

Expanding School IPM Implementation within the Northeastern U.S. A Best Management Practices Approach

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Members of the Northeast School IPM Working Group



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NE School IPM Working Group



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Northeast IPM Partnership Grant

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School IPM BMPs

GOAL

- Develop a comprehensive yet succinct tool that can guide practitioners in implementing school IPM

PROCESS

- Collected and evaluated existing school IPM resources including NESIWG's school EMS workbook, IPM for NE Schools booklet, & various state documents
- 3 tiers of feedback



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3 Tiers of Feedback

- Core team (Maine, Maryland, Rhode Island)
- NESIWG & National School IPM Steering Committee
- Train-the-trainer workshops (NYS, MD, RI) & focus groups (MD, NYS)



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We promote and fund integrated pest management
for environmental, human health, and economic benefits.

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School IPM Working Group

This regional group, consisting of 15 representatives from land grant IPM programs, government, private industry, and nonprofits from 11 northeastern states, met in Connecticut for first time in fall 2009. They coordinate with school IPM working groups in the three other regions and with the national school PMSP group. The group has gathered information from each northeastern state by using the EPA School IPM Report Card. They also conducted an IPM demonstration at a school district in each of two states where school IPM programs were lacking. To accomplish this goal, they leveraged Center funds with EPA's PRIA 2 Partnership grant, obtained nationally. They have drafted priorities for research, extension, and regulations for the Northeast and helped to lead a session on schools at the 2009 International IPM Symposium. Members encourage partnerships with diverse stakeholders from community settings such as landscape, turf, schools, homes, structures, gardens, urban forests, and public health issues.

Learn about this working group's plans for 2013–2014.

- **Membership:** Working group leader and members.
- **Priorities and Reports:** View the priority-setting documents and reports generated by this working group.
- **Advance IPM in Schools Nationwide:** A new Pest Management Strategic Plan aims for full implementation of IPM in all of our schools by 2015

Bed Bugs

- [Bed Bugs and Schools \(PDF\)](#)
- [NYC Bed Bug Information Kit for Schools \(PDF\)](#)

Child Care

- [Collaborative to Promote IPM in Child Care Facilities](#)
- [Green Cleaning Toolkit](#)
- [IPM Toolkit for Early Care and Education](#)
- [IPM Toolkit \(Spanish Version\)](#)
- [PA IPM Training Material for Child Care Professionals](#)
- [Integrated Pest Management for Child Care Centers: A Video Series](#)

IPM Best Practices

- [Best Management Practices for School IPM](#): This online resource provides easy to use information to assist implementation of IPM on school property and facilitate reduced dependence on pesticides.
- [School IPM \(PPTX\)](#): Presentation from UNH Cooperative Extension (PDF version)
- [Pest Identification Center for Household Pests in the Northeast US](#)
- [The IPM Minute](#): Quick tips from the School IPM's YouTube channel

IPM Curricula for Staff and Students

- [IPM Brochure for Teachers \(PDF\)](#)
- [IPM Literacy Plan for K-12 Education \(PDF\)](#)



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IPM for Buildings & Schools

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NEW YORK STATE **Integrated Pest Management** PROGRAM

IPM

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Buildings & Schools

What is Community IPM?

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Manuals, Brochures & Articles

Fact Sheets

Pest Identification Key

Buildings & Schools Presentations

Diagnostic Resources

Related Sites

Community IPM Working Group

->Home > buildings

IPM Events Calendar

IPM for Buildings & Schools

The ABCs of School and Childcare Pest Management Blog

Fri, 13 Mar 2015 14:55:48 +0000

Best Management Practices for Pests in Schools and Childcare

As we find our way out from under snow and slush, so too, the four-, six- and eight-legged creatures (as well as pest plants) that emerge with spring's warmth. Today begins a new blog series focusing on a great IPM resource for you, "Housed" on the Northeastern IPM Center's website, the Best Management Practices [...]

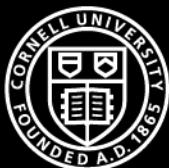
Most Recent Resources

 **School Integrated Pest Management: The Four Laws for Keeping Schools Pest-Free**, authored by Lynn Braband and Brian Eshenaur, NYS IPM, posted by the American Clearinghouse on Educational Facilities (ACEF). This online lesson is an interactive platform that contains videos and questions.

 **Introducing our new School IPM Best Management Practices website.** From basics for the novice to resources for the seasoned IPM practitioner, our new website at the Northeast IPM Center brings together all the school IPM knowledge we could gather into one site. Inspection forms, pest fact sheets, IPM protocols, and links to the best and latest from IPM experts. We also provide ways to increase communication between school staff, parents, coaches and the community.

 Identification is the first step in practicing IPM. Many of the creepy-crawlies you may find in your home are harmless, but others may infest your flour, chew your clothes, or even bite or sting you. Find out what your pest is and learn how to manage it. **Use our online Pest Identification Key to identify your pest!**

A red oval highlights the "Buildings & Schools" menu item and the "School IPM Best Management Practices website" section.



