

School IPM Outreach and Research Activities, NYS IPM Program, 2008

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Locations: Albany, Genesee, Livingston, Nassau, Onondaga, Suffolk, Tompkins, and Yates Counties

Abstract: Integrated pest management in schools is needed to reduce risks to children and others from both pests and the overuse of pesticides. The NYS IPM Program was involved in several outreach activities at schools in 2008. We organized and conducted on-site assessments of the pest management programs of several NYS school districts, two that received the IPM Institute's STAR certification. We also did on-site consultations for specific pest management situations at two Long Island districts. For the second year, The NYS IPM Program visited Ithaca area classrooms to share our program *IPM: Fun with Insects, Weeds, and the Environment*. We collaborated with the NY Agriculture in the Classroom Program to produce elementary school curricula that teach children agricultural concepts through an IPM, science-based approach. We participated in a nation-wide group preparing a USDA-funded Pest Management Strategic Plan for school IPM and were involved in plans to implement the Plan's recommendations including organizing the Northeast School IPM Working Group. In 2008, we began planning an IPM demonstration project at a non-public elementary school. NYS IPM Program staff organized a meeting of the Statewide School IPM Committee and interacted with numerous school districts and others about school IPM via presentations and site visits.

Background and Justification: Pest management in schools has received increased attention in New York State and nation-wide. This is due to the critical need to decrease pesticide use to protect our children, who, by nature of their size and developmental stage, are at greater risk than adults. Yet, at the same time, we cannot compromise the quality of pest control because pests represent an equally important health hazard. Schools are especially challenging to manage because they include such varied settings as classrooms, cafeterias, laboratories, auditoriums, theaters, playing fields, playgrounds, and gardens. These areas are heavily used for a variety of purposes, including after-hours public meetings. Visitors, staff, and students are frequently in direct contact with the lawns, athletic fields, flowers, trees, playgrounds, and buildings on the school grounds. Recent passage of a New York State (NYS) pesticide notification law has resulted in additional pressure on schools to reduce pesticide use.

On-site School Assessments: Together with Cornell Cooperative Extension, Cornell's Entomology Department, and Board of Cooperative Educational Services districts, NYS IPM Program staff worked with school districts school to upgrade pest management. Intensive team-based on-site assessments have been conducted over the past two years of the pest management program of four school districts. We recommended to the IPM Institute that two of these districts, Seaford and Ithaca, be awarded the Institute's STAR School IPM certification. Both districts successfully obtained certification and joined a select group (around 35 nationwide, 6 in New York State) of schools and daycares that have been recognized for achieving this high-level of IPM implementation. A NYS IPM Program staff member co-authored an article, published in the *American Entomologist*, on the value of the STAR certification process. Additionally, an article was published in the trade journal *Pest Management Professional* on our STAR certification related activities in the Hudson River Valley.

In 2008 IPM staff visited with grounds keepers from Babylon School District to help promote IPM for two different ant problems. We spoke with the principal of the school and assured her that ants could be handled in a low risk way. A plan was developed to use a baiting program in the spring of 2009 to minimize pavement ant problems in offices. A carpenter ant problem in a kitchen windowsill was to be handled by removing and replacing rotted wood.

IPM staff also consulted with Garden City School District and their grounds staff, who were interested in lower risk poison ivy control, as well as adopting an IPM program in their expansive athletic fields. We shared ideas and strategies with the grounds keepers, who were seeking approval for moving ahead with such measures.

Teaching IPM in the Classroom

IPM: Fun with Insects, Weeds, and the Environment

For the second year, The New York State Integrated Pest Management Program visited Ithaca area classrooms to share our program *IPM: Fun with Insects, Weeds, and the Environment*. The overall teaching objectives were for the two fifth grade classes to learn:

- What IPM is
- IPM is science-based and fun
- Six steps of IPM
- Practicing IPM is fun, easy, and good for the environment
- Our decisions and actions at school and at home affect our environment
- The people who take care of the places we live, work and play can practice IPM, and we can help them

A brief description of each lesson is given below. For a more complete description, see the student workbooks and teacher guide on the NYS IPM website:

http://www.nysipm.cornell.edu/teaching_ipm/. The resources are designed so that educators can teach the IPM lessons on their own. However, teachers tell us they much prefer having an outside specialist come in to share their expertise. The teacher guide offers ideas on community members that may be able to fill that role, they include the school's buildings and grounds staff, Cooperative Extension Educators, golf course superintendents, lawn care professionals and others.

Day 1: What is IPM

We surveyed students to find out what they already knew about IPM, insects and weeds; and how they felt about them. We then discussed what makes a "pest" a "pest", the concept of beneficial insects and even ways in which weeds can be helpful. Students learned the basic tenets of IPM, and got a preview of upcoming classes. We discussed careers in the outdoors

and they went outdoors and used IPM tools—such as cup cutters, sweep nets and magnifying glasses; handled interesting insects and weeds; and practiced basic identification techniques by sorting objects with a key.

