Update on Child-serving Facility IPM in Tennessee

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Abstract
Integrating IPM into schools is an essential strategy for limiting pesticide exposure, yet this strategy does not reach preschool age children who may be at even greater risk physiologically. To further outreach in child-serving facilities in Tennessee, we proposed a three-component plan to reduce risk associated with pests and pesticides in Tennessee's schools and licensed child care centers by increasing IPM adoption. While IPM in schools has been promoted in Tennessee since 1996, we present here the results of a 2004 Southern Region IPM project, *Training School Purchasing Officers and Extension Agent Trainers to Increase IPM Adoption in Tennessee's Child-serving Facilities*. Initially, school purchasing officers were trained to understand IPM and develop their own bid specifications. Next, Extension agents and Child Care Resource Center personnel were trained at IPM workshops so they in turn could educate child care workers using the train-the-trainer method as is done with Master Gardeners. Finally, a state award/recognition system and IPM continuum will be used to acknowledge child-serving facilities that reduce pesticide risks and to market IPM in such facilities. Results from a Fall 2005 phone survey indicate 31% of responding school districts were using IPM, a 24% increase since 2002.

Introduction
Pest management programs in schools need to balance and reduce the risk of unnecessary exposure to pest control products with the health risk associated with the pests. Integrated Pest Management (IPM) can help accomplish this goal. An IPM in Schools Program was initiated in the spring of 1996 as a joint venture between The University of Tennessee and The Tennessee Department of Agriculture, Division of Regulatory Services. Our IPM in Schools Program was expanded in 2001 to include all child-serving facilities and a new team was formed, UT YEAH (Youth, Environment And Health) team. In 1997, survey results suggested that 11.7% of Tennessee schools were using IPM. During the next five years, training was provided to pest management professionals, school superintendents, teachers, environmental educators, parents and environmental advocates. Based on 2002 survey results, we estimated that about 25% of the school systems were now using IPM. While the adoption is slow, we had more than doubled the number of school systems using IPM.

Because voluntary adoption of school IPM has been slower than anticipated, another strategy was initiated. In 2004 we were awarded an USDA Southern Region IPM grant to reduce risk associated with pests and pesticides in Tennessee's schools and licensed child care centers.

Objectives & Accomplishments
1. Schools -- Purchasing Officer Training. Increase voluntary adoption of IPM in schools by providing hands-on training and Model IPM policy and bid specification development for school purchasing officers and pest management decision-makers.

Justification: Providing school districts' purchasing officers, the individual responsible for placing the request for pest management services, with model IPM policies and bid specifications and training them to understand IPM, should increase more dramatically the conversion of schools from traditional pest management to IPM.

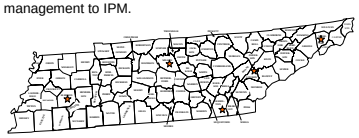


Figure 1. Locations of purchasing officer trainings.

Objective 1 Accomplishments.
In 2004, an Excel database (with names, phone #, addresses, and e-mails) of school purchasing officers and school personnel pest management decision-makers was compiled after phoning the 152 TN public school districts. Forty school purchasing officers at five locations (Figures 1,2) were trained to understand IPM, aid in their development of pest management bid specifications and conduct a hands-on inspection of a facility (Figure 3). See Table 1 for a list of sessions discussed in this 3.5-hr training session and Tables 1 – 4 for purchasing officer training session evaluations. The model bid specifications were posted to the UT school IPM web site (http://eppserver.ag.utk.edu/sch_ipm.htm) in rich text format thus allowing school personnel to download and modify it for their specific school system. Additional educational material was posted to our school IPM web site.

Figure 2. Forty school purchasing officers were trained in IPM and bid spec modification during five meetings.

Figure 3. Problems such as a clogged floor drain and trash under storage bins were found during hands-on inspections.

Table 1. Please rate the following sessions from 1 (lowest) to 5 (highest):

Location	Pests	Pesti-cides	Kid & Chemical	IPM	Tools for Schools	What's Happening?	Bid Specs	Hands-On Inspection	Overall
State wide mean (n=31)	4.1	4.12	4.12	4.22	3.95	3.91	4.16	4.30	4.4

Table 2. Which session was the most helpful?

Location	Pests	Pesti-cides	Kid & Chemical	IPM	Tools for Schools	What's Happening?	Bid Specs	Hands-On Inspection	Overall
Statewide sum	2	5	5	6	2	1	10	2	4

Table 3. Which session was the least helpful?

Location	Pests	Pesti-cides	Kid & Chemical	IPM	Tools for Schools	What's Happening?	Bid Specs	Hands-On Inspection
Statewide sum	0	1	0	0	2	1	4	1

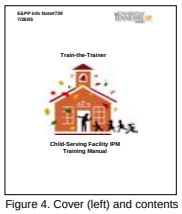
Table 4.

