

Questions and Answers about Mehandi.com's Laboratory-Tested Henna

Q. Why did you start doing chemical tests on henna?

A. Part of my dissertation research involves testing fifty different brands of henna, available from shops and online, for lawsone content, contaminants, adulterants and heavy metals. I'm doing sequential tests of known hennas from several suppliers to find the range of variation within a processing season. I'm also doing comparative tests from other suppliers to determine the variability of processing, plant types, pesticide levels, adulterants and contaminants. This will be in conjunction with a discourse analysis of advertising claims.

Another, more important reason for testing is that I've been asked to be a consultant on a medical research project at a major US medical school that is running clinical trials on possible therapeutic and pharmaceutical uses for henna. I can't publish the name of the school yet because their research project is still at an early stage and they're not ready to publish their results. However, the preliminary tests have been positive and if the trials are successful, this could be a major step toward gaining approval from the US Food and Drug Administration for topical use of henna (direct application on human skin) in the US.

Both the medical school project and my dissertation have to meet requirements set by the respective university's Institutional Review Boards (IRB). The IRB cooperates with the USFDA to set standards for human trials in academic and medical research. The IRBs must file reports from an accredited laboratory on tests performed on the hennas to be used in the tests before any human testing is done. Those tests must meet federal health and safety standards.

Q. *When did you start testing your henna?*

A. We began testing shipments of one metric ton or more in the last quarter of 2008. Not every batch we have on hand is tested. All the laboratory-tested batches must be individually identifiable. This means we have to maintain strict lot controls, so some shipments won't be tested because for one reason or other, we can't certain that all the henna is from the same production run or a shipment got scrambled in transit or in the warehouse.

Q. *Where do you get your henna?*

A. Our hennas come from India, Pakistan and Yemen, through some the same exporters that other US henna sellers deal with. The one difference is that we buy up to ten metric tons of henna a year so we are able to order henna in bulk, unpackaged lots and sell it under our "house brand" names, depending on each henna's mixing and staining qualities and, in the case of laboratory-tested batches, the lawsone content.

For my dissertation research, we test multiple batches from each distributor to build up profiles of different henna sources. The multiple tests show the differences and similarities between different distributors, different crops and even differences within the same crop. The laboratory tests are also a good indicator of the degree of pesticide drift from nearby crops. Henna rarely needs any spraying, but cotton and other crops in the region are often sprayed with high levels of pesticides forbidden on plants that would be used for human consumption. Wind drift and runoff from fields treated with pesticides could affect a nearby henna crop.

Q. *How is your henna tested?*

A. We send samples of henna shipments to Alkemists Pharmaceuticals, an independent laboratory, recommended by the university medical school conducting the tests on therapeutic uses of henna. Alkemists tests each sample for lawsone content, pesticides, lead and other adulterants and contaminants.

The actual test is a standard lab procedure known as "high-performance liquid chromatography" (HPLC). HPLC separates a test sample into its chemical components so the individual components can be separately measured. The Alkemists laboratory's testing curve is precise to 10 parts per million or better. This is standard precision for a laboratory that performs tests on foods, food supplements and drugs.

For my dissertation research, the laboratory tests are required by the Institutional Review Board (IRB) at Kent State University. Colleges and universities in the US receiving research funds from the Department of Health and Human Services are required to have an IRB for, among other reasons, to maintain standards for any testing involving human subjects.

Laboratory testing is also required for materials intended for pharmaceutical use. We are now supplying henna from our tested batches to the university medical school for their research in medical uses of henna.

Alkemists Pharmaceuticals holds the rights and maintains control of the reports on all their laboratory tests, but anyone who would like to see a copy of the test report can contact Alkemists Pharmaceuticals, who will arrange to send a copy of the report which includes details on their testing methodology.

Q. Why are you selling the laboratory-tested henna?

A. The simplest and most obvious answer is that I need to recover to cost of having the hennas tested. Initial setup and testing protocol design at the lab are expensive and each subsequent batch test costs several hundred dollars. The tested lots are about three metric tons each, more than the medical school or I will use for research, but there is a demand for the tested product among Mehandi.com's customers.

Mehandi.com's core business is henna for hair and many of Mehandi's customers have chemical sensitivities or allergies, often resulting from using conventional commercial hair dyes and they can no longer use those dyes because of health concerns. We also have nursing mothers, cancer survivors and others among our clients who are concerned about pesticides and lead. Our staff frequently answers some variation on the question "What's in this stuff?" The only way to give a certain and consistent answer to that question is to have the henna assayed so we have a hard-copy record from a certified lab saying exactly what's in each tested batch we have in the warehouse.

Q. Is it possible to see the results of the laboratory tests?

A. For general information about Alkemists Pharmaceuticals, you can visit their website at <http://www.alkemist.com/>. To request further information about their testing methodologies or to request a specific test report, contact Alkemists Pharmaceuticals at their street address: Alkemists Labs 1260 Logan Ave # B2 Costa Mesa, CA 92626, by phone at: 714-754-HERB (4372) or by email at: info@alkemist.com.

To request a copy of specific laboratory test report from Alkemists Pharmaceuticals, include the company name: TapDancing Lizard LLC and the batch number, which you can find on the Mehandi.com website at: <http://www.mehandi.com/shop/purity/index.html>.

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