

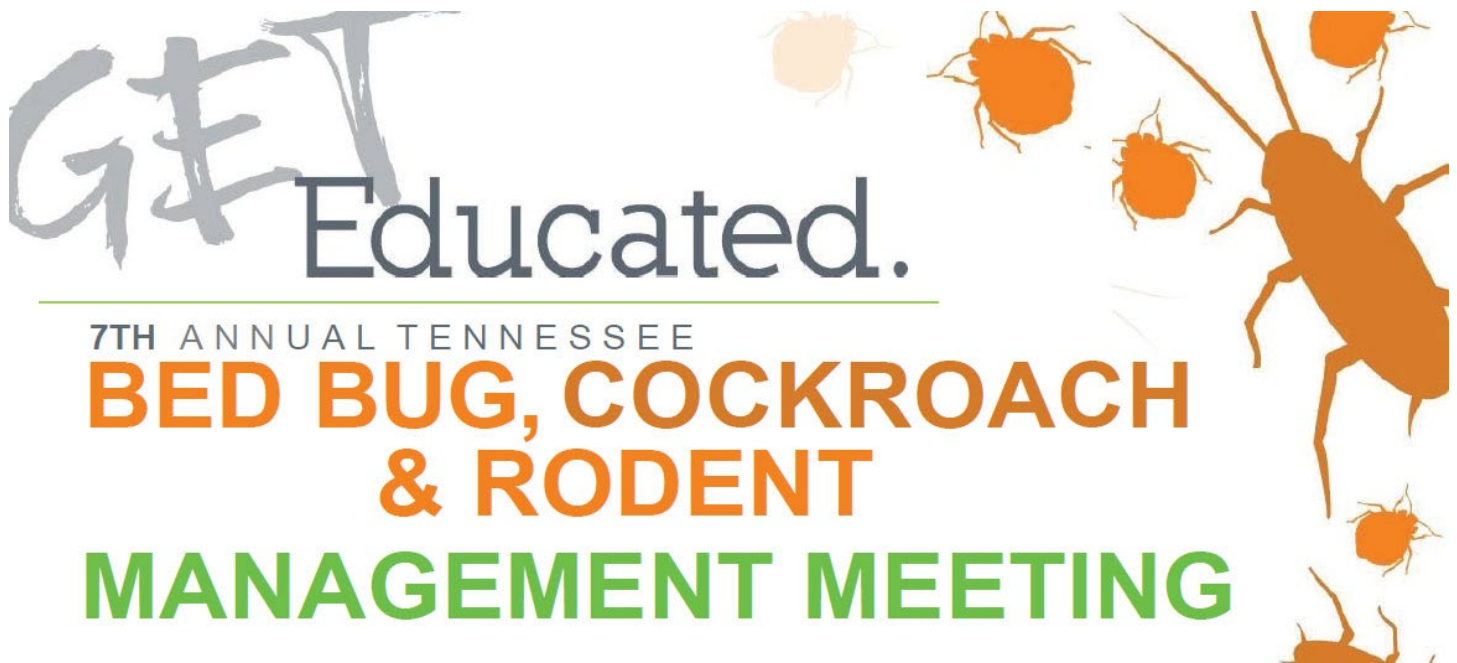
# Insec(tc)ure\*: Are you insecure about your insect cures?

A UT Urban IPM Lab Newsletter for the Pest Management Industry

## The 7th Annual Tennessee Bed Bug, Cockroach and Rodent Management Meeting and the Effects of COVID-19 on Tennessee Pest Management in Low-income Housing

