UT Youth Environment and Health

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Pests and Pesticides in Child-serving Facilities: An IPM Newsletter

UT Extension to Hold Workshops on Reducing Risk in Pest Management Programs May 8 and May 15, 2015

The University of Tennessee Extension is encouraging all schools in Tennessee to adopt an integrated pest management (IPM) program in accordance with the National PMSP's (Pest Management Strategic Plan) call for all the nation's schools to be using IPM by 2015. IPM is a common sense approach to pest management that emphasizes the use of low risk but effective means to suppress pests. Children are more vulnerable to pesticides because their organ systems have not reached developmental maturity. Because children spend considerable time at school, they increase their risk of pesticide exposure if pesticides have been applied in a manner inconsistent with IPM.

Pests pose risks from venomous bites, disease transmission, and allergic responses and may disrupt the learning environment. School IPM programs aim to reduce and balance risks from pests and pesticides to school occupants and the environment. We would like to invite representatives (director of schools, custodial staff, facilities supervisor, grounds staff, kitchen staff, maintenance supervisors, and the pest management professional) from your school system to attend one of the following workshops from 1:30 - 3 pm at: **Cocke County High School on May 8 or Livingston Middle School on May 15 .**

Be watching for your email invitation. Come learn from personnel at schools that are implementing IPM! More information will be posted at http://schoolipm.utk.edu/training.html

Special Points of Interest

Reduce pests found inside schools by manipulating the landscape:

1. **Plant trees so that limbs will not overhang or touch the roof.**
2. **Place shrubs so that at maturity there will be at least 18 inches between them and the exterior wall of the building.**
3. **Place stone or gravel next to the foundation instead of an organic mulch.**

This issue

Trees, Shrubs, Mulch and Buildings

Pat Barnwell and Karen Vail

Fall and spring are the best times to plant trees and shrubs. When planting consider the vegetation's height and circumference at maturity. Plant trees so that limbs will not overhang or touch the roof area especially if squirrels are a problem on school property. A 6- to 10-foot space between tree limbs and the building is ideal. Place shrubs so that at maturity there will be at least 18 inches between them and the exterior wall of the building. Vines, trees and shrubs can act as a bridge for invertebrates (insects, mites, millipedes and others) and vertebrates (squirrels) to access the structure. Remove vines from building exteriors and grow them on trellises well away from the building.

Keep a vegetation-free zone next to a school. Snyder & Gouge, U of AZ.

Leave several inches between mulch and shrub stems or tree trunks. Mulch is best kept to a thickness of 2 to 4 inches. Mulch helps to conserve soil moisture, to prevent weeds and soil compaction and erosion, to moderate soil temperature and, if organic in substance, to add nutrients to the soil as it decomposes. Mulch also protects vegetation from the peril of being struck with a string trimmer or lawn mower. Mulch applied too thickly next to the base of shrubs and trees creates an ideal hiding place for rodents and insects and limits air circulation which can promote disease and rot.

How not to apply mulch.
Photo: http://guilford.ces.ncsu.edu/2014/02/volcano-mulching-too-much-of-a-good-thing/

Next to the building foundation and a foot outward limit the depth of the mulch to less than 2 inches so that the structure is protected from splash of mud and the mulch layer is thin enough to permit the soil to dry. If mud splash is not a concern, leave bare soil next to the structure to allow the soil to dry quickly. Moisture next to the foundation is conducive to termites and other invertebrate pests. Another option is to place a 12- to 18-inch-wide band of gravel or pebbles underlain with landscape fabric next to the building foundation and then apply mulch to the rest of the landscape bed. Heavy layers of mulch 4 to 6 inches thick can act as a bridge from the landscape to the structure and allow termites to avoid contact with treated soil.

For more information see:

Clatterbuck, W. and D. Fare. 1999. Planting the Right Tree in the Right Place. UT Extension SP 511. https://extension.tennessee.edu/publications/Documents/SP511.pdf

Clatterbuck, W. 2004. Mulching Your Trees and Landscapes. UT Extension SP 617. https://extension.tennessee.edu/publications/Documents/SP617.pdf

Fare, D. and W. Clatterbuck. 2000. A Palette of Tree Canopy Forms. UT Extension SP 531. https://extension.tennessee.edu/publications/Documents/SP531.pdf

Oi, F. M. and M. Wheeler. 2012. The Facts About Termites and Mulch. IFAS Extension # ENY-832. http://edis.ifas.ufl.edu/in651

Warm Enough for Fire Ant Bait Applications?

Karen M. Vail

Maximal fire ant foraging, and thus bait retrieval, occurs when soil temperatures about an inch deep are between 72 and 92 degrees F. On April 8th, Knoxville soil temperatures at this depth averaged 72 degrees F below grass located near a heat sink (curb, slab, road, or building). Unfortunately, soil temperature at six of the 11 sites was below 72 so a blanket recommendation that it's warm enough to maximize fire ant bait effectiveness wasn't appropriate. Check temperatures at local sites to make that determination. A good rule of thumb is to wait until daytime air temperatures are between 70 and 80 degrees F and rain isn't expected for a day. Fire ant bait applications are less effective when air temperatures reach the 90s because less fire ant foragers will be above ground and the active ingredient in the unretrieved bait will breakdown in the ultraviolet sunlight.

