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Bed Bugs Limited

Prepared by

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Faecal trace confirmation kit tests.

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Contents

Summary 3
Method 3
Data 3
Results 11
Conclusions 12
Recommendations 13

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Summary

The holy trinity of bedbug confirmation will always be:

- Live samples
- Cast skins
- Faecal traces

Some of the key issues surrounding confirmation are as follows:

- Most consumers are not skilled at attention detail searching
- Anxiety often fuels suspicion over fact and paranoia means that everything looks like a bedbug or could be faecal sign
- Even K9 detection requires confirmation of finding and with the notorious difficulties in visual identification there is a significant resistance
- Consumers want immediate results and confirmation at this time of high stress

This solution to faecal trace confirmation meets all the potential needs for a rapid diagnostic in that it is accurate and has clearly visible control ability as well. The time frame meets the needs of home user and field based professional alike and can be used to confirm suspicions.

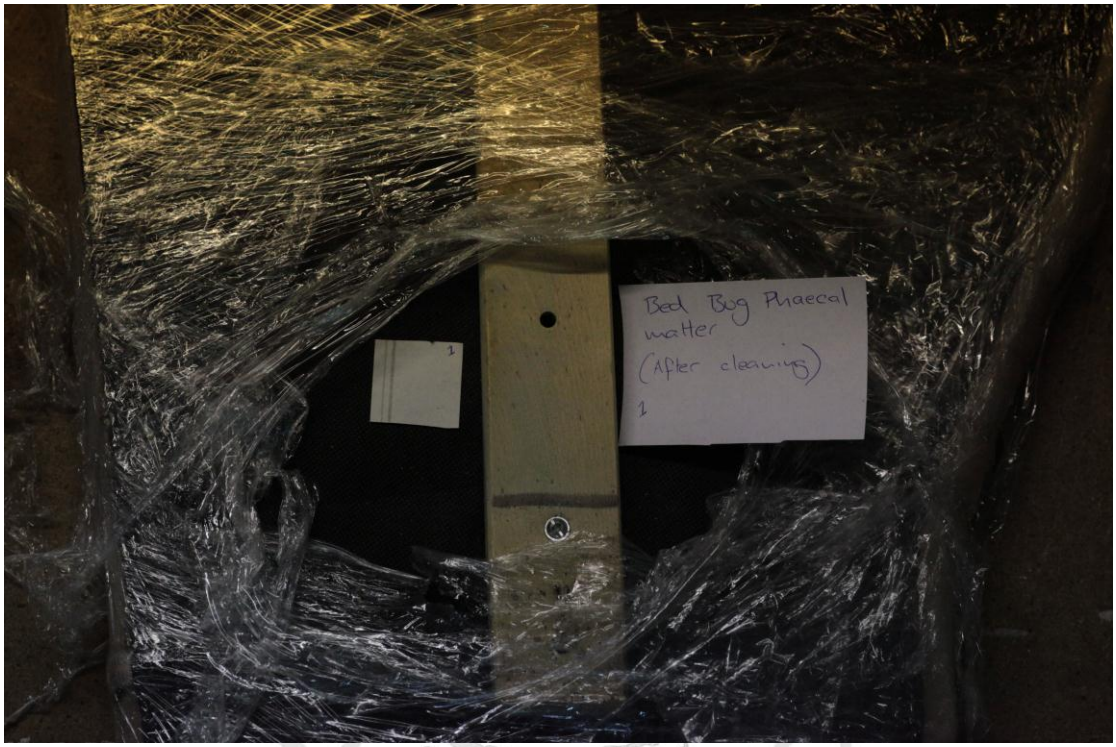
Method

A number of test kits and a fresh pack of cotton wool swabs was given to our decon manager to assess the effectiveness of the kit in essential untrained hands.

Various items from our collection of faecal stained items were used along with any samples found through a sweep of the warehouse that anyone could conceivably think may have been faecal traces, in particular a patch of fly droppings with an almost identical visual appearance to bedbug faecal traces.

Data

The original images from the testing have been included in this report below. All shots were taken on a Cannon EOS 5D mkII professional 23 MPix camera with a Cosima 1:1 lens.