Karen Vail, UT Entomology & Plant Pathology

On August 4, 2021, we held the 7<sup>th</sup> Annual Tennessee Bed Bug, Cockroach and Rodent Management Meeting via Zoom. It was the second consecutive meeting that was held virtually to reduce potential exposure to SARS-CoV-2 that is causing the COVID-19 pandemic. This meeting targets housing and pest management professionals and I believe is the only one in the state where the attendees from each profession are equally represented. We try to provide an opportunity for a mix of attendees from each profession to interact in groups. This year we used virtual breakout rooms to discuss the major hurdles that need to be overcome to successfully manage bed bugs in Tennessee low-income housing. We had internationally renowned speakers such as Changlu Wang of Rutgers speaking on managing cockroaches in low-income multi-unit structures and Dini Miller of Virginia Tech on fumigating bed bugs. However, the star of the show turned out to be Shannon Sked, a graduate student from Rutgers, who spoke on house mouse behavior and management in multifamily settings and earned the highest rating of all speakers! Sorry Dini and Changlu. Manufacturer representatives from Bayer (Chad Noyes), BASF (Nick Iversen), Syngenta (Larry Stretz) and Oldham Chemicals Company (Dennis Waldrop via me) discussed their products that support pest management in housing and we thank them for their support! I gave an update on the bed bug situation in Tennessee and how COVID-19 avoidance practices impacted pest management and pest problems over the past year or so in low-income housing and will continue this article with that discussion.



When I and many of my urban entomology colleagues at various universities throughout the country were working from home during the early parts of the pandemic we were not only very concerned about the pandemic, but the potential for public health pest populations to dramatically increase weighed heavily on our minds as we noted that many pest management services had come to a halt to reduce the spread of SARS-CoV-2. Steve Kells (University of Minnesota) and Susannah Reese (Cornell University, Stop Pests in Housing) drafted an [article](#) which we edited to help housing personnel prioritize pest management practices to manage serious public health pests while staying safe. In January, when vaccines were being distributed and we hoped the pandemic would soon be behind us, my colleagues at Rutgers University decided to survey the housing communities in the nation to learn how pest management practices had impacted pest problems and asked for our help. We edited the survey and submitted it to each of our institution's Internal Review Boards. After approval, I emailed the survey to Tennessee housing managers along with an informed consent form and followed up with a phone call to complete the surveys. As of August 4<sup>th</sup>, I had received 12 responses and I summarize their responses below. Please be aware that this is a very small sample size so the results may change as we obtain more responses.

About half of the responses came from East TN with the other half split evenly from Middle and West TN. Two-thirds of respondents were from public housing authorities with the remainder evenly split between privately owned properties and mixed private and public communities. Pest management was contracted by 77%, 8% had in-house and contracted services and 15% used only in-house pest managers. Over half of respondents renewed their contract on an annual basis which gives managers flexibility if they aren't satisfied with services, but makes it difficult to have continuity if providers are changed so frequently, and it's difficult to implement improvements if you need to start over every year. Of course, just because a contract renews every year does not mean providers are terminated. Nearly a quarter indicated they renewed contracts at 5 year intervals, one respondent renewed at 3 years and another indicated there was no expiration to the current contract. Very few indicated that they would make changes to their contract due to COVID, those that did indicated they would require masks during service treatments or something similar.

Congratulations to the pest management companies that are servicing these facilities. One hundred percent indicated the pest management services received from you was aligned or well aligned with the services indicated in the contract. That's a sign of a satisfied customer!

Two-thirds or more indicated there was a change in service frequency and activities during the past year. Most communities stopped interior service for at least several months; some waited until January or June 2021 to resume interior pest management services to individual apartments while others switched to CDC recommended PPE and continued interior service with very little interruption to the service schedule or activities.

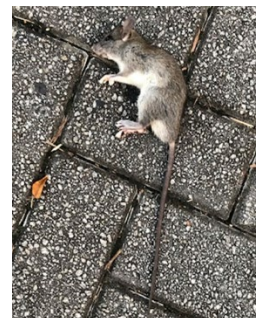


Only 17% of housing personnel indicated that bed bug complaints increased during the pandemic while the remaining respondents were evenly split between bed bug complaints staying the same or decreasing. As you've heard me say many times, housing managers can't rely on resident reporting of bed bugs as an indication of bed bug infestations. One-third of respondents indicated that bed bug infestations had increased. And from past experience, I can almost guarantee that many more are experiencing higher bed bug infestations than they are aware of, but more on that discussion to follow. One respondent indicated, "The big increase in bed bugs was due to increased visitation and activities after COVID-19 restrictions were lifted as well as limited pest control during 2020." Although another attributed the decline in bed bug activity to students learning virtually and not visiting each other and sharing their bed bugs.



