

Plunkett's
Pest Control

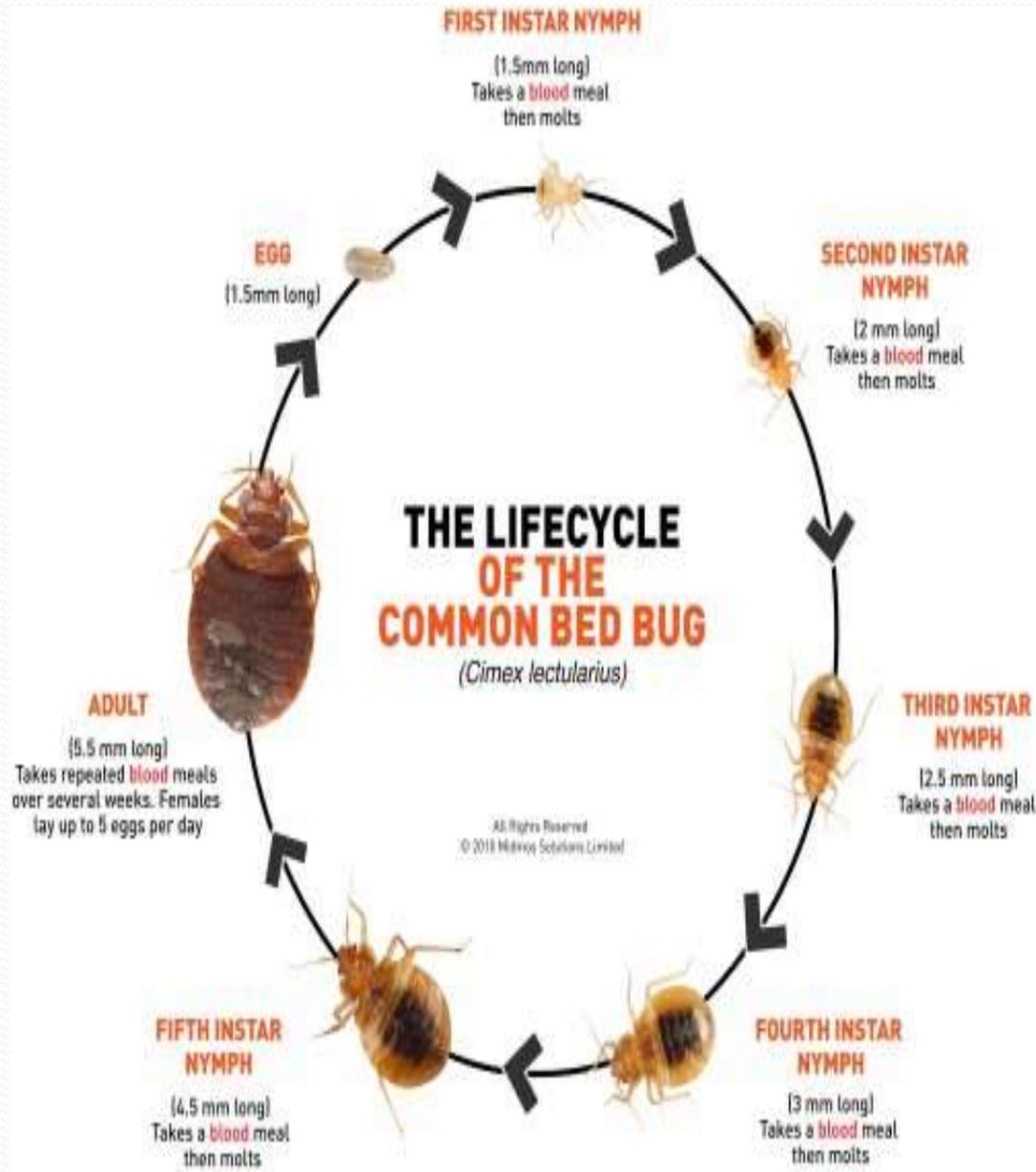
Bed Bugs



Information for Successful Identification, and eventual eradication.

Introduction:

- Biology & Behavior
- Bed bugs are “true bugs”
- Egg-Nymph-Adult (5 Stages)
- Piercing Sucking Mouthparts
- Limits their food to mammalian blood
- Feed once every 5-7 days



Eggs

- One mm long
- Translucent
- Sticks to surfaces
- Female lays 1-5 eggs in a day after feeding
- Females store sperm and do not require to mate for every egg laying



Nymphs

- One mm long @ hatch
- 5 molts – exoskeletons
- Each molt requires a blood meal
- Egg to adult in 21 days in ideal conditions



Adult

- 1/5" long- Reddish brown + flat
- Size and shape of apple seed
- Lives about 11 month if feeding regularly
- Can survive over a year without food!!!



