Maine School IPM News

MAINE DEPARTMENT OF AGRICULTURE, FOOD, & RURAL RESOURCES

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Why is IPM required in Maine schools?

Pests such as stinging insects, rodents, mold, and noxious weeds pose risks to the health and safety of students, staff, and visitors. On the flip side, pesticide use also presents risks. Sensitivity to chemicals, such as pesticides, varies widely among people, but children are most vulnerable to chemical exposure.

Schools have the daunting responsibility of balancing the health risks of uncontrolled pest infestations with risks associated with pesticide use when making pest management decisions. IPM provides schools an economically low-risk way to prevent or manage pests while at the same time ensuring the health and safety of all who enter school buildings and grounds.

In addition to providing a healthy school environment, IPM has the potential to save time and money. Many school districts will reduce costs over the long term by instituting pest avoidance measures and applying pesticides only when necessary.

A successful IPM program will also extend into the community. As students and parents experience greater awareness of risks posed by pests and pesticides, many will begin to practice IPM in their homes, leading to a healthier home environment.

Got pests?
Got questions?

We've got answers. Visit the School IPM website www.thinkfirstspraylast.org/schoolipm or contact Kathy Murray, Program Coordinator at kathy.murray@maine.gov or 207-287-7616 for help interpreting Maine IPM requirements, pest management tips, or to find a useful resource.

To fertilize or not to fertilize? That is the question.

Recent research in turf management has resulted in the revision of lawn maintenance recommendations. Following these new guidelines will allow schools to have healthy lawns and athletic fields while decreasing dependence on pesticides (weed, insect or disease controls) and fertilizer. The result? - Reduced exposure of children, school employees, and community members to potentially harmful chemicals. Other benefits to be reaped from implementing these "greener' lawn care practices include cleaner water, since fewer chemicals end up in waterways, and protection of beneficial organisms.

This issue will focus on the use of fertilizers and provide basic turf tips. Future issues will explore other aspects of turf maintenance appropriate to the upcoming season. So, back to the question. Should you fertilize or not? Lawns 10 years and older store necessary nutrients and may never need

(Continued on page 2)

(Turf , *continued from page 1)*

fertilizer. Using a mulching mower or leaving the clippings on the lawn returns nutrients to the soil, reducing or even eliminating the need for additional fertilizer.

On established lawns less than 10 years old, the new guidelines call for ¼ to ½ pound of nitrogen per 1000 square feet, which is ¼ to ½ the traditional labeled rate. Unless a soil test indicates a serious deficiency, turf experts now say that neither phosphorus nor potassium is needed.

Contrary to popular belief and common practice, spring is not the best time to fertilize a lawn. At that time, the extra nitrogen will encourage top growth at the expense of roots and will promote germination of weed seeds. If and when fertilizer is applied, it should ideally be done only once or twice a year in late August or September. This approach provides fertilizer when the grass can best utilize it, not when it is likely to run off into waterways (Never leave misapplied fertilizer on driveways, roads, sidewalks, or other hard surfaces, always sweep it back onto the lawn). Fertilizer should never be applied to frozen or saturated soils, or in advance of expected heavy rain. (See Best Management Practices for Turf Pesticides and Fertilizers, http://www.maine.gov/agriculture/pesticides/turf_bmps/turf_bmps_Spring_2009.pdf)

To prevent weed sprouting, regularly overseed thinning or bare spots in the turf and apply nitrogen fertilizer at one-third the labeled rate at the time of seeding. When establishing new turf, seed in late August or early September when weed invasion is limited. Avoid seeding large areas in the springtime. Apply starter fertilizer at a rate of 1.0 pound of phosphorus per 1000 square feet and roto-till into the top four inches of the soil. Just before seeding or laying sod, apply a complete fertilizer at the rate of 1.0 pound of nitrogen per 1000 square feet.

Fertilization requirements for athletic fields vary according to the amount and type of use they get and the height of cut. Schools generally have high maintenance game fields and low maintenance practice and recreation fields. Phosphorus and potassium fertilization should be based on a soil test.

Fertilize high maintenance fields around May 15, June 15, September 1, and October 15. Apply fertilizer with 50%-100% water insoluble nitrogen (WIN) material, using a rate of 0.50-0.75 pounds nitrogen per 1000 square feet. Low maintenance athletic fields should only be fertilized around May 15 and September 1, using 50-100% WIN material at a rate of o.5-1.0 pound nitrogen per 1000 square feet.

Adapted from:
Maine School IPM Tool Kit. 2009. (In draft)

Schlein, P. 2009. *Is Your Lawn Truly Green? Sage Advice from Top Northeast Experts.* http://www.yardscaping.org/press/index.htm

Tips & Techniques: Lawn

1. Fertilize in late August or September.
   - *Only if necessary and only on new or young lawns (less than 10 years old)*
2. Mow high.
   - *3" or more for vigorous roots and to shade out weeds*
3. Leave clippings and mulch leaves.
   - *High-quality, free fertilizer; releases nutrients into the soil*
4. Plant appropriate (endophyte-enhanced) grass species (fine-leaf and tall fescue and perennial rye).
   - *Require less water, fertilizer, and pesticides and compete better with weeds*
5. Get your soil tested.
   - *The only way to know just what the lawn needs*
6. Keep turf cover dense by overseeding, especially in the fall.
   - *Reduces weeds – overseed, overseed, overseed*
7. Core aerate and top-dress with compost or soil mixture.
   - *Reduces thatch and improves soil structure*
8. Water deep and infrequently.
   - *Only if absolutely necessary, deeply soak lawn once or twice a week to provide a total of 1" of water*
9. Keep fertilizer and clippings off sidewalks and driveways.
   - *Prevents runoff of nutrients into waterways*
10. Keep mower blades sharp.
    - *A clean cut prevents disease*

Mosquitoes

Mosquito (Jim Occi, bugPics, bugwood. Org)

Spring is here and, depending on where you are in Maine, those pesky mosquitoes may already be making a nuisance of themselves. First egg hatch may begin as early as late March in southern Maine to as late as the last week of April in far northern Maine. As long as water is available in their habitats, mosquitoes tend to gradually increase in abundance throughout the summer.

