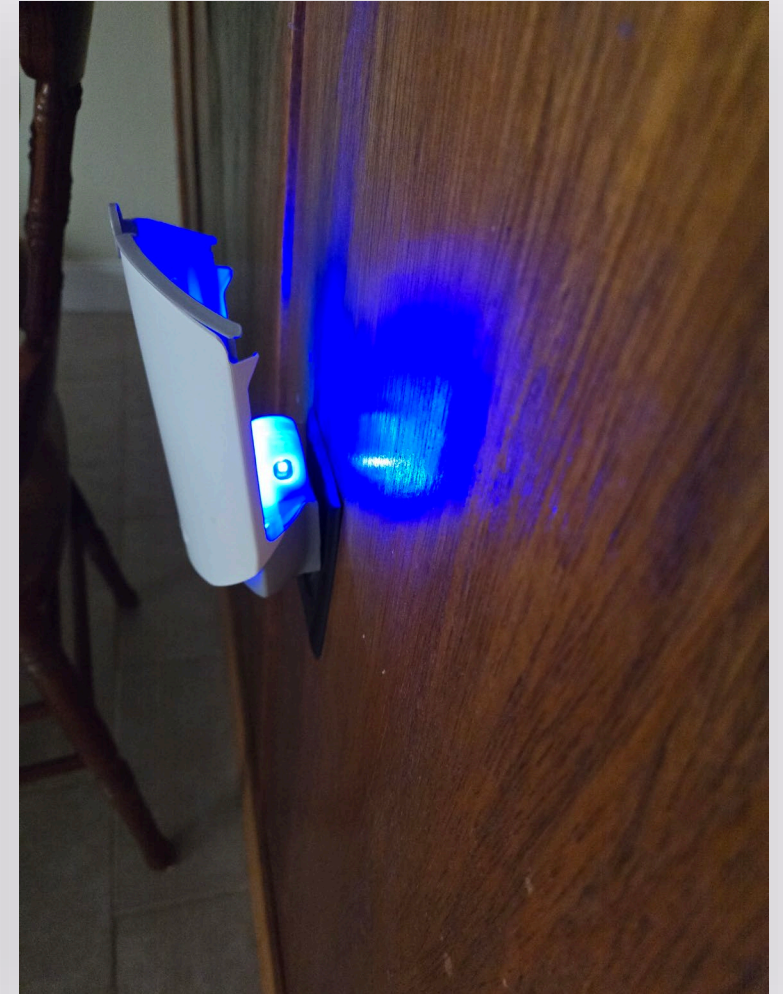
Monitoring Tools: Pheromone Traps

Species-specific; great for stored-product pests.



Monitoring Tools: Light Traps

Use UV to attract flies/moths; indoor only.



Visual Inspections

Check food areas, storage, drains, windows, moisture issues.



Non-Chemical: Sanitation



Clutter reduction, cleaning schedules, remove
harborage.



Non-Chemical: Horticultural

Plant choice, irrigation, pruning to reduce outdoor pests.





Mechanical Controls

- Maintenance items using vacuuming, weeding, mowing and aeration to prevent and manage pest problems.
- Left to Right: Microbial agents to clean drains, Seal up gap around door, Watch garden areas for insects on the move.



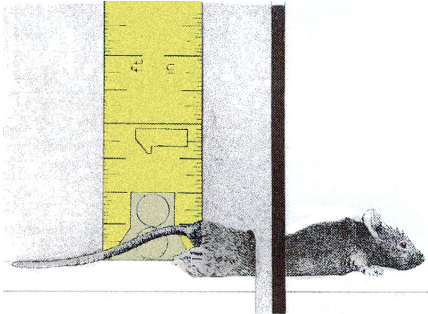
Exclusion Indoors

Seal cracks, install sweeps, repair leaks, caulk fixtures.

Key Elements of IPM – Maintenance and Pest-proofing

- Effective door sweeps and seals can reduce pest entry up to 65%

Pest Entry Points



Mice need $\frac{1}{4}$ inch gap
Rats need $\frac{1}{2}$ inch gap





Exclusion Outdoors

Seal utility entry points, trim vegetation, maintain drainage.



Rodent/Wildlife Traps

Snap traps, glue boards (monitoring), multi-catch traps; placement guidance.



Outdoor Mechanical IPM

Mulches, edging, trimming, hand-weeding on school grounds.



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Biological Controls

Use of predators/parasites/pathogens; protect natural enemies.

Summary

- IPM Coordinators provide leadership and serve as the main point of contact regarding pest management in district facilities
- A schoolboard-approved IPM Policy provides direction and institutional memory
- IPM Plans keeps you organized
- IPM training provides guidance to the community
- Education most often over-looked IPM tactic use it.