One-third of respondents noted an increase in cockroach complaints and one-half noted an actual increase in activity with the most common reason being due to limited treatment during COVID. Others noted regular housekeeping inspections were on hold too so poor sanitation may have better supported the cockroach populations.

Evidently, mice aren't much of a problem in Tennessee low-income housing. Only 8% indicated an increase in mouse complaints and 17% an



increase in mouse activity although one respondent noted the increase was due to construction. Why is pest-proofing commonly used to control mice, but not an accepted practice for cockroaches or bed bugs? Maybe rodent problems were worse but not considered a problem since they understand how to manage them.

(Did you notice the image above and to the right is not that of a house mouse but of a roof rat? Took this lovely photo while at the Tennessee Pest Control Association's Summer Meeting in Chattanooga a few weeks ago. I want to thank everyone who participated in the silent auction to support my programs. Your generosity is much appreciated!)



Increases in complaints about other insects, such as spiders and ants, were noted by 43% of respondents. Only 17% noted an actual increase in other pest activity. One respondent indicated they had time to conduct termite inspections and thus found more termite activity.



Pest control revenue from low-income housing declined from 2019 to 2020 whether we compared general pest or bed bug management. The average funds expended on general pest control decreased from \$76,286 in 2019 to \$55,372 in 2020. For bed bugs, the decrease was not quite as dramatic. Costs decreased from \$45,787 to \$34,253, although not all respondents were able to separate bed bug costs from that for general pests.

All respondents indicated they would be interested in participating in our Urban IPM Team classes on pest management and all indicated they would be interested in having us conduct building-wide pest inspections of their properties. That's a smart choice on their part. We've now inspected 22 high-rise buildings or smaller communities across Tennessee using three different building-wide bed bug inspection techniques and all were found to be viable options. In 21 of the 22 communities we found bed bug infestations that management was unaware of. In one community of 15 duplexes, no bed bugs were found – this was a first for us! Across 16 high rises, we documented the average percentage of bed bug-infested apartments at 15% with managers unaware of an average of 64% of the infestations. In buildings with four or less floors, bed bug infestations averaged 8% but managers were unaware of 86%! More to come on this in future articles.

## **Results of the UT Urban IPM Team Building-wide Bed Bug Inspections of Tennessee Low-income Communities**

### **16 High Rises**

Average bed bug infestation rate = 15%

Average infestations managers were unaware of = 64%

### **6 buildings with 4 or less floors**

Average bed bug infestation rate = 8%

Average infestations manager were unaware of = 86%

# The UT ACE (Associate Certified Entomologist) Prep Course for Fall 2021 starts Monday September 13 on Zoom and in the Classroom

Are you certified in pesticide applicator category 7 with a minimum of 5 years of verifiable pest management experience in the United States? Then you may be ready to become an ACE, an associate certified entomologist. Before you can become an ACE, you will need to provide two letters of professional reference, be willing to adhere to the ACE Code of Ethics, [complete the application](#) and pay the application fee to the Entomological Society of America, and pass an online test of your knowledge of structural pest control. The program and its benefits are explained in its entirety at <http://www.entocert.org/ace-certification>. The application process is separate from the training offered below.

