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Certificate of Analysis

Client:	Cosana New Zealand Limited	**Lab No:**	3913185 HGPv1
Contact:	Cherie Kloet	**Date Received:**	11-Jun-2025
	C/- Cosana New Zealand Limited	**Date Reported:**	16-Jun-2025
	PO Box 3330	**Quote No:**	130194
	Taupo 3351	**Order No:**	SORD25202 - URGENT
		Client Reference:	CSNZ14638 - CSJP - Batch Test
		Submitted By:	Cherie Kloet

Sample Type: Honey

Sample Name:		CSNZ14638
Lab Number:		3913185.1
MPI Manuka Classification		
MPI Manuka Honey Classification		Monofloral Manuka Honey
3-Phenyllactic acid (3-PA)	mg/kg	650
2'-Methoxyacetophenone (2'-MAP)	mg/kg	12.5
2-Methoxybenzoic acid (2-MBA)	mg/kg	10.4
4-Hydroxyphenyllactic acid (4-HPA)	mg/kg	8.6
Manuka DNA	Cq	26.87
Manuka Honey Analysis		
Dihydroxyacetone (DHA)	mg/kg	720
5-Hydroxymethylfurfural (HMF)	mg/kg	30.7
Methylglyoxal (MGO)	mg/kg	547
Non Peroxide Activity (NPA)*	% Phenol Equivalent	15.6
Tutin Analysis		
Tutin Result Evaluation	Pass/Fail	PASS
Tutin	mg/kg	< 0.010
MRL as per Tutin in Honey Food Standard 2016	mg/kg	0.70
Microbiological Analysis		
Aerobic Count 35°C	cfu / g	44
Yeasts & Moulds	cfu / g	< 10
Total Coliforms	cfu / g	< 10
Staphylococcus aureus	cfu / g	< 10
Glyphosate Analysis		
AMPA	mg/kg	< 0.010
Glufosinate	mg/kg	< 0.010
Glyphosate	mg/kg	< 0.010

Analyst's Comments

Sample 1 Comment:
MPI Classification Comment:
The results presented on the Certificate of Analysis have been rounded to an appropriate number of significant figures, based on the Uncertainty of Measurement of the methods performed. The 'MPI Manuka Honey Classification' has been determined using unrounded values. In cases where one or more values were close to the critical levels (as defined by MPI), there may be a seeming inconsistency between the classification and the rounded values reported.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Honey

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
3-in-1 Honey method	Aqueous extraction, derivatisation. Analysis by uHPLC / UV-Vis (dihydroxyacetone, 5-hydroxymethylfurfural, methylglyoxal). In-house.	1.0 - 10 mg/kg	1
Non Peroxide Activity (NPA)*	NPA is calculated from methylglyoxal using an industry accepted correlation curve based on published data[1,2] for NPA and the primary active ingredient, methylglyoxal. [1] Isolation by HPLC and characterisation of the bioactive fraction of New Zealand manuka (Leptospermum scoparium) honey. C. J. Adams, et al. Carbohydrate Research 343 (2008) 651-659. [2] Corrigendum to "Isolation by HPLC and characterization of the bioactive fraction of New Zealand manuka (Leptospermum scoparium) honey" [Carbohydr. Res. 343 (2008) 651]. C. J. Adams, et al. Carbohydrate Research 344 (2009) 2609.	1.0 % Phenol Equivalent	1
Tutin Analysis in Honey	Solvent extraction, dilution. Analysis by LC-MS/MS. Results are representative of the liquid honey, not the sample as a whole. Tutin Result Evaluation (PASS/FAIL) The PASS/FAIL result is based on comparison of the tutin result with the "Food Standard: Tutin in Honey (2016)". A result that falls at or BELOW the maximum permitted tutin level will give a PASS result. A result that falls ABOVE the maximum permitted tutin level will give a FAIL result. Individual Sample Testing Recommended? Where a tutin result for a composited sample is above the maximum permitted level, it is recommended that the individual samples are retested. Please contact the laboratory to arrange for individual sample retesting. **RLP Official Test 8.42**.	0.010 mg/kg	1
Aerobic Count 35°C	Automated MPN count on TEMPO AC, Incubated at 35°C for 22-28 hours. bioMérieux, TEMPO.	10 cfu / g	1
Total Coliforms	Automated MPN count on TEMPO TC, incubated at 35°C for 24-27 hours. bioMérieux, TEMPO.	10 cfu / g	1
Staphylococcus aureus	Automated MPN count on TEMPO STA, Incubated at 35°C for 24-27 hours. bioMérieux, TEMPO.	10 cfu / g	1
Yeasts & Moulds	Automated MPN count on TEMPO YM, Incubated at 25°C for 72-76 hours. bioMérieux, TEMPO.	10 cfu / g	1
Glyphosate LC-MS/MS Analysis	Aqueous extraction, Analysis by LC-MS/MS. In-house. **RLP Official Test 8.47.1**.	0.010 mg/kg	1
MPI 5 Attributes Tests			
MPI Manuka Honey Classification	Evaluation of results against Ministry of Primary Industries (MPI) criteria for classification of monofloral and multifloral Manuka honey. General Export Requirements for Bee Products - 27 October 2021.	-	1
Manuka Honey Chemistry Profile			
3-Phenyllactic acid (3-PA)	Aqueous solvent extraction, dilution. LC-MS/MS analysis. MPI Technical Paper 2017/30 (modified) **RLP Official Test 10.05**.	5 mg/kg	1
2'-Methoxyacetophenone (2'-MAP)	Aqueous solvent extraction, dilution. LC-MS/MS analysis. MPI Technical Paper 2017/30 (modified) **RLP Official Test 10.05**.	0.50 mg/kg	1
2-Methoxybenzoic acid (2-MBA)	Aqueous solvent extraction, dilution. LC-MS/MS analysis. MPI Technical Paper 2017/30 (modified) **RLP Official Test 10.05**.	0.50 mg/kg	1
4-Hydroxyphenyllactic acid (4-HPA)	Aqueous solvent extraction, dilution. LC-MS/MS analysis. MPI Technical Paper 2017/30 (modified) **RLP Official Test 10.05**.	0.50 mg/kg	1

Sample Type: Honey			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Manuka Honey PCR Profile			
Manuka DNA	Quantification of Manuka (*Leptospermum scoparium*) DNA by real time PCR. MPI Technical - Paper No: 2017/31 (modified). **RLP Official Test 10.04**.	> 36 Cq	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 11-Jun-2025 and 14-Jun-2025. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Shaun Clay BSc
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