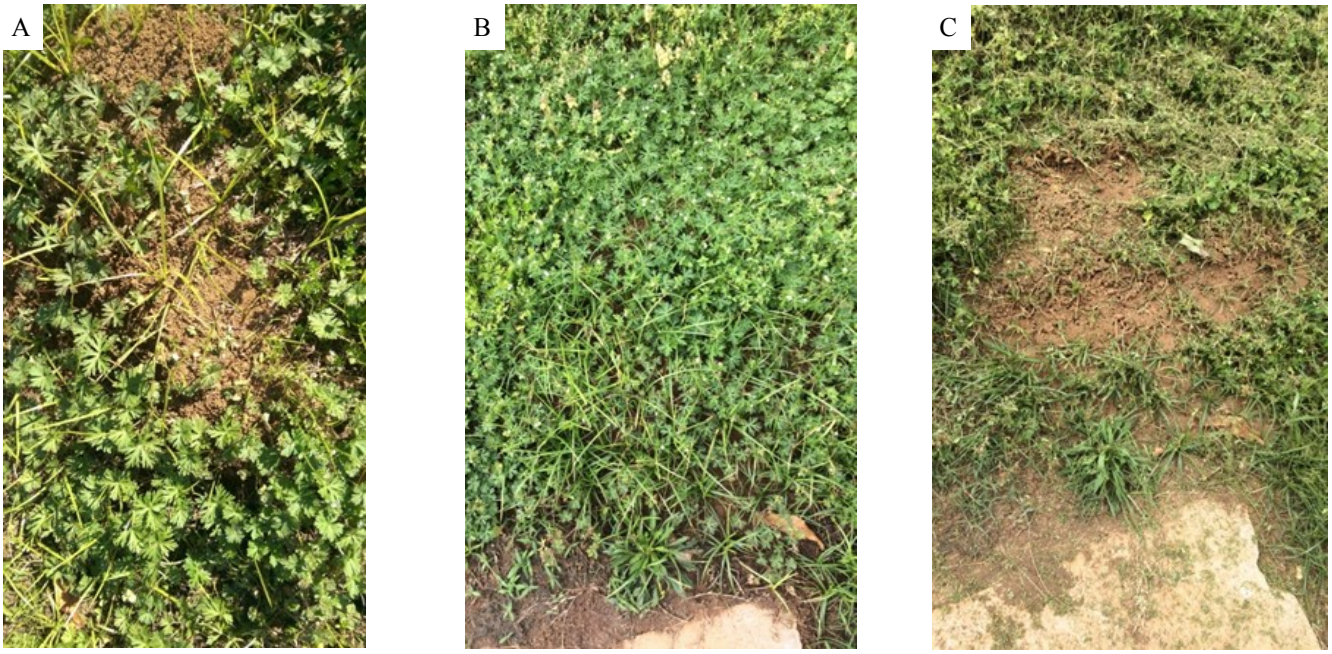

Figure 1. Fire ant mound early spring (A), covered by vegetation (B) and exposed with mowing (C).

Hopefully, fire ant mounds on school property were scouted and mapped before the latest flush of spring vegetation. As seen in the images above, mounds that were obvious 3 weeks ago (Fig. 1A) are hidden by vegetation now (Fig. 1B). Mowing will reveal the mounds again (Fig. 1C), but be careful to avoid stopping on these mounds as excited workers will charge out of the mound to bite and sting nearby objects including the mower and rider. Fire ant mounds near student activity areas should be treated as soon as noticed. Read about using fire ant baits and other ways to control fire ants in the UT Extension publication, *Managing Fire Ants in and Around Tennessee's Schools*, https://extension.tennessee.edu/publications/Documents/PB1788.pdf or see the *Fire Ants in Tennessee* website at fireants.utk.edu.

The end of the school year, i.e. the end of May, is an ideal time for a broadcasted fire ant bait application because temperatures should be near ideal for fire ant foraging and the kids aren't in school, thus their risk of pesticide exposure is reduced.

IAQ Master Class Professional Training Webinar Series

Learn from technical experts, industry leaders and model school districts during these live webinars, which will be followed by 30-minute mentoring Q&A sessions.

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Miss a live webinar? No worries! All webinars will be recorded and available for future on-demand viewing on EPA's website .

Questions?
If you have any questions about the *IAQ Tools for Schools* guidance, please contact the *IAQ Tools for Schools* Connector Coordinator at IAQschools@epa.gov.

EPA offers free *IAQ Tools for Schools* comprehensive resources to help schools maintain a healthy environment in school buildings by identifying, correcting and preventing IAQ problems. Learn more about the *IAQ Tools for Schools* guidance at http://www.epa.gov/iaq/schools.

IAQ Master Class Webinar Series

Creating Healthy Indoor Environments in Schools	Watch On–Demand!
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HVAC Systems	Watch On–Demand!
Mold and Moisture	Watch On–Demand!
Energy Efficiency and IAQ	Watch On–Demand!
Integrated Pest Management	4/16/15 – Register Now!
Asthma Management	5/14/15 – Register Now!
Cleaning and Maintenance	6/4/15
Materials Selection	7/16/15
Source Control	September 2015

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Comments or questions on this newsletter? Contact kvail@utk.edu

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http://tinyurl.com/schoolipmFB

For more information about IPM in Tennessee schools and other facilities, or to view past issues of *Pests and Pesticides in Child-serving Facilities*, please visit schoolipm.utk.edu.

NATIONAL IPM INFORMATION

eXtension's Pest Management In and Around Structures: Urban Integrated Pest Management
http://www.extension.org/Urban%20Integrated%20Pest%20Management

National School IPM
schoolipm.ifas.ufl.edu/

IPM in Schools Texas
schoolipm.tamu.edu/resources.htm

IPM Institute of North America
www.ipminstitute.org/

School IPM PMSP—all schools IPM by 2015
http://www.ipminstitute.org/school_ipm_2015.htm

National Pest Management Association IPM
www.whatisipm.org/

EPA schools
www.epa.gov/pesticides/ipm/schoolipm/index.html

For further information about the IPM program at your school or in your county, contact your county Extension Agent or the school IPM Coordinator. For county agent contact information, please visit www.agriculture.utk.edu/personnel/districts_counties/default.asp

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.