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IPM for Buildings & Schools Best Management Practice... +

northeastipm.org/bmps-for-school-ipm/ Google

Northeastern IPM Center **NYS Integrated Pest Management PROGRAM** **Best Management Practices for School IPM**

Best Management Practices for School IPM

- Find Your Pest -
- State Regulations (PDFs) -

This online resource provides easy to use information to assist implementation of Integrated Pest Management on school property and facilitate reduced dependence on pesticides. Integrated pest management, or IPM, is a science-based approach to dealing with pests, and uses sensible methods the both protect human health and the environment, and generally reduce the cost of traditional pest treatments. Pests can be insects, plant diseases, weeds or animals.

How to Practice Integrated Pest Management

IPM Basics	The Steps of IPM
Why Is IPM So Important in Schools?	Common IPM Terms
How Can Your School Benefit from Using IPM?	Related IPM Websites
The Use of Pesticides on School Property	IPM Resources
IPM Policies and Protocols	Pesticide Use and IPM Laws by State

Site Specific Best Management Practices for School IPM

INSIDE	OUTSIDE
Cafeteria, Kitchen, Storage Area	Athletic Fields
Classroom, Office, Staff Lounge, Hallway	Fencelines
Locker Room, Gym, Pool Area, Boiler Room, Crawlspace	Hardscapes: Parking Lots and Sidewalks
Structural: Walls, Windows, Roofs, Eaves	Low-maintenance Turf
	Planting Beds and Gardens

This site was produced by the [New York State IPM Program of Cornell University](#), with funding from a [Northeastern IPM Center Partnership Grant](#), in collaboration with the [School IPM Working Group](#). Last update: March 31, 2014.

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Best Management Practices for School IPM

[- Find Your Pest -](#)[- State Regulations \(PD\)](#)

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Site Specific Best Management Practices for School IPM

INSIDE

[Cafeteria, Kitchen, Storage Area](#)[Classroom, Office, Staff Lounge, Hallway](#)

OUTSIDE

[Athletic Fields](#)[Fencelines](#)

IPM Basics

IPM means thinking ahead: Be Prepared, Use Prevention, Stay Alert, Consider Your Options, Choose Wisely, Evaluate Your Results.

Be prepared. Know what pests you can expect in your environment and how you can avoid them. Learn which tactics work—under which conditions—should pests show up in your buildings and on school property. Learn about the beneficial organisms that can help you out.

Think prevention.

- Keep pests out: caulk and seal cracks and holes from the bottom up: foundation to roof vents
- Don't feed pests: keep it clean, inside and out with proper sanitation.
- Keep plants and lawns healthy so they resist pests better

Stay alert. Scout routinely, keeping tabs on potential pests. Know your threshold—the point when a few pests become a few too many.

Consider your options. Every tactic has a cost. Will your benefits justify the costs? Know all the options before you commit. Always know the law for pesticide use in your area.

Choose wisely and use wisely. Choose tactics and tools that provide the best results while keeping environmental costs as low as possible and staying within your budget. Whatever option you settle on—do it right! Remember: the label is the law.

Evaluate your results. How did it work? How much has the situation changed? What did you learn? What is left to learn?
— Taken from the Northeastern IPM Center and adapted from definitions provided by the [New York State IPM Program](#).

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IPM for Buildings & Schools IPM Resources – Northeast...

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Home Best Management Practices for School IPM

IPM Resources

General

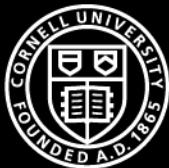
- Action Thresholds in School IPM Programs
- Basic Steps in IPM Implementation
- Colorado Coalition School IPM Policy Statement Template
- University of California IPM: A Curriculum for Early Care and Education Programs
- EPA Citizen's Guide to Pest Control and Pesticide Safety
- EPA Pest Control in the School Environment: Adopting Integrated Pest Management
- IPM for Pennsylvania Schools: A How-To Manual
- IPM for School Administrators and Principals
- IPM Workbook for New York State Schools
- Model IPM Contract Excel editable file
- Notice of Pesticide Application
- Pesticide Application Record Form
- Integrated Pest Management Literacy Plan for K-12 Education
- Simple Inspection Form
- Long-Term Management of Structural Squirrel and Bat Problems

Indoors

- An Ounce of Prevention! Integrated Pest Management (IPM) for Schools and Child Care Facilities
- Air Quality and IPM-Asthma Concerns from EPA
- Asthma and Cleaning Products: What Workers Need to Know
- BMPs for Indoor Non-Food Areas
- BMPs for Kitchens, Cafeterias and Storage Areas
- Cockroach Identification
- General Poster for Faculty IPM
- University of California IPM: Green Cleaning, Sanitizing, and Disinfecting: A Curriculum for Early Care and Education
- IPM Poster for Custodians
- University of Tennessee Kitchen IPM Poster
- Kitchen, Cafeteria and Storage Area Inspection Form 1page version
- Kitchen, Cafeteria and Storage Area Inspection Form 2page version
- New York City Bed Bug Information Kit for Schools
- University of Tennessee Maintenance IPM Poster
- IPM for Kitchen Staff Poster
- IPM for Students Poster
- How to Involve Teachers and Administrators Poster
- University of Tennessee Student IPM Poster
- University of Tennessee Teacher IPM Poster

