



TECHNICAL NOTE

TUTIN ANALYSIS AND COMPOSITING IN HONEY AND HONEY PRODUCTS

Introduction

Tutin is an extremely toxic compound found in the tutu plant (*Coriaria arborea*), a native bush to New Zealand.

Toxic honeydew is produced when certain conditions exist, including:

- Tutu Bush
- Passion vine hopper
- Limited or no nectar
- Long dry weather conditions
- Geographical location

The bees collect the toxic honeydew and incorporate into the honey. Contaminated honey has no distinctive colour or taste, and tutin is not toxic to bees.

However if ingested by humans, can cause vomiting, delirium, giddiness, increased excitability, stupor, coma, violent convulsions and can be lethal.

Why Test?

The Ministry of Primary Industries (MPI) requires that all honey and honeycomb which is to be sold, to be tested for Tutin.

The maximum allowable level for Tutin is 0.7mg/kg (per batch), and is regulated by a standard under the New Zealand Food Standards Authority (NZFSA). Refer to their website for further information <http://www.foodsafety.govt.nz/industry/sectors/honey-bee/>, and the Food Standards Code <http://www.comlaw.gov.au/Details/F2015C00052>.

Compositing samples for Tutin testing can provide a cost effective option, without compromising on accuracy of results.

Compositing Samples for Tutin

- The laboratory must perform all compositing of samples for tutin analysis.
- The maximum number of samples per composite is 10.
- Honeycomb can not be composited.
- If levels found in composited samples exceed the allowable level, individual samples are likely to require further testing.
- Hill Laboratories' detection limit for tutin is 0.01mg/kg.
- When submitting samples for compositing, please ensure you clearly indicate on the paperwork which samples should be combined together.
- Compositing samples dilutes (decreases) the results, depending on the total number of samples in the composite. Please refer to the table on page 2, for these equations.

Number of Samples in Composite	Allowable Level (mg/kg)
1	0.7
2	0.35
3	0.23
4	0.18
5	0.14
6	0.12
7	0.10
8	0.09
9	0.08
10	0.07

Contact Details

For further information please contact our Client Service Managers.
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