Question	Yes	No	Not Sure	No Comment
Were the resources supplied adequate for you to understand IPM?	26	0	0	5
Do you plan to invite IPM bids for your next pest management bid?	18	2	4	7
Do you plan to use or modify the IPM bid specification supplied by UT Extension?	17	3	3	8

2. **Child cares centers -- Train-the-Trainer.** Train an IPM training pool of Family and Consumer Science (FCS) Extension agents and personnel in the 10 regional Tennessee Department of Health Child Care Resource Centers to provide ongoing training for child care providers.

Justification. The proposed educational processes will expand the availability of trained professionals able to carry out local IPM training; facilitate the ongoing use of the train-the-trainer kit material delivered to each county and Child Care Resource Center; and position child care facilities for compliance should state and federal IPM mandates be enacted.

Objective 2 Accomplishments.
Using the train-the-trainer method as is done with Master Gardeners, the UTYEAH team trained 46 Extension agents and four Child Care Resource and Referral Agency (CCR & R) personnel to provide IPM workshops to child care workers and school pest management decision-makers. Agents were provided a manual (Figures 4) in a binder that included printed and electronic copies of all the materials discussed at the meeting, as well as pre- and post-training quizzes and evaluation forms. This cross-training event involved Extension agents with Agricultural (41%), Family and Consumer Sciences (48%) and 4-H (35%) responsibilities in 40 counties. Training materials will also be available online at http://eppserver.ag.utk.edu/sch_ipm.htm (Figure 5). A new TN Extension reporting system (SUPERS) will allow agents to input answers from the pre- and post-training quizzes into the Extension reporting system which will provide better tracking of the impact of our training and the adoption of IPM in child cares and schools. Several FCS agents have provided training already.



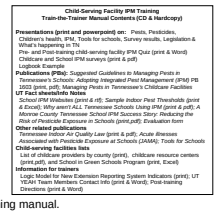


Figure 4. Cover (left) and contents of training manual.

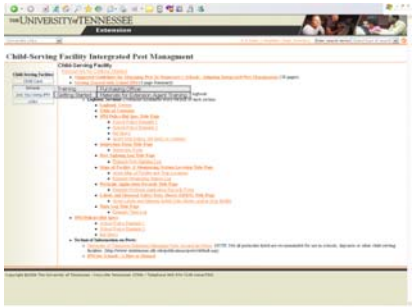


Figure 5.Training materials will soon be available online.

3. Award/Recognition System. Develop an IPM continuum and statewide award/recognition system to acknowledge child-serving facilities that reduce pesticide risks and to market IPM in such facilities.

Justification. In an IPM continuum, criteria are established to classify a pest management program at different levels of IPM such as no IPM, low level IPM, medium level IPM and high level IPM (Benbrook 1996). Under the current system used to determine IPM adoption in Tennessee's schools (Vail et al. 2003), child-serving facilities using low or medium level IPM (according to Benbrook) are classified as using no IPM. By using a continuum with an award/recognition system, facilities would be recognized for any IPM-related activities. IPM adoption will be enhanced as facilities recognize the award system and strive to reach higher levels of IPM.

Objective 3 Accomplishments.
The level of IPM adoption in child-serving facilities will be determined through interactive on-line and hard copy surveys. Agents will distribute copies of the survey after child care trainings and ask participants to consult their pest management decision-maker and return the completed survey to the agent. Agents will access the password-protected survey web page (Figure 6) from the UT YEAH web site http://utyeah.utk.edu and input the data electronically. Personnel from each school system will be allowed to complete the online survey once a year. County Extension agents and CCR&R personnel will deliver award certificates.

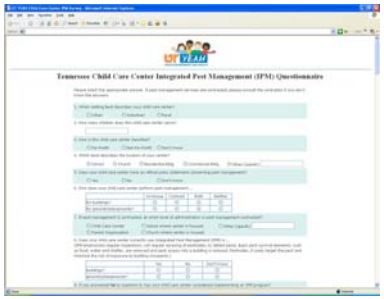


Figure 6. Screen capture of online childcare survey.

Because the online surveys were not available in the Fall of 2005, a ten-question phone survey was conducted of all school districts.

Impact: According to the phone survey results, 81% of the school systems that had pest management decision-makers attending our training (and had answered "don't know" for less than 3 questions related to pest management practices used) were using IPM. School systems are still overestimating their IPM usage. Forty-six percent of all school districts contacted thought they were using IPM, when in fact, some were spraying baseboards on a scheduled basis regardless of pest presence - a practice not compatible with IPM. We adjusted the percentage of school systems using IPM to 31% which is a 24% increase since the last survey in 2002.

References Cited
Benbrook, C. 1996. Biointensive IPM and the IPM Continuum, pp. 175-204. *In*, Pest Management at the Crossroads. Consumers Union of United States, Yonkers, NY.
Vail, K.M, M. Rogge, M. Keel and P. Parkman. 2003. Adopting IPM in Tennessee Child-serving Facilities-2002 School IPM Survey Results. 4th National IPM Symposium , Indianapolis, IN April 8-11. http://cipm.ncsu.edu/symposium/viewposters.cfm