BLACK PLASTIC FOR
BED BUG CONTROL
THIS MYTH IS BUSTED!

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UNLESS YOU HAVE BEEN WALKING AROUND WITH YOUR EYES SHUT OVER THE LAST THREE YEARS AND NOT BEEN REGULARLY READING GARRARDS PEST REVIEW, THEN YOU WOULD BE WELL AWARE THAT THE WORLD IS CURRENTLY IN THE GRIP OF A MAJOR BED BUG RESURGENCE.

To demonstrate just how dramatic this is, a survey of Australian Pest Managers conducted during mid-2006 by our Department, found that bed bug infestations have increased by an astonishing 5000 per cent since 2000!

Resurfacing with the return of the bed bugs are all sorts of old control methodologies. One is that bed bugs can be eradicated by wrapping infested mattresses in black plastic and placing them outside in the sun; the theory being that the heat generated will kill the insects.

But will this actually work or is the idea just an 'old pesties tale'?

The concern is that all items have an inherent thermal inertia; thus an ability to withstand temperature changes.

As mattresses are reasonably large, the thermal inertia might prevent the temperature rising to the point lethal for bed bugs, for example 60°C to achieve instantaneous death and 44°C for at least one hour.

To test the black plastic theory, we used two mattresses, a basic 8cm thick foam rubber mattress, and a 32cm thick multilayered inner spring mattress that had a padded layer on both the top and bottom.

Data loggers were placed on both sides to accurately record the temperature changes over time. The mattresses were then wrapped in black plastic and placed outside on a sunny hot Sydney summer day.

On the day of the experiment, the air temperature peaked at 36°C and remained above 30°C from 11am until 3:30pm.
The temperature on the sun exposed side of both mattresses reached 85°C; however, the underneath did not reach 44°C; the highest reading was 41.5°C for the foam mattress and less than 35°C for the thicker mattress.

Clearly, the thermal inertia of the mattresses ensured that they were not heated through sufficiently. It is also likely that the use of black plastic cannot be relied upon to treat even smaller items.

The problem is that bed bugs respond rapidly to heat and a slow rise in temperature will cause them to move to cooler areas. This means that when heat is employed for bed bug control, the temperature rise has to be very rapid.

The only effective and safe method of using heat for bed bug control is via steam.

Clearly the myth is now busted and black plastic should never be employed in any integrated bed bug control program!

The results from this study and other scientific investigations have been used in the development of the The Code of Practice for the Control of Bed Bug Infestations.

The Code should be consulted for industry 'best practice' for the eradication of bed bug infestations and can be downloaded free from: www.bedbug.org.au/bedbug_cop.htm

The full paper on the black plastic research along with several other bed bug articles produced by the Department of Medical Entomology can be downloaded at no charge from: www.bedbug.org.au/papers.htm