Outdoors

- Abiotic Turf Problems
- Best Management Practices for Pesticide-Free, Cool-Season Athletic Fields
- Ticks and Mosquitoes: Should they be included in School IPM programs?
- Basics of Mulch
- BMPs for Athletic Fields
- Collecting a turf sample for laboratory diagnosis
- Common Field Weeds of the Northeast



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IPM Resources

general

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Best Management Practices for School IPM

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How to Practice Integrated Pest Management

IPM Basics

[Why Is IPM So Important in Schools?](#)

[How Can Your School Benefit from Using IPM?](#)

[The Use of Pesticides on School Property](#)

[IPM Policies and Protocols](#)

The Steps of IPM

[Common IPM Terms](#)

[Related IPM Websites](#)

[IPM Resources](#)

[Pesticide Use and IPM Laws by State](#)

Site Specific Best Management Practices for School IPM

INSIDE

Cafeteria, Kitchen, Storage Area

Classroom, Office, Staff Lounge, Hallway

Locker Room, Gym, Pool Area, Boiler Room, Crawlspace

OUTSIDE

Athletic Fields

Fencelines

Hardscapes: Parking Lots and Sidewalks

Low-maintenance Turf

- Find Your Pest -

- State Regulations (PDFs) -

- State Regulations (PDFs) -

Maine

Maryland

Massachusetts

New Hampshire

New York

Vermont

[How Can Your School Benefit from Using IPM?](#)

[The Use of Pesticides on School Property](#)

[IPM Policies and Protocols](#)

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IPM for Buildings & Schools Classroom, Office, Staff L... +

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Home Best Management Practices for School IPM

Indoor BMPs: Classroom, Office, Staff Lounge, Hallway

Best Management Practices for Classrooms, Offices, Staff Lounges, Hallways

Integrated pest management combines inspections, pest knowledge, control tactics, monitoring, record-keeping and communication to reduce pest problems. It uses methods that minimize environmental, health, and economic risks to reduce pest problems. IPM practices such as sanitation reduce pest habitat inside buildings and exclusion keeps them out. Success of an IPM program can be enhanced by including faculty, students, staff and administration as part of the solution.

Exclusion:

- Seal gaps where utility lines (water pipes, electricity) enter the building and between rooms
- Seal all cracks and gaps in foundations, windows, door jambs and vents
- Inspect incoming food and packages for pests
- Keep window screens in good repair (no holes or tears)
- Keep plant material and mulch away from the foundation
- Keep outdoor garbage receptacles 50 feet or more from the building (or as far as possible)

Sanitation:

- Wash fruits and vegetables thoroughly upon receipt; store washed items in a cooler
- Identify and eliminate water sources such as leaking pipes, clogged drains, and missing tile grout
 - Insulate pipes that accumulate condensation (sweat)
 - Increase ventilation in damp areas
- Store all food in pest resistant packaging
- Keep floor drains clean and free of debris
- Keep sinks, garbage cans, workspaces and equipment (legs and wheels) free of food debris
- Reduce clutter, cardboard, and paper that provide cover for pests
- Keep shelves organized and clean of crumbs and spillage
 - Do not stack cardboard boxes on shelves
 - Employ "first-in, first-out" for food items
- Clean up spilled food
- Do not leave dishes in sink overnight
- Empty garbage every day and dispose outside the building

Common Pests

- ants, carpenter
- ants, little black
- ants, odorous house
- ants, pavement
- ants, pharaoh
- Asian ladybeetle
- boxelder bug
- brown marmorated stink bug
- cockroach, American
- cockroach, brownbanded
- cockroach, German
- flies, cluster





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IPM for Buildings & Schools  House Mouse - Northeast!...

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Home Best Management Practices for School IPM

House Mouse, *Mus musculus*

IPM Steps to Reduce House Mice

1. CONFIRM THE PRESENCE OF THESE PESTS.

House mice can contaminate food, transmit disease and cause allergies. You can reduce the chance of having house mice and if you see one, you need to act now.

Where to find it while inspecting: Inspect along walls for signs of rodent activity. Mice tend to run along walls and use the same routes each time. All rodent pests will leave droppings, urine stains, as well as "smudges" (grease marks) where their oily fur consistently comes in contact with walls and woodwork. Look for gnaw marks and damaged goods. **DROPPINGS:** mouse droppings are small 1/8" to 1/4" long and have pointed ends. (Rat droppings are 1/2" to 3/4" long with blunt ends.) Activity will be much more pronounced at night and you will be able to hear activity. Mice prefer nest sites in burrows under ground or under rubbish or debris, in basements and only need openings of 1/4".

