Bed Bug Control in Multi-unit Facilities

Let’s address the Pest Management Professionals first!!!
PMP: What People Want

- Clients want you to come in with a magic potion.
- Apply it once and bed bugs are gone forever.
- They pay you $60 dollars.
- Then both of you pretend this never happened.
- What they get is multiple treatments, multiple visits, a huge bill and no promise that the bed bugs are gone.
PMP: Time Is Money

- Bed bug control is expensive
- Bed bug control can take two technicians several hours and multiple visits for a single unit
  - How long does it take to inspect surrounding units?
  - If someone has to open the door for you how long does that take?
  - If a unit is cluttered how much longer does it take to complete a treatment?
- Are you getting paid for your time?
What is your Break-Even Cost?

• If your break-even cost is $60 per hour then each minute counts!

• If a salesman sells a job for what amounts to $45.00 per unit how long can the technician spend working and still make money?

• Amazingly, many companies are not aware of their own costs!
  – Is your sales force aware of your costs?
  – Are your technicians aware of your per minute costs?
Keeping your Costs in Mind…

• Do you have the time to take on bed bug jobs?
  – Two technicians, 4-5 hours per home, minimum three visits spaced two weeks apart
  – Do you have the time to take on a 90% infested apartment complex with 300 units?
    • How do you price this job?
    – What if your GHP account develops bed bugs, do you want to take that on?
    – Should you sub-out bed bug work?
Liability Considerations

• Both bed bugs are a sensitive issue with great potential for litigation
• Is your company prepared to develop a detailed bed bug contract?
• Is your company willing to train dedicated staff to deal with these sensitive accounts?
• Is your staff willing to do all of the labor required for treating bed bug infestations?
• What if one of your employees develops bed bug allergies?
Pricing Bed Bug Jobs

• Do you have a method?

• BedBug Central (Cooper Pest Solutions) in New Jersey scores apartment units on several factors
  – Size of the unit (square feet)
  – Accessibility
  – Clutter
  – Infestation level
  – Amount of furniture
  – Ranked as low, moderate and high

• Ranking is used to make the estimate
BedBug Central

• 7 step process
  – Estimate
  – Verification (bed bugs present?)
  – Intensive treatment
  – Follow-up visits (charged individually; charged 40% if no access on day of appointment)
  – Control (a 14 day period of no bugs, no bites)
  – Elimination (45 days of control)
  – Services plan (90 service after elimination is achieved)

• Dedicated administrator who keep the files on each unit and handle all appointments
Do You Walk Away?

• Some of the people who need suppression the most cannot afford control.
• What do you do?
• You must not give your services away.
• What can you do for them?
• Climb-Up is the best for trapping and early detection (surrounding units).
Apartments and Hotels: Choosing a Pest Management Company

• Remember time is money
• If someone offers you’re a GHP job treating 240 units every month for $14,000 that equal $4.80 per visit to a unit.
• If the pest management company’s break even cost is $60.00/hour ($1.00 per minute) then they have to treat that unit in less that 5 minutes to make any money at all.
• Bed bug work takes time.
Choosing a Pest Management Company

- Investigate your current company.
- How much bed bug experience do they have?
- Do you need to hire a bed bug company in addition to your current GHP company?
- Can you get recommendations from your current company?
- Do they have a dedicated bed bug team?
- How detailed is their bed bug contract?
Action Plan for Hotels

• There is no way to stop bed bugs from being brought into a hotel.
• To facilitate this early bed bug detection, all hotel employees should receive some bed bug identification training.
• Have a documented in-house inspection program
• Canine scent detection on a schedule
• Protocol for what to do and say when a guest complains
Action Plan for Hotels

• After you receive a complaint:
  – Take the room out of service, record the complaint
  – Call a professional! A certified professional.
  – Inspect and /or treat; inspect again at 48 hours
  – Discard of infested furniture (mark it)
  – Inspect and /or treat again at 14 and 28 days
  – Inspect and monitor adjacent rooms
  – Record all actions taken

• Develop a method for employee to report bed bugs in employee areas
Action Plan for Apartments