Test 1 – post cleaning process

Result 1 – negative on the sample – control positive – test passed

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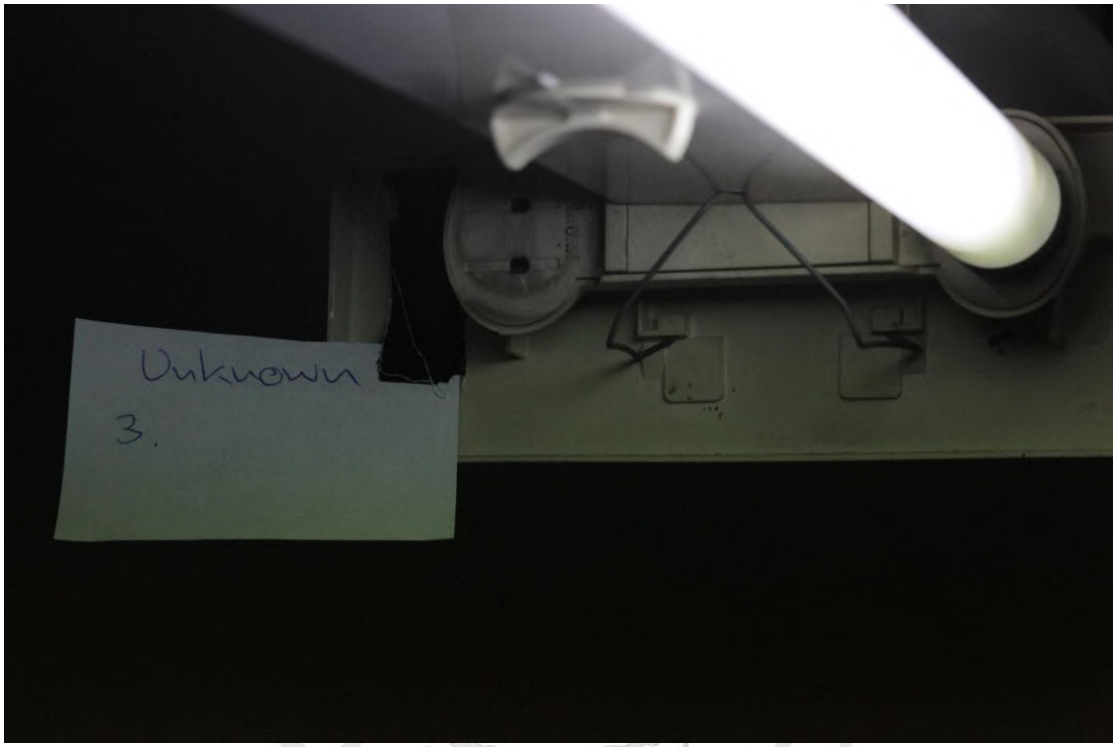
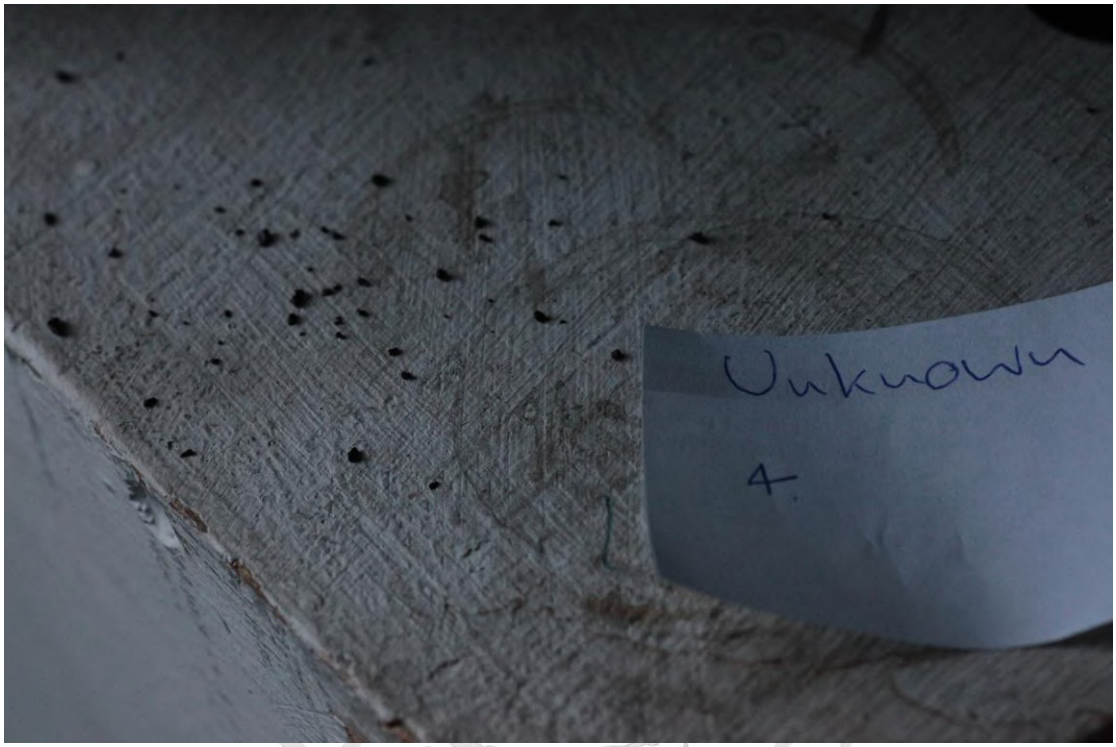
Test 2 – untreated faecal trace material on sanded but not finished wood

