

# National Strategic Plan for IPM in Schools

Reaching for the Stars: Making high-level  
IPM happen in all of our schools by 2015

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## What's the problem?

## For starters...

- **96% of fish, 100% of surface water and 33% of major aquifers contain one or more pesticides.**

– *US Geological Survey 2006, compiled 1992-2001 studies*

- **As adults, our children may have an average of 91 chemical contaminants in their bodies, fully one-fifth of which are pesticide-related, and including known carcinogens, neurotoxins, reproductive toxins or endocrine disruptors.**

– *Based on 2002 sampling by Environmental Working Group, Commonweal, Mt. Sinai School of Community Medicine; CDC; 2003*



## And...

**Up to 1 in 4 children in cities have asthma (6% nationally). Cockroaches, dust mites, pesticides are prime causes/triggers. Childhood asthma treatment costs \$3.2 billion per year!**

*– Center for Disease Control*

**New York City childhood asthma hospitalization rates are 3-4 time the national average.**

*– NYC Department of Health and Mental Hygiene*

**We need effective pest management!  
West Nile virus, encephalitis, bed bugs...**



## IPM Works!

- **IPM contract specs and oversight reduces pesticide use and pest complaints by 90%.**

*– Greene and Breisch, J. Econ. Entomol., 2002*

- **IPM schools had little pesticide residue vs. conventionally treated schools which had residues on baseboards and walls.**

*– Williams et al., J. Econ. Entomol., 2005*

- **IPM training model in ten school districts reduced pesticide applications by 71% and pest complaints by 78%.**

*– Gouge et al., American Entomologist, 2006*





## ...coordinated action! To:

1. Increase awareness of problems and successes.
2. Generate a commitment to participate
3. Provide financial, material, human resources.
4. Improve regulations, compliance.
5. Address priority research questions
6. Educate staff and students to spread the IPM love!
7. Increase our financial resources.



## Specific priorities: Management

- Identify and **prioritize improvements needed in individual school systems**, e.g., IPM STAR.
- Establish **highly visible demonstrations** throughout the US.
- Form a stakeholder org coalition to **coordinate implementation of proven approaches nationwide**.
- Partner with the service industry to **create effective, economical IPM service relationships**.



## Specific priorities: Education

- Education, advanced **certification for PMPs for high-level IPM practices** for school environments.
- Curricula to **improve training of Extension, regulators, other change agents.**
- **Training for IPM coordinators** to improve effectiveness in their role.
- **Educate** policy makers, e.g., city councils and legislatures **on need and benefits.**
- Resource management tools for teachers, administrators and librarians.



## Specific priorities: Research

- Comparative **effectiveness of different types of change agents**, e.g., Extension, advocacy groups, parents.
- **IPM impacts on academic performance**, e.g., asthma, absenteeism, grades.
- **Economics** of IPM vs. conventional.
- **Independent efficacy data and hazard profiles** on alternative, reduced-hazard options including botanicals.
- Evaluation of **health hazards of pests & pesticides.**
- **Third-party assessment** of the quality of services provided to schools by PMPs.



## Specific priorities: Regulation

- **\$\$ for enforcement** of existing regulations.
- **Mandate high level IPM training/ licensing** for PMPs.
- Develop lobbying organizations and strategies to **influence change at the federal level**.
- Provide **IPM input into No Child Left Behind** legislation.
- Mandate **minimum standards for school IPM at federal level**.
- **Model compliance agreement** for use by state lead agencies with violators of state pesticide and/or school IPM regulations.