2. PROPER ID

Size and Appearance: 3.5"-3.75" plus 2.75"-4" tail. Smooth gray fur, lighter on belly. Smooth, semi-naked tail.

3. LEARN THE PEST BIOLOGY

Knowing the life cycle and habitat needs helps you fight these pests.

Life Cycle: Mice reach sexual maturity at 35 days, gestation is around 19 days and young are weaned at 3-4 weeks. Average 8 litters per year with 5-8 per litter.

Preferred Food Sources: They prefer seeds and grains but will eat most anything. They tend to eat small amounts often.

Preferred Habitat: Dark, secluded, undisturbed areas with abundant material for nesting, and are adaptable to indoor or outdoor sites, preferring to be close to a food source.

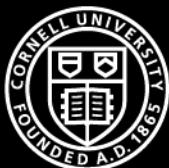
4. DETERMINE THRESHOLD

Your threshold for mice infestation is likely very low. You need to act

Threshold: Act when you see one mouse.

5. CHOOSE TACTICS

IPM for indoor pests is always a combination of exclusion and sanitation: Try to keep them out. Don't provide water, food and shelter if they enter your building.



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- flies, house
- grain and Indian meal moth
- house centipede
- pantry beetle
- silverfish and firebrats
- spiders
- mice, deer and white-footed
- mice, house

Resources (PDFs)

- BMPs for Kitchens, Cafeterias and Storage Areas
- Kitchen, Cafeteria and Storage Area Inspection Form (1 page version)
- Kitchen, Cafeteria and Storage Area Inspection Form (2 page version)
- University of Tennessee Kitchen IPM Poster
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For More Information

- Action Thresholds in School IPM Programs

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BEST MANAGEMENT PRACTICES Kitchens, Cafeterias, Food Storage

Northeastern IPM Center

ongoing	An IPM policy is in place that gives specific plans of action to both deal with pests, and to improve pest management	
ongoing	Pest management activities are communicated among responsible parties	
ongoing	A record-keeping protocol is in place and is being used	
ongoing	Incoming food and dry goods are inspected before being put into storage	
ongoing	Unprotected foods are transferred into pest-resistant storage	
ongoing	Older stock is cycled to front of storage units for a "first-in/first-out" usage	
ongoing	Jars and canned goods are stored on shelves as single units rather than in cardboard cases	
ongoing	Necessary cardboard cases are sealed with sturdy tape	
daily	Food scraps, food spills and grease residue are cleaned up daily	
daily	Consistent efforts are made to reduce clutter	
daily	Floors are swept and washed as often as possible	
daily	Efforts are made to use 'green-cleaning' supplies to improve air quality	
daily	Garbage is removed outdoors daily	
daily	All food items are stored in pest-resistant containers (glass, plastic, or metal, with tight-fitting lids)	

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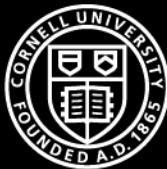
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Integrated Pest Management for Faculty

WE ALL HAVE A ROLE IN PREVENTING PESTS

1 REDUCE CLUTTER! (If you haven't used it in 2 years, discard it!)	HOW TO PREVENT THAT BUG?!
2 KEEP ALL FOOD IN TIGHT-SEALED CONTAINERS (Those with snap-on lids)	ants Keep food and/or liquids in a specified area and stored in tight-sealed containers. Report recurring ants, and do not use sprays!
3 EMPTY TRASH & RECYCLING DAILY (Consider "keep the bag, dump the trash")	roaches Change designated containers for plastic bins. Eliminate clutter. Keep food and art supplies with glue in tight-sealed containers. Sanitize food area.
4 KEEP COATS, PACKS, ETC., IN DESIGNATED AREA (Pests hitchhike!)	mice Thoroughly clean and organize storage areas, shelves, etc., 2-3 times a year. Repair holes and holes > 1/4" around corners or doors, keep eating areas clean and food sealed.
5 CLEAN SPILLS THOROUGHLY AND MINIMIZE FOOD DEBRIS (Pests will quickly find food & drink!)	crickets Ensure that areas underneath moveable furniture are clean. Keep food-based art supplies and glues in sealed containers. Minimize moisture and report leaks.
6 DO NOT USE CARDBOARD BOXES FOR STORAGE (They house and feed a number of pest species!)	
7 REPORT PESTS - USE YOUR PEST SIGHTING LOGS! (Talk to your IPM staff to learn where these are located)	
8 DISCOURAGE FERAL ANIMALS (Do not feed feral cats or dogs, especially near buildings and playgrounds.)	
9 REPORT MAINTENANCE & SANITATION ISSUES (Especially leaking water!)	
10 INCORPORATE CURRICULA ON INSECTS TO INVOLVE STUDENTS	

~Thank You for Caring for Our School ~



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[How Can Your School Benefit from Using IPM?](#)

[The Use of Pesticides on School Property](#)

[IPM Policies and Protocols](#)

[Related IPM Websites](#)

[IPM Resources](#)

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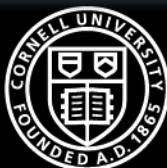
Low-maintenance Turf

