

# ***Integrated Pest Management for Iowa Schools***



## **Pests and Pesticides in Schools**

### **Introduction**

Our children spend six hours a day for twelve years in school. Parents have a responsibility to work with educators to provide the safest environment in which children can attain an education. Numerous species of insects are present in and around schools. A number of these insects are pests that are harmful to children and disrupt the learning environment in classrooms. As a result, most schools apply pesticides to control pest infestations.

### Pests in Schools

Children react poorly to pests. If a classroom is infested with pests, teachers cannot maintain discipline, and learning is disrupted. Pests have been found to cause allergic reactions in sensitive individuals. They also can transmit life-threatening diseases to humans. Children are especially susceptible to these diseases. Cockroaches, ants, wasps, head lice and rodents are the main pests found in many schools.

Cockroaches, especially the German cockroach, can live and breed by the thousands in classrooms and cafeterias. They can carry germs from filthy surfaces to cafeteria tables and classroom desks. Cockroaches are the leading cause of asthma in urban youth. The more children are exposed to cockroaches the more allergic they become.

Pest ants, like the Pharaoh ant, build nests in classrooms and cafeterias. Thousands of ants can forage for food in places like dumpsters, cafeteria food disposal areas, and on cafeteria tables and classroom desks. Ants have been shown to be capable of transmitting Staph and Strep in these kinds of environments.

Many kinds of wasps often build nests under eaves and in playground equipment. Wasps savagely defend their nests often stinging children who play nearby. Wasps and bees are the leading cause of death by venomous animals in the United States.

Rodents are often found living in and under school buildings. Rats and mice contaminate stored food with their droppings and urine. Rodent droppings and urine may contain Hantavirus, a disease linked to more than 27 recent deaths in the United States, including one in Florida. Rodents can also gnaw through electrical insulation and cause electrical fires.

### Parental Concerns

Decreasing educational dollars often result in limited funding for pest management. Therefore, pests often cause disruptions and dangerous situations. Parents should be concerned about pests in their children's school. Do they know if there are pest infestations that may disrupt class activities? Do they know if the school is free of pests that cause allergies and transmit disease? It is important not to have pests in the school environment.

### Traditional Pest Control

Pesticides are used in schools to kill pests. Pesticides are often sprayed on exposed surfaces, like walls, baseboards, and floors of classrooms, offices, and food service areas to kill pests. Also, playgrounds and athletic fields are often sprayed with pesticides.

The compressed air sprayer has been the main tool of the pest control industry for the past 50 years. It is well designed for covering large surfaces with pesticides. These are often exposed surfaces that children may touch. Pesticides are often applied in schools on a routine, scheduled basis. These applications are made even though no insects may be causing a problem. Untrained staff often applies pesticides. They have little knowledge of the poisons they are applying or safe application techniques.

### Effects of Pesticides

We are all concerned about the effects of pesticides on wildlife and endangered species. These concerns about our environment have led to strict regulations on the manufacture and the use of pesticides. We are also worried about pesticide contamination of water, soil, and air.

Pesticides can harm school-aged children. In fact, there is little information about the effects pesticides may have on them. But we do know children are generally more susceptible to pesticides than adults. Pesticides often have greater effects on children because of their lower body weight. Their skin may be more permeable to pesticides, and their playful behavior puts them in greater contact with pesticide residues. It is our responsibility to protect children from excessive pesticide exposure in school.

### Integrated Pest Management (IPM)

How do we as parents and educators provide an environment where pests are managed and the use of pesticides minimized? The dilemma is a desire for a pest-free school environment and for no risk of pesticide exposure.

The solution is Integrated Pest Management. IPM is a process that relies on prevention, inspection, and communication. With IPM, pesticides are only used to manage pests, after all other non-chemical methods of control have failed.

IPM reduces the use of pesticides by first preventing pest infestations through sanitation and exclusion. Pest populations are monitored to determine where, when, and what kind of controls should be applied. When pests are found, non-chemical methods for pest management are used first. Pesticides are only used as they are needed rather than according to a treatment schedule. Least toxic pesticides are selected to minimize hazard. Results are evaluated so that pesticides are not continuously applied in schools.

IPM begins with prevention. We can modify and repair structures to eliminate the resources pest need for survival such as food, water and shelter. This will eliminate conditions that allow pests to thrive. Prevention offers long-term solutions for problems that in the past required continuous pesticide use.

The success of IPM depends on cooperation of many individuals. Pest management is not the sole responsibility of a pest control operator. Proper maintenance, housekeeping and sanitation of buildings are important for successful long-term management.

To reduce pesticide use in schools, it is important to know when pests invade the school and where they are located. Inspections are an important component of IPM, and allow the pest manager to detect infestations early. Sticky traps are the main tools for monitoring pest populations. The traps show the pest control operator what and how many pests are present. If no pests are found, no pesticides should be applied.

When pests are found, non-chemical methods of managing them are used. These methods can include restricting where food is eaten, moving the dumpster away from the school, repairing and maintaining leaking pipes, and pressure cleaning food service areas, just to name a few.

After all non-chemical methods of managing pests have failed, pesticides should be applied only to the area(s) of infestation. Most pests, like cockroaches, live in cracks and crevices. Pesticides applied to these areas effectively control the pests and minimize exposure to children. These targeted applications precisely deliver pesticides to the pests. Pesticides should be applied by trained and State Certified personnel knowledgeable in school based functions, pesticide safety, modern application techniques, and integrated pest management procedures. To protect children, select the least hazardous pesticides. Pesticides should be applied to pest harborages so surfaces are not contaminated and chemicals do not come in contact with exposed surfaces.

The main tools for pest management minimize children's exposure to pesticides. Applications should be baits that are applied to pest harborages or contained in childproof bait trays, dusts that are applied in wall voids or attics, or crack and crevice injections that target the pests where they live. These formulations reduce exposure, yet provide superior control of many pests.

### School-Based IPM Advisory Committee

What can parents do to protect their children from pests and pesticides in the school? First, talk with the principal and the children's teacher about what is being done to control pests in the school. Second, find other parents who share concerns about pests and pesticide exposure. Third, form a school IPM advisory committee with the school's administration. Parents must work with educators to change the way pest management is performed.

The issues associated with pests and pesticide uses in schools are quite complex. Both pests and pesticides can harm children. Parents can help protect the health of children by working to establish integrated pest management in their schools.

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