



“bed bugs are known to drop from horizontal surfaces (including ceilings) because they lack the tarsal pads that allow roaches and flies to walk upside down”

Bill Robinson



The efficacy of bed bug monitors is based on their design and how the bed bugs get to the glue surface. The most successful monitors are designed as pit-fall traps: the bed bug falls onto the glue after climbing an angled surface. These are effective because the bug is walking on a nearly flat surface (30° angle) and forward motion sends it over the (unexpected) edge. Monitors that fold together into a square-shape have horizontal sides and capture few bed bugs.

Square Traps: These traps (*Fig. 1*) have straight sides and a glue-surface that is flush with the substrate. Their capture rate for bed bugs is typically low. Bed bugs crawl slowly and they can detect and avoid the flat sticky surface. They lack pads on the underside of their feet, and can easily pull a leg away from the surface. Entry on the sides of the trap is limited, and the corners are attractive as a harborage site (*Fig. 2*).

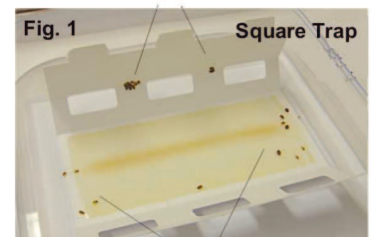
Lo-Line Monitor: This trap (*Fig. 3*) has angled sides and end ramps that completely surround the glue surface. The bed bug has no contact with the glue until it falls onto it. And the contact is usually legs and body so there is no means of pulling away. Bed bugs can enter from either the side vents or the end ramps, climbing either will result in dropping to the glue. This is a true ‘pit-fall’ trap: the bed bug walks over the edge and falls to the glue. There is no hesitation because the edge of the ramp or the side is not apparent.

Side Drop Zone – Bed bugs concentrated along the perimeter of the glue surface probably entered from the side vents. If this was adjacent to a baseboard, it may indicate a harborage.

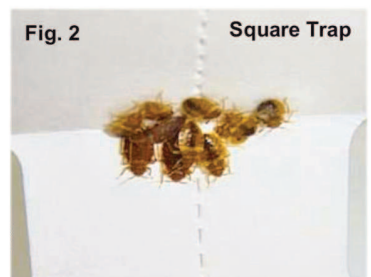
End Drop Zone – Bed bugs here probably crawled up the end ramp and fell onto the glue. The end opening and ramps are slight smaller than the side vents.

Bed bugs found in the middle of glue surface probably fell from the inside top of the trap. This may have occurred when the trap was being opened; however, bed bugs are known to drop from horizontal surfaces (including ceilings) because they lack the tarsal pads that allow roaches and flies to walk upside down.

Bed bugs in harborage

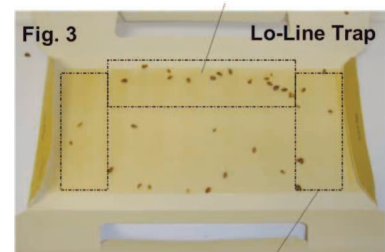


Few bed bugs on glue



Bed bugs in harborage

Bugs in Side Drop Zone



Bugs in End Drop Zone

Photos by W. Wayne White
Dir. Tech. Services, American Pest