Feeding

- Mostly in pre-dawn hours
- 3-10 min to feed
- BB's inject an anti-coagulant with their saliva causing victims not to feel bites
- Your pulse pumps blood into their head! (Gross, I know!)



Bed Bug Signs

- Bite reactions vary!!!!
- Recent studies show 40% of participants had NO REACTION TO BITES!
- No proof of disease transmission
- Mental + Emotional effect are a big concern
- Dr.'s cannot distinguish between species to identify bites!









- Signs to look for
- BB's themselves!! But, they spend 90% of their life in hiding
- Droppings! Look like black pepper
- Cast Skins- Like a snake
- Eggs- extremely small- cracks & crevices

Where to Look?

- Most infestations center around the bed... but...
- They can be anywhere!
- They will establish small colonies
 - Female self preservation
 - BB's mate by traumatic insemination- so females often relocate
 - Population size and food competition

Trends

- 2003- Plunkett's serviced 3 homes
 - 2009- serviced over 900
 - Multi-housing almost 500%
- Increase in calls per year



Treatment

- Turn up the heat!!!
- Bed bugs can hide anywhere!
- Further limits of pesticides
 - Who wants to treat a child's crib with pesticide? (Not me!)
- Chemicals play a role when used in conjunction with other methods. (Heat!)



Heat

- Heat is Plunkett's preferred method of bed bug treatment
- 99.5% success rate at eliminating on first treatment
- All stages of BB life will die if exposed to 120 degrees for 90 min. (We hold lethal temp.'s for 4 hrs. +)
- Heat can treat an apt. and all it's belongings with less hassle and greater success





WARNING

DO NOT USE ETHYL OR AMP
STARTING FLUID FOR STARTING
SEVERE ENGINE DAMAGE
WILL OCCUR



7/28/2011 11:03:21 AM

Alarm ON

Logging Active

Disk OK

Press F1 for help

About

Shut Down

Sensors | Graph | Project | Grid

1 heater Online 121.2	2 heater Online 131.2	3 heater Online 131.6	4 heater Online 118.7	5 heater Online 132.8
6 heater Online 132.2	7 heater Online 109.8	8 br2 closet Online 122.7	9 dresser Online 102.3	10 dresser Online 107.5
11 boxspring Online 114.6	12 basket Online 121.4	13 br3 closet Online 108.8	14 dresser Online 120.4	15 boxspring Online 135.8
16 dresser Online 125.9	17 br4 closet Online 98.4	18 dresser Online 113.3	19 boxspring Online 104.8	20 br5 closet Online 109.1
21 boxspring Online 112.0	22 br6 dresser Online 84.7	23 closet Online 85.0	24 boxspring Online 97.6	

Stop Logging

Log Time: 00:26:08

Log Count: 6

Print Report

Reset Sensor Names

Setup



Explanation of Process

- Confirm + ID the bug
- Surrounding unit inspection
- Schedule heat treatment
- Supply resident/manager with preparation instructions
 - Preparation is Key!!! Clutter is major obstacle!!!
- Plunkett's shows up and completes morning chemical application
- Heat- over 120 degrees for 4-5 hours throughout residence- Fans circulate & Sensors monitor
- Chemical Follow-Up at end of day
- Resident moves back in at end of day or hotel room will be available.

Prevention

- BB's Hitchhike-Must be carried in on someone/thing
- They can migrate
- Early Detection is Key!!!
- Canine bed bug inspections (Quarterly- 2x/year- yearly)
- Educate your residents or staff
- Move in, Move out inspections!!!
- Don't pull items from dumpsters!
- Inspect 2nd hand items before purchase
- Don't visit family & friends with BB's
- Notify management of bugs/bites

Canines

- Nesdeca certified(National Entomologist Scent Detection Canine Association)
- Canines VS. Humans= Humans have 5,000,000 scent receptors, Dogs have 100,000,000 to 220,000,000 scent receptors
- Spaghetti- All Ingredients
- Nostrils work independtly of each other
- Humans are visual cortex dominant, and dogs are olfactory
- Olfactory cortex in dogs 10x to 40x larger then humans relative to brain size
- Dogs 1,000x greater sense of smell





Now That The Plunkett's Guy is
Done Rambling ,Let's Answer
some Questions!!!!