As the Extension Urban Entomologist of the UT Department of Entomology & Plant Pathology, I will prepare you for the exam by providing an ACE Prep Course this fall. All training sessions will be held 5 – 6 pm on select Mondays in McCord Hall Room 057 of the University of Tennessee’s Institute of Agriculture Campus, Knoxville, TN 37996. **For the first time, we will also hold the class synchronously online via Zoom.** Register by August 30<sup>th</sup> at <https://tiny.utk.edu/ACEPrepFall2021>

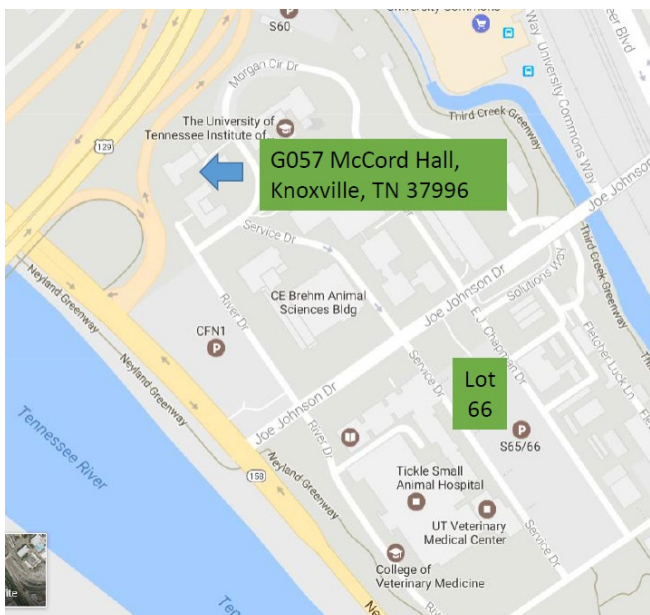
2021 Training Date	Subject
September 13	Integrated Pest Management and Tools
September 20	Insecticides and Modes of Actions
September 27	Pesticide Safety, Laws & Labels
October 4	Insect Biology and Morphology
October 11	Ants
October 18	Cockroaches
October 25	Flies
November 8	Stinging and Biting Arthropods
November 15	Stored Products Pests
November 22	Occasional Invaders
November 29	Wood-destroying Organisms
December 6	Common Commensal Pests/Review
December 12	Specimen review in the afternoon
<b>December 13<sup>+</sup> 5 pm – 8 pm</b>	<b>Exam (limited to 20)<sup>+</sup></b>

<sup>+</sup>The ACE exam will be given in room 243 Computer Lab of the Brehm Animal Science Building.

You can register for all classes of the ACE Prep Course at one time for a discounted price of \$300 or you can pay \$30 for each individual class as long as you register at least one week ahead of the training date. Enrollment limited to 25 per training date. One Tennessee recertification point per session. Course will only be held if at least 5 register before August 30<sup>th</sup>.

We suggest you purchase the IPM for the Urban Professional: A Study Guide for the Associate Certified Entomologist from ESA (<http://www.entocert.org/ACE-study-guide>) and the NPMA Field Guide to Structural Pests (<https://forms.npmapestworld.org/Bugstore/index.cfm?trg=4& uIDC=26&uSect=catX>) prior to taking the training. The NPMA manual is also available as a downloadable phone app and comes with an annual fee. The ESA study guide is discounted when you purchase it with your ACE application. In the past, shipping of the manuals has been greatly delayed, so order the manuals as soon as you sign up for the class!





Stay safe everyone!

Insec(tc)ure is produced by:  
Karen Vail, Ph.D., Professor,  
Extension Urban Entomologist  
Entomology and Plant Pathology  
370 Plant Biotechnology Bldg.  
2505 E J Chapman Drive  
Knoxville, TN 37996-4560  
ph: (865) 974-7138  
email: [kvail@utk.edu](mailto:kvail@utk.edu)  
web: <http://epp.tennessee.edu/people/directory/dr-karen-vail/>

Insec(tc)ure was reviewed by Pat Parkman and Jennifer Chandler and is archived online at  
<https://epp.tennessee.edu/urban-ipm-new/>

Follow us on  
Facebook at



<https://www.facebook.com/UrbanIPMTN/>

### 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 and registered for use in your state.

### 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.

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development. University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating. UT Extension provides equal opportunities in programs and employment.