Pest Management in Schools: A Resource for Facility Managers

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Integrated pest management (IPM) in schools is a more environmentally friendly approach for pest control because it exposes us to less chemicals. It focuses on pest prevention, involves integrating multiple control measures, and includes as little use of pesticides as possible.

Federal Pesticide Law

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is the federal statute that governs the registration, distribution, sale and use of pesticides in the United States and is administered by the Environmental Protection Agency (EPA).
- Pesticide: a broad term that includes anything that kills or repels insects, rodents, plants, fungus, mold and microbes, including disinfectants.

Why Pest Free?

- Some pests are associated with asthma or asthma symptoms, such as dust mites, cockroaches, and mice and rat dander. Other pests can be destructive insects or other animals that attack or damage crops, food, livestock, forest and forestry products or cause damage from the transmission of fungal, bacterial or viral infections through bites and stings.
- At low-level exposure of pesticides over long periods of time, we are seeing increased evidence for outcomes such as allergic symptoms, developmental delay or differences, reproductive dysfunction, etc.
- Using pesticides, depending on one's exposure, can lead to health effects such as:
    - Eye, nose and throat irritation
    - Skin rashes
    - Kidney damage
    - Increased risk of cancer
    - Death

Integrated Pest Management (IPM) – Foundational principles in the school setting

- Keep pests out and give them no place to hide (exclusion)
    - Change surrounding landscape and interior spaces to eliminate harborage sites.
    - Block pest entries and hiding places.
    - Seal or fix cracks and holes that cockroaches could get through with silicone caulk, door sweeps and copper mesh.
- Eliminate food and water availability
    - No food allowed in classrooms or food is kept out of classrooms overnight.
    - Practice proper food storage and disposal.

    - Clean crumbs, grease, etc. at time of spill.
    - Cleaning the kitchen, reducing clutter, throwing away dead cockroaches and cleaning up frass (feces).
- Reduce the population
    - Moisture control with a relative humidity between 30-50% can reduce the dust mite populations.
    - There are different types of traps that are recommended for certain insects and other pests. For an overview of Insect Monitoring Traps, see Pesticide Environmental Stewardship.
    - Appropriate pesticide use: note that IPM does not mean no pesticide use, but instead use of as little of a pesticide as needed, when no other methods of pest removal have been effective.
- Rules and Regulations
    - Rules and regulations may or may not exist and vary by state regarding IPM. For a review of these regulations, see Environmental Law Institute IPM in Schools, Overview of State Laws.
    - Related to IPM, there are guidelines that exists for cleaning food service areas. See National Education Association Cleaning, Sanitizing, and Targeted Disinfecting in the Cafeteria and Kitchen, Missouri Food Code for Food Establishments of the State of Missouri, and Food Service Guidelines for Federal Facilities. For restrooms see Occupational Safety and Health Administration sanitation standards.
- Cleaning, Sanitizing and Disinfecting
    - There are differences between cleaning, disinfecting and sanitizing. Cleaning removes dirt and organic matter from surfaces using soap or detergents. Sanitizing kills bacteria on surfaces using chemicals. Disinfecting kills viruses and bacteria on surfaces using chemicals. For more information, see: EPA What's the difference between products that disinfect, sanitize, and clean surfaces?, National Library of Medicine and Missouri Green Cleaning Guidelines and Specifications for Schools
- Sanitation
    - According to the World Health Organization, sanitation refers to conditions that promote health through prevention of human contact with waste products. This includes proper collection, treatment and disposal of human and animal waste, as well as sewage and wastewater management. Sanitation is often referred to as the process of keeping places clean and healthy, especially by providing a sewage system and a clean water supply.
- Elimination
    - Targeted chemical use
        - Read label and directions on chemical bottles.
        - Maintenance staff should not spray or apply chemical treatments. Spray should be a last resort done only by a pest management professional (PMP).
    - Use sticky traps and baits for cockroaches.
    - Insecticidal Dusts: dusts are one of the most effective insecticide formulations for killing crawling insect pests such as roaches, fleas, bed bugs and ants. Some are relatively safe around pets and humans, such as silica gel and diatomaceous earth. Take precautions to avoid inhalation exposure. For more information, see: EPA

Managing Pest in Schools and the National Library of Medicine, Pest Control Products Fact Sheet

- Insect Growth Regulators (IGRs): a chemical insecticide that kills insects indirectly by disrupting their life cycles (preventing reproduction). These chemicals are slow to kill insects, not as effective on adult insects and may be more expensive than other insecticides.

For additional tips on environmental health and safety in schools, visit PEHSU.net. You can also explore more fact sheets to help you create a safer school environment for students, teachers and everyone in the school.

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