Planting Beds and Gardens

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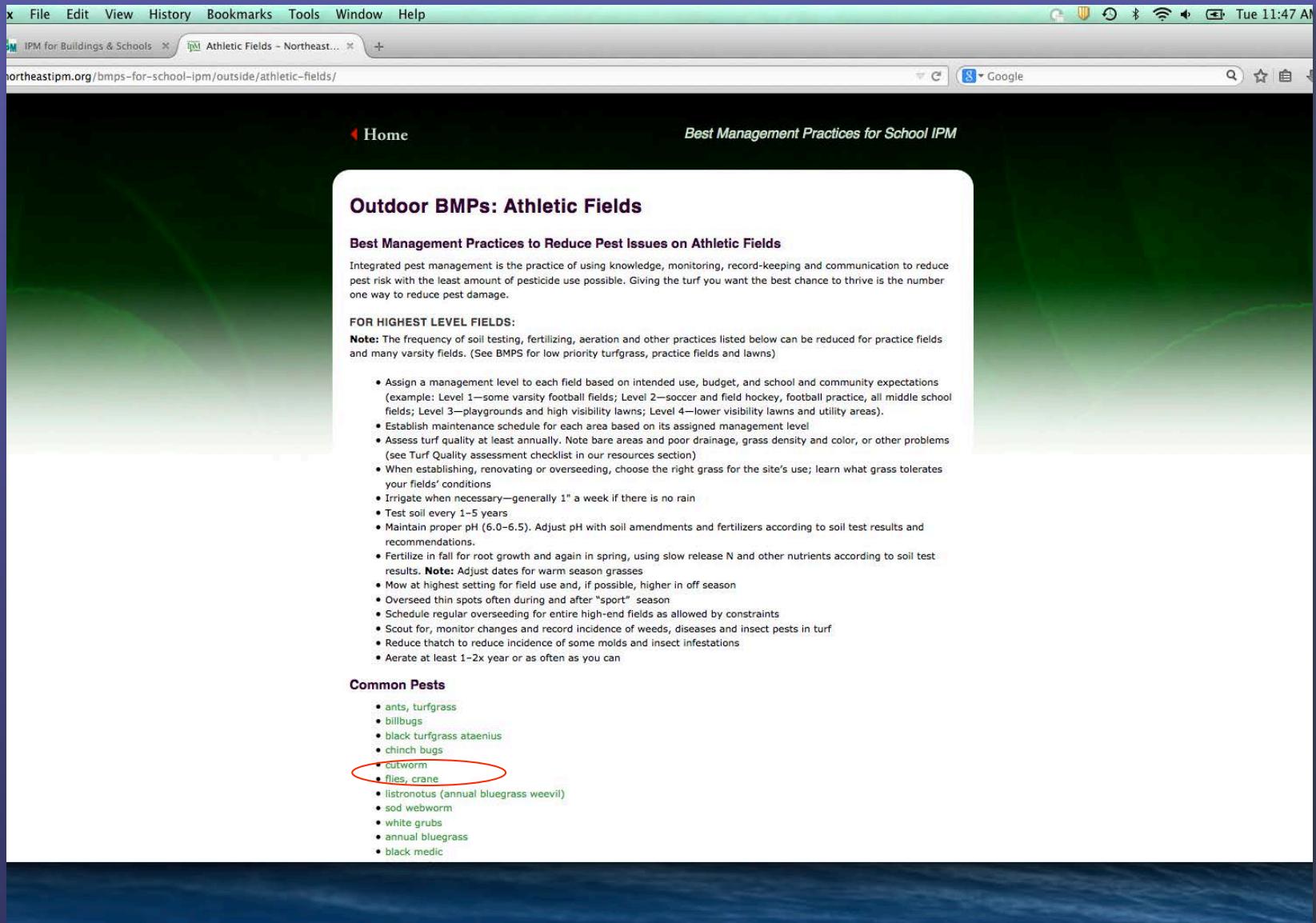


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IPM for Buildings & Schools | IPM Athletic Fields – Northeast...

northeastipm.org/bmps-for-school-ipm/outside/athletic-fields/

Home Best Management Practices for School IPM

Outdoor BMPs: Athletic Fields

Best Management Practices to Reduce Pest Issues on Athletic Fields

Integrated pest management is the practice of using knowledge, monitoring, record-keeping and communication to reduce pest risk with the least amount of pesticide use possible. Giving the turf you want the best chance to thrive is the number one way to reduce pest damage.

