



Client: National Allergy Supply Company Date: June 2007
Project: Prevention of Bed Bug Feeding Through Mattress Covers
Project Code: natallergyBB07
Test Method: As described

Project Title:

Evaluation of the Efficacy of Fabric Mattress Covers and Closures in Preventing Bed Bug (*Cimex lectularius*) Feeding and Egg Passage

Project Code:

natallergyBB07

Test Date(s):

June 15, 2007 – June 18, 2007

Report Date:

June 2007

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Arena details:

size of arena:	½ pint Mason jar with lid
arena material:	clear glass
type of cover :	metal lid with either all fabric insert or zipper insert
Food/water:	none provided

Confirming Pest Condition:

All bed bugs were confirmed ‘alive’ 2 times prior to testing:

- 1) the insects were removed from the breeding container by transferring only live insects to testing arena,
- 2) after all insects were transferred to the arenas, they were confirmed to be moving before any attempts at feeding were made.

Method Used to Evaluate Testing Results:

Arena was opened and insects were examined under magnifying lenses to ascertain if feeding had taken place. The measure of feeding was any additional color or swelling of the insect’s abdomen.

Results / Discussion:

Table 1 illustrates the efficacy of the tested fabrics in preventing feeding by bed bugs of all life stages when presented with a human host. Table 2 illustrates the efficacy of the closure systems for the mattress covers in preventing bed bug feeding by all life stages when presented with a human host. Table 3 illustrates the amount of 1st instar bed bugs, eggs, and debris from bed bugs that was able to penetrate the zipper closures of the mattress cover fabrics in this test.

At no time during the test was any bed bug of any life stage able to penetrate any of the fabrics tested. The zipper closures for these fabrics also maintained their integrity and no stage of bed bug was able to penetrate and feed. The only penetration of the zipper closures during the test with shaken debris was the small pieces of debris shown in the accompanying micro-photographs.

The conclusion may be drawn from the results of these tests that all the fabrics and closures presented for testing were effective in preventing all stages of bed bugs from penetrating and feeding.



Tables:

Table 1.

Number of Bed Bugs (<i>Cimex lectularius</i>) of Each Life Stage Exhibiting Feeding Behavior in Test Arenas with Fabric Covers Exposed to Host (~200 Bed Bugs of Mixed Stages per Arena)			
Test Product	1st Instars	mid instars	Adults
Satin Soft Classic	0	0	0
Softek 2	0	0	0
Elegance	0	0	0
Ultra	0	0	0
Supreme	0	0	0
Z Fab	0	0	0

Table 2.

Number of Bed Bugs (<i>Cimex lectularius</i>) of Each Life Stage Exhibiting Feeding Behavior in Test Arenas with Zipper Insert Lids Exposed to Host (~200 Bed Bugs of Mixed Stages per Arena)			
Test Product	1st Instars	mid instars	Adults
Satin Soft Classic	0	0	0
Softek 2	0	0	0
Elegance	0	0	0
Ultra	0	0	0
Supreme	0	0	0
Z Fab	0	0	0

Table 3.

Number of Eggs and 1st Instars of Bed Bugs (<i>Cimex lectularius</i>) Able to Penetrate Zipper Inserts in Test Arenas (~100 1st Instars and ~100 eggs)		
Test Product	# Eggs	# 1st Instars
Satin Soft Classic	0	0
Softek 2	0	0
Elegance	0	0
Ultra	0	0
Supreme	0	0
Z Fab	0	0