

Pesticides and IPM

Homes, Schools and
Gardens

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Purpose

- Gain a better understanding of pesticide exposure pathways
- Discuss alternative methods to pesticide use
- Identify Model IPM programs

Pesticides: Points of Concern

- Most are synthetic chemicals designed to kill insects, weeds, rodents, and fungi
- >1.5 billion lbs of active ingredients used in US
- A multi-billion dollar industry
- 140 pesticides are considered to be neurotoxic by design
- US biomonitoring shows pesticide residues in blood and urine of nearly 100% of all people sampled
- Children are most vulnerable

Pesticides: Part of our Culture

Exposure Pathways

- Homes
- Gardens
- Lawns / Landscape
- Golf Courses
- Playing Fields
- Schools
- Agriculture (rural / food)
- Parks
- Water (drinking / recreation)
- Indoor Air / Dust
- Right of Ways



Many Factors Affecting Vulnerability

Complex interactions among

- Genetics
- Environment
- Nutrition
- Social Factors

Among these, pesticide exposures deserve special scrutiny because they are preventable causes of harm



What is Integrated Pest Management?

- A 'least toxic' approach to pest management that **prevents** or minimizes the use of pesticides
- An approach to pest control that utilizes regular monitoring and record keeping to determine if and when treatments are needed
- Employs combination of strategies and tactics to keep pest numbers low enough to prevent unacceptable damage or annoyance
- Used anywhere pests are of concern

6 IPM Program Essentials



Tactics Criteria

- Biological
- Cultural
- Physical
- Mechanical
- Educational
- Chemical

- Site specific combinations
- Chemicals used as a last resort



Indoor IPM: Michigan Law



Must comply:

- Public and private schools from K to 12th grade
- Day care centers
- Health care facilities
- Public buildings

Pesticide applicators must attend an IPM training session before applying pesticides to above facilities

A verifiable IPM program must be in place for each building

IPM Communication in MI: Schools/Daycare

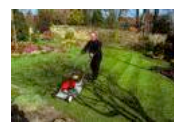
- **Prior notification of pesticide use to all parents / staff**
 - *'I want to be notified'* request sent to parents in September
 - should be universal notification
- **Posting requirements of pesticide use**
 - All entrances
 - Public/common areas
- **Reentry**
 - If insecticides sprayed, area must remain unoccupied for 4 hrs or longer

Model IPM Programs in Schools

- Individual: [Lewis Cass Technical High School](#), Detroit MI
 - **Student run IPM**
- State: [Massachusetts](#)
 - **First in the nation to ban use of the most dangerous pesticides**
- State: [Connecticut](#)
 - **First in the nation for school indoor and outdoor IPM / ban**
- Federal: [School Environmental Protection Act](#) (SEPA)
 - **2005 pending in house and senate**

MI has a strong model program, however legislation does not mandate 'least toxics first' or ban the most dangerous pesticide

Outdoor IPM



PREVENTION

Develop healthy soil
Plant well adapted pest
resistant grass varieties
Aerate the lawn regularly
De-thatch
Maintain proper pH
Fertilize
Water properly
Mow

LEAST TOXIC CONTROLS (ex.)

For weeds

Corn gluten meal
Fatty acid soaps
Vinegar

For insects

Milky spore for grubs
Nematode parasites

For diseases

Local adaptive grass
Sufficient nutrients

Conclusion

- Exposures are ubiquitous from fetal life through childhood and adulthood
- Children are most vulnerable
- By focusing on prevention and non-toxic strategies, practitioners of IPM eliminate unnecessary pesticide use and exposures.
- Stronger IPM regulations are needed state and nationwide

What You Can Do

- Inform patients about the risks of pesticides, encourage precaution and least toxics approach
- Learn about pesticides used in and around schools, home, and other facilities where children may be exposed
- Support strict regulations and/or phase out of certain pesticides