• Bed bugs are spreading in apartments because unit by unit treatment is failing.
• Bed bug training for your staff so you know what is going on in your buildings
• Develop a community awareness program
  – Discuss bed bugs when they sign the lease
  – Give an action plan to each resident
  – Signs at the dumpster
  – Signs in the laundry room
Action Plan for Apartments

• When an infestation is reported:
  – PMP inspects to assess size of unit, size of infestation and level of clutter.
  – Unit preparation expectations
  – They will not be moved to another units
  – Two PMPs will apply chemical and non-chemical treatments

Moving away from having all belongings bagged-only those in the way.
Action Plan for Apartments

• Addressing adjacent units
• Expectations of control
  – Suppression
  – Control
  – Elimination
• Vacant units— a particular problem
• Expectations of control
  – Are you being realistic?
Action Plan for Apartments

Summary

• A bed bug action plan for apartments should include employee education, a community wide awareness program, a bed bug reporting procedure that the resident agrees to upon signing the lease.

• The action plan should also include the hiring of an experienced pest management company and the provision of two follow-up inspections/treatments for each infested unit and adjacent units.
Fumigation

• Fumigation is generally considered the “last resort”. This is primarily due to the price.

• However in sensitive, multi-unit situations fumigation may be more reasonable than repeated applications with conventional insecticides.
  – Local politics and publicity
  – Health of the residents
  – Environmental complexity hinders conventional treatment
The Site: Reading, PA

- Samuel J. Hubert Apartments built in 1970s
- 8 floors, 10 units / floor
- Low-income and elderly housing
- History of bed bug problems
- ~40 units had been treated using conventional methods
Community Living Favors Bed bugs

- Residents moving to and from different units
- Resident visiting each other
- Sharing of belongings
- Large communal areas
Why Conventional Treatments Fail
Why Conventional Treatments Fail
The Bed Bug Problems
The Bed Bug Problems
The Preparation

- Working with Marc Fisher of Dow AgroSciences
- Building was a single concrete pour
- Allowed for a “tape and seal” type fumigation
- Doors, windows, and air conditioning units had to be sealed
Efficacy Testing

• Live bed bug samples were transported from VT to the site for efficacy testing
  - Adults
  - Nymphs
  - Eggs
• Bed bugs were also collected at the site.
• Controls made the trip but were not fumigated.
Sample Placement

- Site opened at 1:00pm
- Fumigation was starting at 6:00 pm
- 5 floors were selected for testing
- Five rooms per floor were provided with bed bug samples
- Air conditioning was off and surface temperatures inside the hall measured between 80 and 90°F.
Effects on Eggs
9 days to hatch at 23°C

Eggs 6 d post-fume

Controls 6 d post-fume

100% egg mortality after 9 days.
Containerized Fumigation

100% mortality of all life stages.
Fumigation Conclusions

• Fumigation was expensive but it was 100% effective at killing bed bugs and their eggs.
• Fumigation was an economical option for multi-unit housing where sensitive residents had complained to the press.
• Fumigation has no residual activity but is worth the expense because you can say for sure the bed bugs were completely gone, if only for 1 day.
Heat Treatment

- **TEMP-AIR**
  - Heater temperature brought up to 135°F then fans are turned on to heat everything in the room to 120°F.
  - Position of fans are changed every hour for at least 4 hours, pushing hot air into all cracks and crevices.
  - Maintains temperature for the period of time required to penetrate all belongings.
  - No residual
Containerized Heat

• Heat chamber can be constructed in a trailer.
• Unlike chemical fumigation, heat does not have to be applied by a certified pest management professional.
• Heat chambers and even apartment heating packages can be purchased by the apartment management company and applied by trained employees in their buildings.
Fumigation and Heat Summary

• Fumigation with Vikane® fumigant is the only method that will kill 100% of the bed bugs and their eggs in an entire building.
• Heat is about 98% effective for killing bed bugs in a room or floor. Construction issues can cause cold spots.
• Both methods can be used in containers.
• Fumigation requires a certified applicator, but heat does not.