Although there are 45 identified species of mosquitoes in Maine, only about half of them are considered biting pests of humans. Even fewer are sufficiently abundant to be considered important pests.

Female mosquitoes feed on blood in order to produce and lay eggs. In this process they can carry disease organisms and parasites from one animal to another. Although Eastern Equine Encephalitis and West Nile Virus are serious human diseases carried by mosquitoes, few mosquitoes actually carry these diseases in Maine. However, it is still important to implement IPM to reduce the risk of disease among students and staff. Following are some preventive actions you can take.

Management

- Locate and eliminate breeding sites before adults emerge by draining (at least weekly) or removing all stagnant water in birdbaths, unused buckets, old tires, tin cans, and other discarded containers. Clean gutters and downspouts. Keep dumpsters and trash receptacles covered. Drill holes in playground tires for drainage.
- Eliminate adult resting sites. Cut back or remove dense brush and other vegetation from around buildings. Keep grassy areas mowed. Manage landscapes to allow air movement..

Exclusion

Make sure window and door screens are in good repair and that doors close properly.

Avoidance

- Avoid outdoor activity when mosquitoes are most active—at dawn and at dusk or on cloudy, warm days.
- Wear protective clothing such as long sleeves, long pants, and socks.
- Wear light colored clothing, especially whites, and yellows.

Use of repellents:

Repellents are pesticides and care should be taken to avoid over-exposure. Insect repellents can repel mosquitoes for 2 or more hours depending on the air temperature, amount of perspiration, exposure to water, etc.

Use repellents registered by the EPA such as those containing DEET or Picardin. "Pure" oil of lemon eucalyptus (e.g. essential oil) is not registered and not recommended. Concentrations containing 50% or more of any active ingredient do not significantly increase protection time.

Note: If use of a repellent results in a rash or other bad reaction, immediately wash the repellent off and contact the Northern New England Poison Control Center at 1-800-222-1222.

For more information on mosquito repellents, please visit: http://www.cdc.gov/ncidod/dvbid/westnile/repellentupdates.htm.

Physical & Chemical Control

Bug zappers are not very effective against female mosquitoes and kill many more beneficial insects than pests. Many other traps and repellent devices are generally useless.

There are several chemicals and formulations specialized for mosquito control. However, chemical control is only a temporary solution and can lead to pesticide resistant mosquito populations.

If there are extensive mosquito breeding areas on school property, consider having a licensed operator apply a carefully chosen insecticide (larvicide) to the breeding areas to kill mosquito larvae. This method gives more effective, longer lasting control than applications that target adult mosquitoes. Monitor the population to determine proper treatment timing. Larviciding should be used when mosquito egg hatch is complete, but before the larvae transform into pupae. Larvicides will not kill eggs or pupae.

Mosquito larvae. (Jim Occi, BugPics, bugwood.org)

Mosquito resources at Maine CDC:

- *http://www.maine.gov/dhhs/boh/ddc/arbovirus/wnv_questions.htm*
- http://www.maine.gov/dhhs/boh/ddc/_lyme/index.htm

Principles of School IPM

- Pest prevention
- Regular monitoring and accurate pest identification
- Combinations of pest management tactics—using pesticides only if, when, and where necessary
- Record keeping and regular evaluation

Pesticide Applicator Certification

Have you thought about becoming a certified pesticide applicator, but do not know much about it? A certified applicator is someone licensed by the state to apply pesticides. In Maine, anyone making pesticide applications on school property must be licensed by the Board of pesticides Control (See Chapter 27, Sec. 5C - Standards for Pesticide Applications and Public Notification in Schools and Chapter 3, Sec. 2AVII - Industrial, Institutional, Structural, and Health Related Pest Control.)

As a certified applicator, you may apply pest control treatments, possibly saving the district money. In addition, preparing for certification increases your conceptual and practical knowledge of pest control. However, becoming certified does require an investment of time and money associated with exam preparation, testing, and licensing. Visit the Maine Board of Pesticides Control website (http://gotpests.org/) or call (207) 287-2731.

Factoid

One female mosquito can lay over 200 eggs at a time.

The Maine School IPM Newsletter is also available online in pdf and html formats at: http://www.maine.gov/agriculture/pesticides/schoolipm/index.htm

Web-based Resources for School IPM

Maine School IPM Program: http://www.thinkfirstspraylast.org/schoolipm

National School IPM website: http://schoolipm.ifas.ufl.edu/INDEX.html

IPM Institute of North America: http://www.ipminstitute.org/school.htm

IPM Training

Register for school IPM workshop: *School IPM and Budget Calculator Training*. This workshop will cover both basic and advanced IPM practices and will show you how to use a new on-line budgeting program designed to help schools assess and address pest risks.

Who: All IPM coordinators, superintendents, principals, facilities managers, maintenance personnel, custodial staff

When: 8:30 AM-3:30 PM
May 19 - United Technologies Center - Region 4, Bangor, ME.

May 20 - Portland Arts & Technology High School (PATHS), Portland, ME

Space is limited and pre-registration is required. Registration brochure is e-mailed with this issue and also available for download at http://www.thinkfirstspraylast.org/schoolipm. For more information contact Kathy Murray at 287-7616 or kathy.murray@maine.gov.

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