



IPM Experience House

Getting the Bugs Out: Bed Bug Training 2020

Date: October 29, 2020

Provides basic and advanced training in bed bug recognition, treatment methods and problem solving. Registration open: until October 28, 2020. Class size limited to 10. No refunds after October 28th. Texas A&M AgriLife Research and Extension Center, Water and Land Resources Building and the IPM Experience House. Class is 8 am to 5 pm. Instructors: Guest Speakers Alan Brown, and Jonathan Joubert, along with AgriLife Personnel Janet Hurley and Chase Martin. (The course will count toward the 8 hours verified training in Pest Category, or TDA SPCS CEUS in 1 IPM, 1 Pest)

Learning objectives:

By the end of the class, students will be able to:

1. Recognize bed bugs and their signs
2. Use appropriate inspection tools to recognize and quantify bed bug infestations
3. Describe the use of thresholds to develop appropriate pricing practices for bed bug service
4. List the advantages and disadvantages of different control tactics for bed bugs
5. Demonstrate proper liquid and dust application methods for chemical bed bug treatment
6. Identify situations where heat treatment is appropriate for bed bug control.
7. Identify at least three features of an account that could be damaged by heat treatment.
8. Provide at least four options for how customers can dis-infest personal items that typically are bagged during bed bug treatment.
9. Describe at least two options that could be offered to low-income customers who cannot afford a full-service traditional bed bug control contract.
10. List treatments most likely to be effective against insecticide-resistant bed bugs.
11. Recognize and be able to explain basic biology of biting (bird, rodent) mites to a customer.

Agenda: Oct. 29, 2020, 8:30 am – 5:00 pm

1. [8:15 – 8:30 am] Pre-test
2. [8:30 am] Introductions/orientation – team assignments – colored dots
3. [8:45 am] Introduction to bed biology & ID [classroom - Brown]
4. [9:45 am] Break
5. [10:00 am] Introduction to IPM, monitoring, inspections [classroom - Hurley]



Detailed Agenda and Labs: Bed bugs

1. Review of principles of IPM as they apply to bed bugs
 1. Environmental and health orientation of IPM
 2. Use of monitoring, thresholds
 3. Use of multiple control methods
2. The importance of monitoring
 1. Why monitor?
 1. Identify whether there is a problem
 2. Assess the problem
 3. Determine where problem exists after treatment
 4. Difference between monitoring (ongoing inspections with record keeping) and inspection (one time look, usually without counts)
 2. Effective monitoring methods
 1. Visual inspections
 2. Interceptors
 3. Canines
 3. Conducting an inspection
 1. Signs to look for
 2. Where to look
6. [11:00 am] **Round 1 Stations.** Stations [IPM House – All instructors]
 1. Inspection: sofas [Hurley] (practice looking for artificial bed bugs in sofa and nursing home bed.
 2. Heat treatment - solarization [Chase Martin] (set up of clothing, electronics in both clear and black plastic bags)
 3. Heat treatment setup [Brown and Joubert] (Show and explain equipment used in conducting a heat treatment in hotel room, finish with turning on heat to leave until pm)
7. [12:00 pm] Box Lunch – provided
8. [12:30 pm] **Control options for bed bugs** [Classroom - Brown]
 1. Vacuuming/steam/tape
 1. Advantages, limitations
 2. How to apply steam
 2. Heating/cold
 1. Lethal times for cold temperatures
 2. Lethal times for heat
 3. Dusts for bed bug control
 1. Relative toxicity of desiccant dusts to humans
 2. Different dusts
 1. Silica aerogel
 2. Diatomaceous earth
 3. Nerve toxin dusts



1. Alpine
 2. DeltaDust, Tempo dust
 4. Dust application methods
 1. Hand dusters
 2. Power dusters
 3. Paintbrush applications
4. Pesticides
 1. Classes of insecticides used for bed bugs
 1. Why know insecticide classes?
 2. Major classes of bed bug insecticides
 3. How to use IRAC insecticide classification table to maximize effective rotation of bed bug insecticides.
 2. Liquid sprays
 1. Pyrethroids
 2. Pyrethroids +
 3. Pyrrole class (chlorfenapyr)
 4. Alcohol products
 5. Botanical sprays
 5. Fumigants
 1. Structural and container fumigation
 2. Small bag fumigants (dichlorvos, cold-pressed Neem oil)
9. [2:00] Break / walk to House
10. [2:15 pm] **Round 2 Stations** [IPM House – All instructors] {work in your team}
 1. Bed bug ID [Hurley and Martin] (lab will be set up to identify common bed bug, swallow bug, other bb look-alikes. Also, demonstrate use of Purell to make a customer display)
 2. Checking heat treatment [Brown] (this station will break down heat treatment, check on any negative effects of heat on furnishings, and check on hidden bed bug vials)
 3. Applying insecticides [Joubert] (this station will cover best application practices for use of sprays, dusts, and fumigants. Students will apply desiccant dusts to sofa, bedding, spray edges of walls and other suitable liquid application sites)
11. [3:15] Break: Walk to classroom
12. [3:30 pm] **Thresholds and low-income customers** [classroom – Brown]
 1. What is a threshold?
 1. Thresholds can be simple (single action threshold) or dynamic (multiple levels of infestation, e.g., low, medium, high). They can be used to decide whether to treat AND what kind of treatment is appropriate. They may also be linked to cost of service.
 2. Dynamic thresholds for bed bugs.



2. Options for low-income customers
 1. Two visit option
 1. Maximum 2-visit contract with option to extend
 2. Bed treat and equip option
 1. Provide treatment and encasement of bed(s) and chairs
 2. Provide interceptors
 3. Provide DIY treatment products
 4. No warranty
 3. Other options?
13. [4:15] **Problem solving exercise.** [Classroom – all instructors] {work in your team to come up with solutions for four bed bug scenarios. Five minutes to discuss and come up with possible solutions. After five minutes each group will report conclusion to class}
14. [4:45 pm] Evaluations and Post-test
15. [5:00 pm] Dismissal