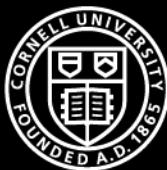
FOR HIGHEST LEVEL FIELDS:

Note: The frequency of soil testing, fertilizing, aeration and other practices listed below can be reduced for practice fields and many varsity fields. (See BMPs for low priority turfgrass, practice fields and lawns)

- Assign a management level to each field based on intended use, budget, and school and community expectations (example: Level 1—some varsity football fields; Level 2—soccer and field hockey, football practice, all middle school fields; Level 3—playgrounds and high visibility lawns; Level 4—lower visibility lawns and utility areas).
- Establish maintenance schedule for each area based on its assigned management level
- Assess turf quality at least annually. Note bare areas and poor drainage, grass density and color, or other problems (see Turf Quality assessment checklist in our resources section)
- When establishing, renovating or overseeding, choose the right grass for the site's use; learn what grass tolerates your fields' conditions
- Irrigate when necessary—generally 1" a week if there is no rain
- Test soil every 1–5 years
- Maintain proper pH (6.0–6.5). Adjust pH with soil amendments and fertilizers according to soil test results and recommendations.
- Fertilize in fall for root growth and again in spring, using slow release N and other nutrients according to soil test results. **Note:** Adjust dates for warm season grasses
- Mow at highest setting for field use and, if possible, higher in off season
- Overseed thin spots often during and after "sport" season
- Schedule regular overseeding for entire high-end fields as allowed by constraints
- Scout for, monitor changes and record incidence of weeds, diseases and insect pests in turf
- Reduce thatch to reduce incidence of some molds and insect infestations
- Aerate at least 1–2x year or as often as you can

Common Pests

- ants, turfgrass
- billbugs
- black turfgrass ataenius
- chinch bugs
- cutworm
- flies, crane
- l罢tronotus (annual bluegrass weevil)
- sod webworm
- white grubs
- annual bluegrass
- black medic



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IPM for Buildings & Schools European Crane Fly - Nort... +

northeastipm.org/bmps-for-school-ipm/pests/european-crane-fly/ Google

Home Best Management Practices for School IPM

European Crane Fly, *Tipula oleracea* and *Tipula paludosa*

IPM Steps to Reduce European Crane Flies

1. SAMPLE FOR PEST

Confirm the presence of European crane flies before you treat.

Where to find it while inspecting: You will see most adult crane fly activity near turf, water sources or lights near buildings. During the European crane fly's two mating seasons you will see them on top of turf. Larvae can be found in turf, under thatch, two times during the year. Occasionally the presence of the pupal case, called "Leather Jackets" show ECF activity. Damage to turf will show up in May as browning turf and bare spots. ECF is not a widespread pest throughout the Northeast but is expanding.

2. PROPER ID

Are they European crane flies?

Size and Appearance: Adult flies are large, with clear wings, long body and long delicate legs and resemble "giant mosquitoes". Larvae are dark gray to brown and legless.

3. LEARN THE PEST BIOLOGY

What is the life cycle of European crane flies?

Life Cycle: Adults emerge from grasses in late summer and fall, and mate within 24 hours. Eggs hatch within days and larvae feed on turfgrass roots and crowns during the fall. *T. paludosa* overwinter in the soil and come up to feed again in spring. By Mid May they begin to pupate until adult emergence. *T. oleracea* have two generations, so adults are seen in the spring as well.

Preferred food sources: Roots, emerging stems and leaves of grass plants.

Preferred habitat: Low mown turfgrass lawns as well as unmown field grasses. Note: Native crane flies (often found near creek) do not cause the damage to turfgrass that the invasive species do. It is not easy to tell the difference, so ask your county cooperative extension agent if European crane fly has been detected in your area and if so, it may be responsible for turf damage as well. Telltale sign of ECF activity is a large number of adults moving above the turf in May and September. Native crane flies do not gather in large groups on turf.



D. Peck.



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Buildings & Schools ▾ IPM Athletic Fields – Northeast...

ipm.org/bmps-for-school-ipm/outside/athletic-fields/

Tools

- snow mold
- summer patch

Resources (PDFs)

- Essential Plant Nutrients
- Cornell Sports Turf Rating System
- Abiotic Turf Problems
- Best Management Practices for Lawn and Landscape Turf
- Twenty Tips for Healthy Grounds
- Best Management Practices for Athletic Fields & School Grounds
- IPM for School Athletic Directors
- Inspection Form for Turfgrass
- Green Lawns: Promoting Environmental Stewardship
- Control of Broadleaf Lawn Weeds
- Collecting a Turf Sample for Laboratory Diagnosis
- BMPs for Athletic Fields
- Pesticide Application Record Form

For More Information

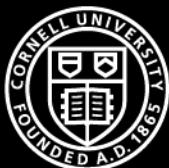
- New York State Turfgrass Association Links
- UMass Amherst Agriculture and Landscape Program: Turf Program Publications
- Cornell University's Sports Field Management Website

This site was produced by the [New York State IPM Program](#) of Cornell University, with funding from a [Northeastern IPM Center](#) Partnership Grant, in collaboration with the [School IPM Working Group](#). Last update: November 25, 2014.

 Regional IPM Centers are sponsored by the USDA National Institute of Food and Agriculture.