Result 2 – positive for faecal trace – control missed (to be repeated)



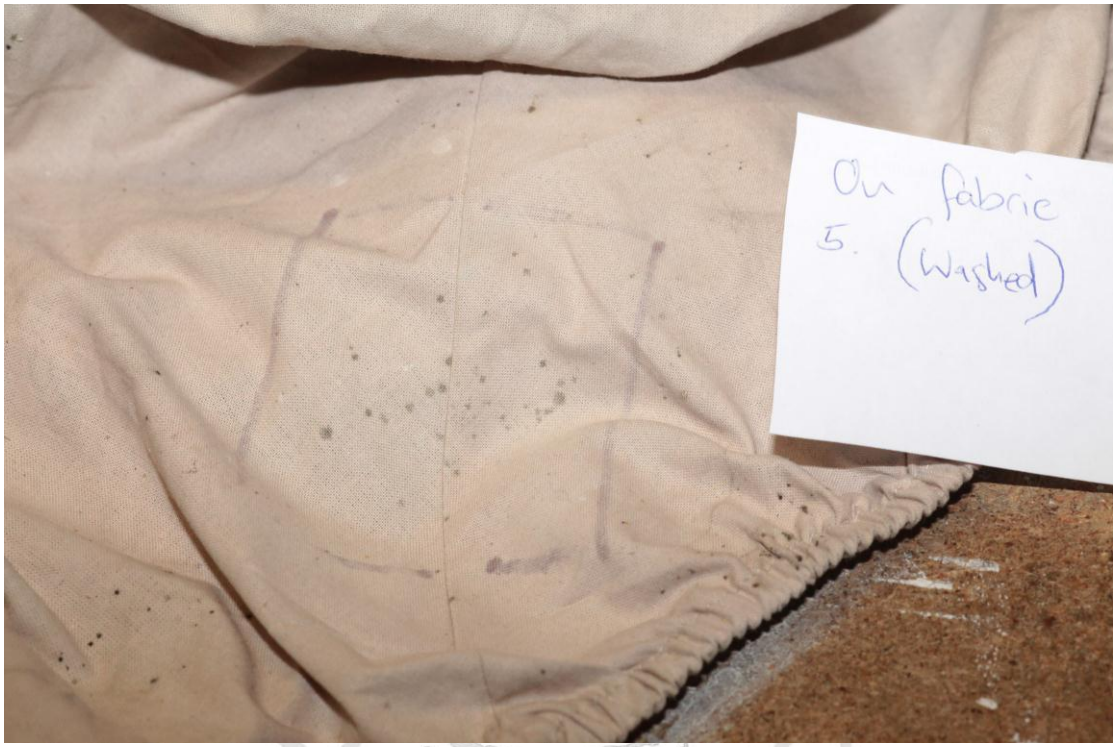
Test 3 – Fly droppings from light fitting in office 2

Results 3 – negative for faecal trace – positive for control confirming test efficiency



