



Certificate of Analysis

Nelson Honey & Marketing (NZ) Ltd
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Lab Reference: 18-36423
 Submitted by: Terena Roeske
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 Reference:

Report Comments

Samples were collected by yourselves (or your agent) and analysed as received at Analytica Laboratories. Samples were in acceptable condition unless otherwise noted on this report.

Results Summary

C4 Sugars (AOAC)

Laboratory ID	Sample ID	$\delta^{13}\text{C}$ (Whole Honey)	$\delta^{13}\text{C}$ (Protein Extract)	Difference (Honey – Protein)	%C4 Sugars
	<i>Units Reporting Limit</i>	‰	‰	‰	%
18-36423-1	211118MH	-25.81	-26.18	0.37	2.2

C4 Sugars (AOAC) Approver:

Naghmeh Hojjat, PgDip
 Technician

Method Summary

C4 Sugars (AOAC)

The C4 sugars were determined according to the international AOAC 998.12 standard method. Stable carbon isotope ratios for the whole honey and honey protein, are measured using isotope ratio mass spectrometry (IRMS) or cavity ring-down spectroscopy (CRDS). An estimate of the C4 sugars content is derived from the difference in $\delta^{13}\text{C}$ between the whole honey and protein extract.

The uncertainty of measurement associated with the $\delta^{13}\text{C}$ values determined for both honey and protein was estimated to be $\pm 0.15\%$. For any reported %C4 sugar value, this translates into standard uncertainty of %C4 sugar determination of $\pm 0.6\%$, meaning that a %C4 sugar value in the 6.5 - 7.0 range may not comply with the AOAC test limit of 7%.