TECHNICAL SUMMARY

HONEY SAMPLING: SOME DOS & DON'TS

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Honey samples are usually collected to send to a lab for testing, or to give to a potential buyer for them to evaluate. Doing a good job of sampling means fewer unexpected surprises when working with honey you own, or are looking to buy.

The perfect honey sample is *exactly the same* as the average of the batch or container of honey it has been taken from; i.e., it is a 'representative' sample.

SAMPLING HONEYCOMB IS VERY DIFFICULT

It's very hard to collect a representative sample of comb honey. There is a lot of variation across a frame, between frames, and between hives due to the variation in nectar collected by bees at different times. You may find it useful to take a sample of uncapped honey from a frame to check out the honey the bees have recently been collecting, but it almost certainly won't be a good indication of the average of the honey extracted from that hive site.

The Ministry for Primary Industries has developed some specific guidelines for sampling cut comb for tutin testing, which involves collecting all the drippings when processing the cut comb, and mixing them well before taking a sample. If you do need to sample comb honey, this is probably the best way to do it.

IF SAMPLING SMALL CONTAINERS OF HONEY, LIKE BUCKETS, TRY TO MIX THEM WELL BEFORE TAKING THE SAMPLE.

Some hobbyists or small-scale beekeepers store honey in buckets rather than drums. It's a good idea to collect a sample from each bucket at extraction, while the honey is still liquid and easy to mix.

To collect a representative sample, stir each bucket thoroughly to ensure it is well mixed. Then take 50–100 grams of honey and put it in a clearly labelled container. You can use this as a representative sample for that bucket. Later, if you want to, you can combine equal amounts of the honey sampled from a number of buckets to get a sample that is an average of them all. Try and store your

Core sampling of mānuka honey.
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samples in similar conditions to the buckets they come from.

After a while, honey stored in buckets is likely to granulate and/or go solid. At this point, unless you want to warm up the honey to make it liquid and easy to stir, you will probably need to sample it using a core sampler (see below) to get a representative sample.

GET A GOOD CORE SAMPLER FOR SAMPLING DRUMS OR IBCS, AND LEARN HOW TO USE IT WELL

Most bulk honey is stored in drums or intermediate bulk containers (IBCs). You will need a good core sampler to be able to collect a sample, and you should develop (and ideally write down) how to use it to reliably collect representative samples.

A core sample should be taken from the top to the bottom of the drum or IBC and include the edges as well as the middle of the container. This is especially important for bulk honey that has been in storage for more than six months, because the honey changes at a different rate depending on whether it is on the outside, middle, top, or bottom of the container.

If you want to check how good your sampling technique is:

- Collect a sample from a drum or IBC at least six months after extraction, using your normal technique. Put about 50 grams of this in a sample container and store it in the fridge.
- Do the same again the following day, and again on the next day. At the end of this you will have three 50 g samples in your fridge.
- Send these off to a lab. Ask for a mānuka 3-in-1 test to be done on the samples; it's an inexpensive test that will produce results for three different compounds (DHA, MG, and HMF), which have less laboratory variation in them than other kinds of tests.
- If your sampling technique is good, the results for the three samples should be very similar. While MG is the best result to use to compare, if your honey does not contain much MG then HMF will work almost as well.

IF YOUR SAMPLE IS FOR LAB TESTING, SEND IT AS SOON AS POSSIBLE AFTER COLLECTION

Once your sample has been taken, it will experience different conditions (especially temperature) to the honey it has been sampled from. To minimise the impact this has on the sample, send it to the lab as soon as possible after collecting it. It's OK to store the sample in similar conditions to the bulk honey before sending it, but you should avoid doing things like leaving it for too long in a hot car, or on a sunny desk or windowsill. *Never store your samples in a hot room!*

If your extraction process is reliable at producing well-mixed (homogenised) batches, then it's OK to collect only one sample to represent the batch.

You can save considerable time and money by homogenising your honey well at extraction, before it is poured off into drums or IBCs. If well mixed, all the honey will be the same right across the batch, and only one sample of the extracted honey should be needed to give a reliable result for all the honey in the batch.

The key question is, how well is the honey mixed in your extraction process? It's actually quite easy to check this out, and is a good idea to do from time to time over the extraction period to make sure the mixing process is still working well.

- Take a sample from each drum or IBC in a batch. Store them in a fridge to keep them stable.
- Send three samples off to a lab for a 3-in-1 test: one from early in the batch, one from the middle of the batch, and one from the end of the batch. If your honey is not likely to contain much mānuka nectar, call your lab to work out a test that may be more useful—moisture or diastase may be good alternatives.
- Compare the results for the three samples that you collected. If the results are very similar, then your mixing/ homogenisation process is working well. If the three results are different, you may choose to send in the rest of the samples from the batch for the same testing to see just how variable the batch is.

If your batch is not well mixed, then a sample may be needed from each drum or IBC for tutin. It can be a good idea to have a sample from each drum of mānuka honey so you can get the best value for them.

OLD SAMPLES MAY NOT GIVE YOU ACCURATE INFORMATION ABOUT YOUR HONEY TODAY

Samples change over time, and will do so faster in warmer conditions. If you are using a sample for testing, in most cases it is better to collect a new sample rather than using one that is more than a few months old. This way, your test results will more reliably reflect the honey you have.

- Tutin is reasonably stable in honey, so an old sample should be OK to use. This is also true for pollen counting.
- The most important tests done in mānuka honey change quite a lot over time. It's generally best to collect a fresh sample for testing.
- Moisture should be fairly stable in honey unless the honey is fermenting, in which case you have bigger problems!