

# **Effectiveness of BugZip Drawer Liners for Preventing Bed Bug Infestations**

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## Objective

To examine the effectiveness of BugZip drawer liners in preventing items from being infested by bed bugs.

## Question

Do BugZip drawer liners prevent items from being infested by bed bugs?

## Materials and Methods

Thirty bed bugs (10 small nymphs, 10 large nymphs, 5 adult males, and 5 adult females) were released into 80 x 80 x 5 cm plastic arenas (Fig. 1). The floor of each arena was covered with brown paper to allow bed bug movement. The sides were coated with a layer of flouropolymer resin to prevent escape. A piece of fabric and a cardboard tent were placed in each arena as harborages in which the bed bugs could hide. The bed bugs were collected from apartments and were maintained in the laboratory. They were fed on guinea pigs 7 days before the experiment. A day after the bed bugs were released, the BugZip drawer liners (20 x 13 x 6 inches) and white travel pillows were placed in the arenas. The white pillows were used by volunteers for one night prior to the experiment.



Fig. 1. Experimental setup examining effectiveness of BugZip drawer liners.

The pillows were sealed in the BugZip containers immediately before experiment. Two controls were used for this experiment: 1) a white pillow placed inside the BugZip drawer liners with the zipper open and resting on the floor of the arena (control 1), and 2) a white pillow placed directly in the arena (control 2). Each of the treatment was replicated 5 times. Bed bug locations were recorded daily for 3 days. All bed bugs were collected on the 3<sup>rd</sup> day of experiment. After two weeks, the drawer liner and arenas were inspected for eggs and hatched nymphs.

## Results and Discussion

Partially unzipped drawer liners significantly reduced the number of bugs on the pillow but did not prevent infestations (Fig. 2). Properly zipped drawer liners completely eliminated bed bug infestation of the pillows throughout the trials.

An average < 1 bed bugs were found on the exterior surfaces of the liners. These bed bugs were most often located on the zippers. No eggs were found on the BugZip drawer liners and the pillows during inspection two weeks after collection of the bed bugs.

In summary, BugZip drawer liners are effective in protecting personal items from bed bug infestations. The liners should be properly disposed after use as they may harbor bed bugs.

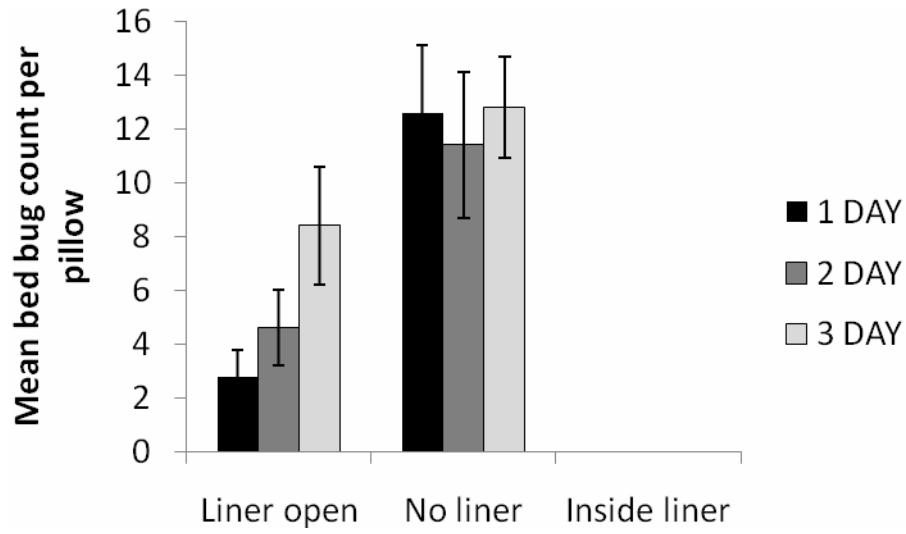


Fig. 1. Effectiveness of BugZip drawer liners in preventing pillows from being infested by bed bugs.