Day 2: Insect IPM

In IPM, correct identification of pests—as well as the good guys—is essential. So is knowledge of their life cycles, habitats, and feeding preferences. Although students are taught the insect life cycle in grades K-4, they often forget the details, and probably weren't exposed to how insect biology relates to the damage an insect can cause, and how insects can be deterred at vulnerable times. In this class, students sharpened their identification skills on real insect specimens, both live and dead. They also learned how insects—like grubs—can be a problem if over a “threshold”, but easy to tolerate if below that level. Similarly, ants in the kitchen or classroom are pests, but outside they do great work in helping to decompose organic matter, recycle nutrients in the soil and even attack pest insects. Lots of hands-on discovery made this a captivating day!

Day 3: Weed IPM

Simply being unwanted makes a plant a weed. Sometimes you just don't want anything growing in your driveway, other times weeds are more malicious—stealing water, light and nutrients from the plants you do want to grow. But even the plants we think of as weeds can be helpful by slowing soil erosion, providing food for beneficial insects, or brightening up a field with their flowers. Weeds are good examples for thinking about the management tactics of IPM: cultural, physical, biological and chemical techniques. Figure out why the weeds are out-competing other plants, and you can often devise a strategy for getting rid of them—or at least making them tolerable. An outdoor “weed hunt” helped kids hone these skills.

Day 4: Field Day, be an IPM Detective

On the last day, students reviewed the steps and concepts of IPM, and applied them in genuine detective style. Groups of four or five children were assigned an area of the school grounds. They spent 20 minutes assessing the site and possible pest situations, using all the tools and techniques they had learned about. Afterwards, the entire class toured each site, where the host group presented an on-site evaluation and recommendations to the rest of the class—as if they were reporting to the school's groundskeeper. Students made many keen observations, realizing that weeds are more problematic on the ball field than out back by the fence; pests in low numbers are not a problem, and site conditions like shade can have a tremendous impact on what grows there.

Science of Life: Explorations in Agriculture

The NYS IPM Program collaborated with the NY Agriculture in the Classroom Program to produce elementary school curricula that teach children agricultural concepts through an IPM, science-based approach. The curriculum, titled *The Science of Life: Exploration through Agriculture*, consists of a series of classroom lessons and activities for fourth and fifth grades, with extensive teacher support materials. Nineteen lessons can be viewed and downloaded at <http://www.nyaged.org/aic/educators/lesson.htm>

School IPM Pest Management Strategic Plan: In 2006, NYS IPM Program staff participated in a by-invitation-only meeting to develop a national Pest Management Strategic Plan (PMSP) for school IPM. This USDA-funded effort is drew on school and pest management expertise from across the nation and will serve as a guiding framework for the implementation of IPM in all of the nation's schools by 2015. Work continued on the PMSP via monthly conference calls and individual assignments until the document was released in January, 2009.

To facilitate the implementation of the PMSP's goals, a national school IPM working group and affiliated regional working groups were organized. A NYS IPM Program staff member is an active member of the national group and a key organizer of the regional working group in the northeastern United States. In 2009, key activities of the northeastern group are:

- 1) Conducting an IPM demonstration at a school district in each of two states where school IPM programs are lacking.
- 2) Establishing local coalitions of school staff to share information, training, and resources to establish and support IPM programs in a school district in each of at least two states (including New York) where school IPM programs have already been established.
- 3) Identifying and building upon collaborations within the NE that promote school and daycare IPM.
- 4) Strengthening the capacity of the NESIWG to accomplish its mission and goals
- 5) Identifying needs, opportunities, and priorities for research, extension, education, and implementation for school IPM in the Northeast.

Non-public Schools Outreach: A significant proportion of New York State's elementary and secondary school-age children is educated in the state's parochial and other non-public schools. The NYS IPM Program sought to expand our outreach to this important educational sector by having a display at the annual Conference for Administrators of Independent and Religious Schools, October 15, 2007 in Albany. Additionally, NYS IPM Program staff made a presentation to the conference organizers' advisory council on the services we can provide. In 2008, we met with the principal of St. Michaels Elementary School in Penn Yan, NY, made a preliminary assessment of the facility, and discussed plans for a school IPM demonstration. In 2009, we plan to initiate the demonstration with a comprehensive assessment of the school's pest management, assist in the implementation of improvements, and organizing an IPM workshop for area non-public schools.

General Outreach: The NYS IPM Program organized a Statewide School IPM Committee in 2002. In October 2008, we held a seventh meeting of the committee. In addition to the diverse membership updating each other on their school IPM activities, special presentations were given by Joann Gruttadaurio of the Sports Turf Managers of New York on the resources and services that her organization provides for schools and pest management consultant Richard Kammerling who led us in a discussion of the relationships of IPM to "green cleaning" in schools. We also discussed implications for NYS of school IPM regional and national activities. During spring 2008, members of the Committee met to provide input to the US EPA's annual "school IPM report card" giving an overview of IPM implementation in the state's schools.

Throughout 2008, NYS IPM Program staff made presentations on school IPM related topics. Audiences included landscapers, school facilities staff, pest control operators, and extension educators.