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IPM for Buildings & Schools School_Athletic_Directors ...

northeastipm.org/neipm/assets/File/bmps/outdoors/School_Athletic_Directors.pdf

Page: 1 of 4 90%

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Center**

IPM For School Athletic Directors

What is IPM?
Integrated pest management, or IPM, is a science-based approach to dealing with pests. It uses sensible methods that protect human health and the environment, and generally reduce the cost of traditional pest treatments. Pests can be insects, plant diseases, weeds or animals.

What pests are common on athletic fields?
The number one complaint is broadleaf weeds. Others include grassy weeds, grubs.

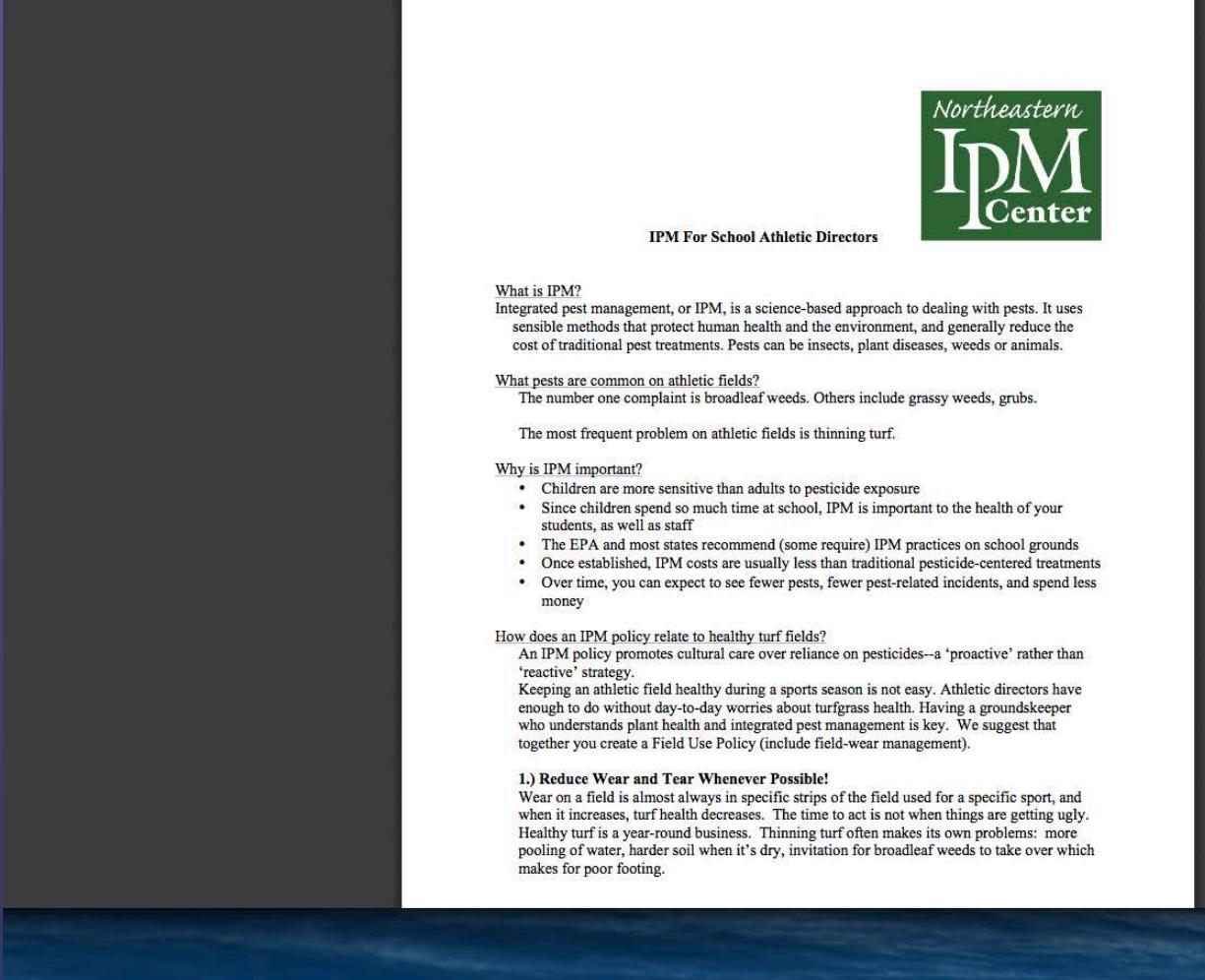
The most frequent problem on athletic fields is thinning turf.

Why is IPM important?

- Children are more sensitive than adults to pesticide exposure
- Since children spend so much time at school, IPM is important to the health of your students, as well as staff
- The EPA and most states recommend (some require) IPM practices on school grounds
- Once established, IPM costs are usually less than traditional pesticide-centered treatments
- Over time, you can expect to see fewer pests, fewer pest-related incidents, and spend less money

How does an IPM policy relate to healthy turf fields?
An IPM policy promotes cultural care over reliance on pesticides—a ‘proactive’ rather than ‘reactive’ strategy. Keeping an athletic field healthy during a sports season is not easy. Athletic directors have enough to do without day-to-day worries about turfgrass health. Having a groundskeeper who understands plant health and integrated pest management is key. We suggest that together you create a Field Use Policy (include field-wear management).