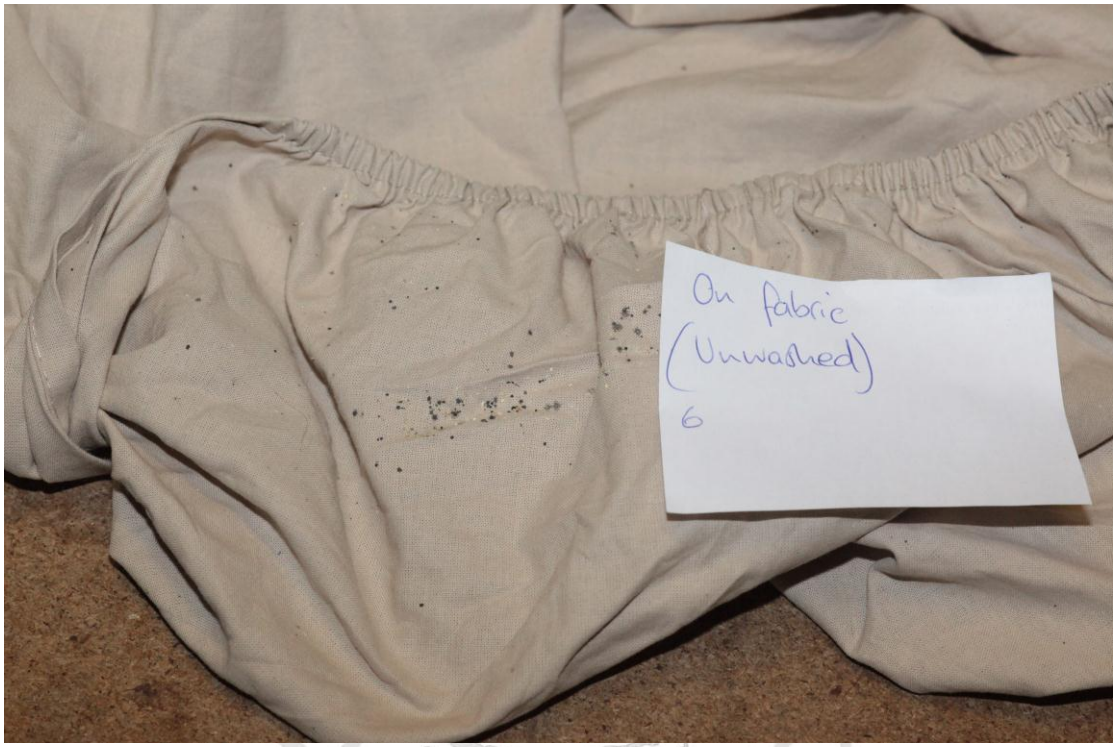
Test 4 – unknown dirt samples which could have been mistaken for faecal material.

Results 4 – negative for faecal trace – positive for control



Test 5 – washed and cleaned fabric

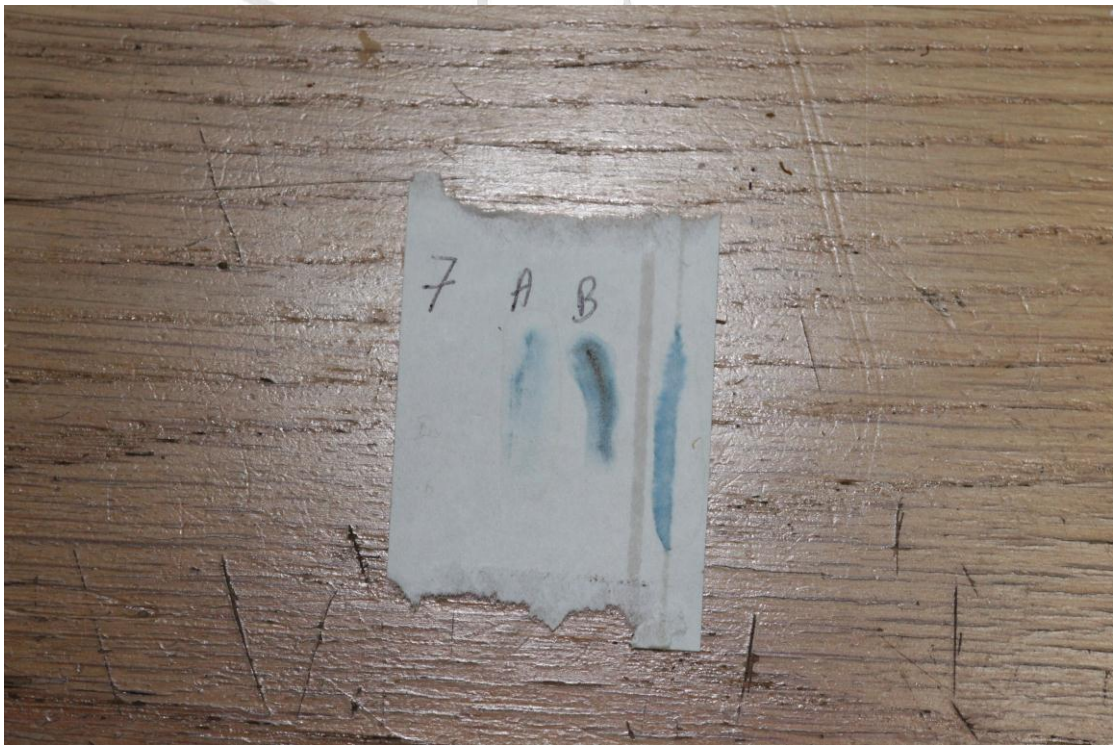
Result 5 – negative for test – positive for control



Test 6 – faecal trace on an old sheet unwashed.

