



Certificate of Analysis

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Lab Reference: 19-26347
Submitted by:
Date Received: 6/08/2019
Date Completed: 19/09/2019
Order Number: Larnac
Reference: 19LA4

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.

AMENDED REPORT. This report replaces in full a previous version 19-26347_3in1_Lepto-[R00] sent on 7/08/2019. DHA has been removed from the template as per an emailed request by the client.

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
19-26347-1	19LA4	427	13.4	21

3in1 Approver:

Hannah Crossan, M.Sc (Hons)
Technician

Method Summary

3in1

Determination of Dihydroxyacetone (DHA), Methylglyoxal (MG) and Hydroxymethylfurfural (HMF) by aqueous extraction, derivatisation, and UPLC analysis.

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.