



Certificate of Analysis

BeeNZ Ltd
85 Tetley Road, RD2
Katikati 3178
Attention: Julie Hayes
Phone: 07 549 4178
Email: kate@beenz.co.nz

Lab Reference: 20-12890
Submitted by: N/A
Date Received: 27/03/2020
Testing Initiated:
Date Completed: 16/06/2020
Order Number: G1 - 20
Reference: 20T6

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.
Specific testing dates are available on request.

Results Summary

3in1

Laboratory ID	Sample ID	Methylglyoxal (MG)	Non-Peroxide Activity* (NPA)	Hydroxymethylfurfural (HMF)
Units Reporting Limit		mg/kg 8	%w/v phenol eq. 1.3	mg/kg 1
20-12890-1	20T6	839	20.1	18

3in1 Approver:

Jacob Jaime, Ph.D.
R&D Scientist

Method Summary

3in1

Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG) and Hydroxymethylfurfural (HMF) by aqueous extraction, derivatisation, and UPLC analysis in accordance with in-house procedures.

NPA

Non-Peroxide Activity (NPA) values are not directly measured by the laboratory, but are calculated from the measured methylglyoxal concentration in the honey according to the requirements of the client. The calculation is based on published data^(†) comparing the NPA and methylglyoxal concentration measured in a range of honey samples. These calculated values are not accredited by IANZ and do not imply that the honey is or is not manuka honey.
NPA values less than 5 are an estimate based on extrapolation of the relationship between methylglyoxal and NPA

^(†) 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. And, Corrigendum to "Isolation by HPLC and characterization of the bioactive fraction of New Zealand manuka (*Leptospermum scoparium*) honey" [*Carbohydr. Res.* 343 (2008) 651]. *Carbohydrate Research* 344 (2009) 2609. C. J. Adams, et al.