Result 6 – positive for faecal trace – control missed (to be repeated)

Test 7 – passive monitor detection skirt



Results 7 – light rubbing A positive – vigorous rub B positive – control positive

Results

The results have been summarised in the table below:

Test	Sample	Control	Pass / Fail
1	Negative	Positive	Pass
2	Positive		Pass
3	Negative	Positive	Pass
4	Negative	Positive	Pass
5	Negative	Positive	Pass
6	Positive		Pass
7a	Positive	Positive	Pass
7b	Positive	Positive	Pass

Conclusions

With limited testing I can't find fault with this simple and efficient way of confirming faecal traces.

I can easily see us incorporating this into our field based work, using it as confirmation with our clients as well as retailing it through our direct to consumer channels.

I will continue to test the product in the field with a variety of samples and will also start testing it with passive monitors and as part of our sample identification service.

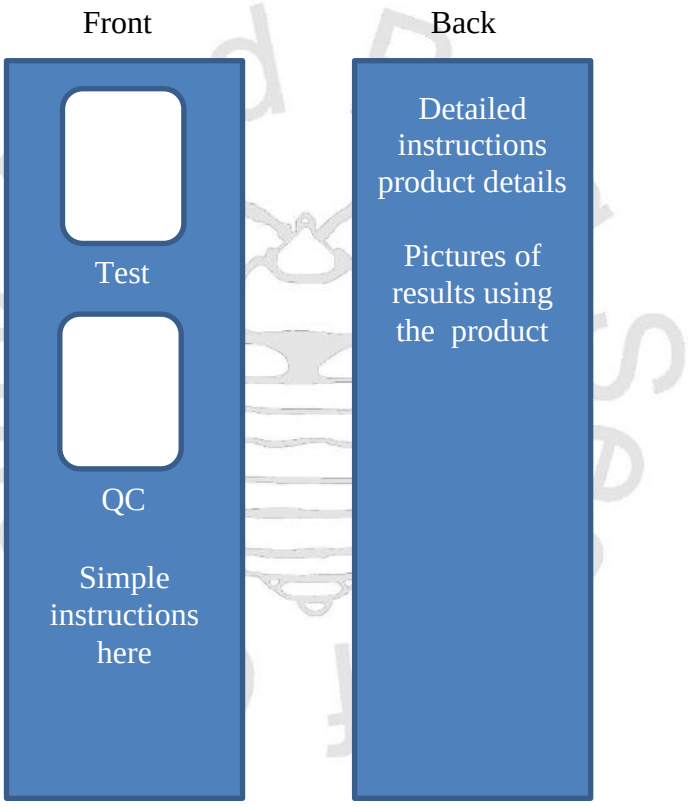
We would certainly be interested in taking a position as agents for this technology in Europe and look forward to the first product being available.

Recommendations

The ultimate success of this product relies upon its ease of use and clear simple instructions. It should be economically viable to perform multiple tests on a daily or weekly basis without any specialist knowledge or an advanced knowledge of bedbugs.

The control step I feel will be critical in reassuring the public on the tests efficacy. The ability to get a negative result and then still confirm that the kit is working is such a massive selling feature that it needs to be one of the key selling features. Using a negative response swab you can actually check that the reagents still work with the next swipe. This will have a massive benefit towards reassuring people.

Although there is obviously a cost implication I would strongly advise that the format of the product be as follows:



Using a cover slide arrangement you can put the product name and images illustrating what to test for on the outer unit packaging as a visual clue for what things to test and to help people visually check what they want to test as possible faecal trace.

I would suggest packs of 10 with 12 swabs and 1 small bottle of reagent would fit into a handy package about the size of a packet of cigarettes which is also the ideal size for check out displays at pharmacists. I see the largest potential market for this product being over the counter direct to consumers at the point of consultant with a pharmacist or through hardware stores. Although there is a small investment to be made in making this a finished product from day one I am certain that the market even for internet based mail order is significantly large enough to provide a more than acceptable return in a short time frame.