1.) Reduce Wear and Tear Whenever Possible!
Wear on a field is almost always in specific strips of the field used for a specific sport, and when it increases, turf health decreases. The time to act is not when things are getting ugly. Healthy turf is a year-round business. Thinning turf often makes its own problems: more pooling of water, harder soil when it's dry, invitation for broadleaf weeds to take over which makes for poor footing.



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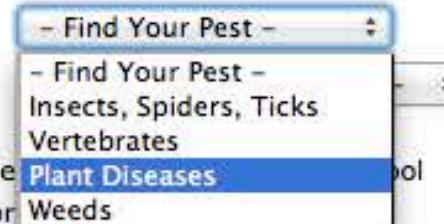
Best Management Practices for School IPM

This online resource provides easy to use information to assist implementation of Integrated Pest Management on school property and facilitate reduced dependence on pesticides. Integrated pest management, or IPM, is a common sense approach to dealing with pests, and uses sensible methods that both protect human health and the environment, and generally reduce the cost of traditional pest treatments. Pests can be insects, plant diseases, weeds or animals.

How to Practice Integrated Pest Management

[IPM Basics](#)[Why Is IPM So Important in Schools?](#)[How Can Your School Benefit from Using IPM?](#)[The Use of Pesticides on School Property](#)[IPM Policies and Protocols](#)[The Steps of IPM](#)[Common IPM Terms](#)[Related IPM Websites](#)[IPM Resources](#)[Pesticide Use and IPM Laws by State](#)

Site Specific Best Management Practices for School IPM

INSIDE[Cafeteria, Kitchen, Storage Area](#)**OUTSIDE**[Athletic Fields](#)

Home Best Management Practices for School IPM

Plant Diseases

- [Brown Patch](#)
- [Dollar Spot](#)
- [Fairy Ring](#)
- [Leaf Spot Disease](#)
- [Red Thread](#)
- [Rust Diseases](#)
- [Snow Mold](#)
- [Summer Patch](#)

This site was produced by the New York State IPM Program of Cornell University, with funding from a Northeastern IPM Center Partnership Grant, in collaboration with the School IPM Working Group. Last update: February 10, 2014.

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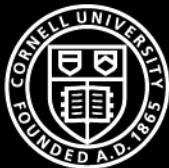
Home Best Management Practices for School IPM

Leaf Spot Disease: Spring Leaf Spot, *Drechslera poae* and *D. siccans*, and Summer Leaf Spot, *Bipolaris sorokiniana*

IPM Steps to Reduce Leaf Spot Disease

- 1. SAMPLE FOR PEST**
Confirm the presence of leaf spot disease before you treat.
- Where to find it while inspecting:** Find on turfgrass blade in humid weather. Look for leaf spots that begin as small red to purple spots/ovals and later develop dead centers (brown spots or "eye spots").
- 2. PROPER ID**
Is it leaf spot?
- Size and Appearance:** Can begin as small spot on grass blade and spread along entire blade, killing it. Once leaf spot fungi enters turf crown, entire plant may die (melting out disease).
- 3. LEARN THE PEST BIOLOGY**
What is the life cycle of leaf spot disease?
- Life Cycle:** Leaf spot disease fungi are present in turf and soil, but are only active in specific weather conditions of moisture and temperature (humidity-dependent). In optimal situation, fungi enters turf grass blade where they find damage, such as a tear from dull mower blades. Brown spots appear and expand and if spreading far enough will blight or kill the blade.
- Preferred Food Sources:** Obtain nutrients by the breakdown of organic matter.
- Preferred Habitat:** Moist, humid conditions in turf.
- 4. DETERMINE THRESHOLD**
How much leaf spot disease is too much?
- Threshold:** Dependent on weather conditions and susceptibility of turf. High end turf that is stressed, cut low and fertilized often is more susceptible, as are certain species such as Kentucky bluegrass.
- 5. CHOOSE TACTICS**
Creating a healthy soil condition and understanding turfgrass's needs is the first step in reducing turf pests. What can I do to treat, reduce, or prevent leaf spot disease?
- Best Management Practices:** Keep mower blades sharpened, do not mulch grass cuttings back in when weather conditions make disease likely, beware of spreading disease by mower or foot traffic when encountering an active infection.


From Leaf Spot and Melting-out (crown and root rot) Diseases, Penn State University Center for Turfgrass Science.

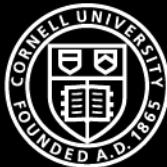


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Evaluation Events

- Train-the-Trainer Workshops (New York State, Maryland, Rhode Island)
- Focus Groups (Maryland, New York State)



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Evaluation Events

- Time & training invested in BMPs worthwhile: 93%
- Need for such a resource: 89%
- Well organized: 81%
- Content accurate: 86%
- Easy to use: 80%
- Flexible: 87%
- Valuable for pest prevention & problem solving: 85%



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QUESTIONS???

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