Why IPM in Schools?

Integrated Pest Management for Schools: A How-to Manual, is a revision of the manual developed for the United States Environmental Protection Agency (Document #909-B-97-001) by the Bio-Integral Resource Center, P.O. Box 7414, Berkeley, CA 94707, March 1997. This manual provides information for school board members, administrators, principals, facility managers, and parents as they work to establish IPM policies, pest control contract guidelines, and other administrative systems designed to institutionalize IPM. It also provides information for pest management personnel and others who may be involved in the day-to-day pest management in a school.

The information contained in this manual applies to any sensitive environment that is similar to that found in and around schools. These include public parks, daycare centers, hospitals, retirement and nursing facilities, and homes. IPM information in this manual also applies to home environments with residents that have health problems such as asthma, allergies, or immune system compromising diseases.

Additional copies of *Integrated Pest Management for Schools: A How-to Manual* can be obtained from the Pesticide Education Office, University of Nebraska-Lincoln, Cooperative Extension, 101 Natural Resources Hall, Lincoln, NE 68583-0820; telephone number: (402) 472-1632 or (800) 627-7216.

More school IPM information is available at: http://schoolipm.unl.edu

More pesticide educational information is available at: http://pested.unl.edu

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The Environmental Protection Agency (EPA) is responsible for the regulation of pesticides in the United States. Before a pesticide can be legally used, it must be registered by the EPA, and to do this, requires a significant amount of data and a basic understanding of the risks that may be posed by use of the pesticide. Label restrictions and other requirements are imposed to reduce the possibility of these risks. Why does EPA promote integrated pest management (IPM), which suggests that prudence is needed in using these registered pesticide products?

There are several reasons.

Uncertainties. Despite the substantial amount of scientific information that EPA reviews prior to registering a pesticide, it is virtually impossible to identify all conceivable risks and to address all the uncertainties of pesticide use. This means that from time to time new risks are uncovered. Some examples are: egg-shell thinning caused by DDT, groundwater contamination, pesticides that mimic hormones, and the more recent discovery that pesticides in combination may behave synergistically with a great multiplier effect. The amount of testing that would be required to resolve these uncertainties would result in no pesticides being registered. Since science cannot, in any practical sense, assure safety through any testing regime, pesticide use should be approached cautiously.

Overuse of pesticides can cause problems. Aside from the potential for toxic effects to people, overuse of pesticides may cause problems such as: 1) killing beneficial organisms that would otherwise help control pests; 2) promoting development of pesticide resistance in pests, which starts a vicious cycle in which more and more pesticides are needed; 3) resurgence of pest populations; and 4) contamination of the environment.

Economics. Integrated pest management, when viewed by traditional economics, often results in lower costs than conventional pest management. If other costs, for which dollar signs are not readily available, are considered, then the balance shifts further towards IPM. Some of these poorly accounted-for costs are: potential long term health effects, contamination of the environment, effects of pesticides on non-target animals and plants, the health effects to someone who may be particularly sensitive to a pesticide or pesticides, and any other effects that are not now understood but will be uncovered over time. Even though these costs are not traditionally considered in economics, they are costs and should not be ignored.

Unique characteristics of children. The National Academy of Sciences, in their 1993 report *Pesticides in the Diets of Infants and Children*, found that children differ from adults both in the potential for exposure to pesticides and the potential for health effects. This adds a degree of uncertainty to the studies required for registration of a pesticide as all studies are conducted on laboratory animals.

Educational opportunities. While this manual is intended for school personnel with pest management responsibilities, the concepts of IPM can also be used for teaching about pests in biology and other science classes. This will also promote IPM in homes and ultimately– through the fostering of informed consumers–in agriculture, city parks, roadsides, and other areas that have been subjected to high use of pesticides.

EPA promotes integrated pest management through documents such as this because it represents a prudent approach to understanding and dealing with environmental concerns. IPM does not blindly embrace new technology nor does it reject technology. IPM does promote a thoughtful awareness of the pest management inherent in natural systems through an understanding of pest life cycles and through the use of beneficial organisms, cultural modifications, physical barriers and other mechanical controls. It does not rule out the use of pesticides but requires that their use be thoughtfully considered. This prudence and thoughtfulness applied to pest management also has lessons for our dealing with the environment in other ways. It will help produce the thinking needed for environmental preservation, and there can be no better place for this lesson than in our schools.