**Easier said than done. Details...**

# Plan of action: 2008 objectives

1. Form **national working group** to coordinate implementation of the school IPM PMSP.
2. **Develop funding** for years 1-3 of plan implementation.
3. **Hire full time coordinator** to work under direction of national working group steering committee. Roles to include:
  - a. Maintain membership list and timeline for specific action steps.
  - b. **Maintain list of state IPM contacts** responsible for completing annual report card; coordinate distribution of report card, collection of completed reports, summary analysis.
  - c. Organize monthly conference calls, draft/circulate agendas, take/circulate notes.
  - d. Build, **maintain database of organizations** (ngos, public agencies) with roles in school pest management including key contacts, publications and meetings.
  - e. Recruit, maintain database of individuals from each organization to represent school IPM to its membership.
  - f. **Facilitate articles and presentations** on school IPM in related-organization media and meetings.
  - g. Maintain school IPM toolbox including funding sources and model proposals; model IPM policies, IPM plans, RFPS for pest management services, pre-approved least-toxic options lists; pest presses; pest-specific fact sheets; management zones fact sheets; curricula and training modules; etc.
  - h. **Build, maintain database of individuals with pest management responsibilities in each school district.**
  - i. Reinvigorate schoolbugs list serve: increase awareness of this resource; recruit participation by all individuals with pest mgt responsibility in each school system nationally, organization representatives, state school IPM contacts; coordinate regular, useful postings.
  - j. Circulate brief, regular and timely communications to contact database.
  - k. Coordinate liaison to regional school IPM working groups, Urban IPM Community of Practice, EPA Pesticide Environmental Stewardship Program, USDA IPM Coordinators.
  - l. Maintain working group webpages (on IPM Center site?).
  - m. Identify funding sources, develop/submit proposals.
  - n. **Organize annual meeting** to update PMSP.



# 2008 objectives continued

4. **Form and fund school IPM working groups** for Northeast and North Central USDA IPM Center regions to complement existing Southern and Western groups.
5. **Review school IPM websites for each state and update.**
6. **Create model maintenance and sanitation specs** that reflect high level IPM.
7. **Negotiate an acceptable version of the School Environmental Protection Act.**
8. **Organize and hold national training opportunity** for change agents.
9. **Initiate demonstrations** in five new states.
10. **Initiate coalitions in five new states** that have had demonstrations in the past.





# Challenges during PMSP process?

## Pesticide toxicity

CAUTION label formulations that reduce exposure hazard, i.e., in pre-manufactured, enclosed bait stations, or gel or liquid baits that can be placed in inaccessible areas.

Active ingredient	Example Products	Uses
disodium octaborate tetrahydrate	Ant and Cockroach Cafe® RTU	Pre-manufactured enclosed bait station that can be placed in inaccessible areas.
boric acid borax	Drax® Roach Assault PGF	Solution, paste or gel that can be applied as drops in accessible areas. Gel can be applied in small amounts to cracks, crevices and other areas where bait stations cannot be used.
disodium octaborate tetrahydrate indoxacarb	Advion® Cockroach Gel Bait	

b. CAUTION label formulations with greater potential for exposure.

Active ingredient	Example Products	Uses
boric acid diatomaceous earth	Borid® Eaton's KIO System	Dust formulation. To reduce exposure hazard, use only in voids that will be sealed after use.
disodium octaborate tetrahydrate limestone	Boracide® NIC 235 Pro Organic®	
boric acid mint oil	PT 240 Permadust® Earthcare® Naturals Ant & Roach Killer	Pressurized aerosol, must be applied directly to insects, no residual activity.

c. Insecticides that are more highly toxic or in formulations that increase potential for exposure.

Active ingredient	Example Products	Uses
bifenthrin chlorfenapyr cyfluthrin	Talstar® Phantom® Tempo® SC Ultra	Liquids spray applied to exposed interior and/or exterior surfaces.
disodium octaborate tetrahydrate	Mop Up®	Liquid, mop-applied to exposed interior surfaces, e.g., floors.



# Additional chapters, resources

- 5. IPM Adoption Process
- 6. Overview of Pest Management in U.S. Schools
- 7. Management Zones: Preventing and Avoiding Pest-Conducive Conditions, Pests, and Pesticide Hazards
- 8. Pest-specific Information, Tactics, Emerging Issues and Priorities: Structural, Landscape
  - Appendix A. Pest Management Options Used in and Around Schools
  - Appendix B. School Pest Management-related Legislation by State
  - Appendix C. Annual School IPM Report Card
  - Appendix D. Glossary
  - Appendix E. Workgroup Participant Contact Information and Biographies
  - Appendix F. School IPM Matrix
  - Appendix G. References
  - Appendix H. Bibliography of Surveys on Pest Management in Schools
  - Appendix I. School IPM Planning and Evaluation Tool
  - Appendix J. Directory of Organizations with Roles in School IPM
  - Appendix K. IPM Curriculum Support Tools
  - Appendix L. State and Regional IPM Contacts
  - Appendix M. Directory of School IPM Expertise
  - Appendix N. School IPM Tool Box



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Partners  
Wanted!