



Certificate of Analysis

Heathstock Apiaries Ltd

675 Broxton Road
Hawarden 7385
Attention: **Mark McCusker**
Phone: 03 314 4270
Email: office@heathstock.co.nz

Lab Reference: 20-30167
Submitted by: N/A
Date Received: 18/08/2020
Testing Initiated: 18/08/2020
Date Completed: 19/08/2020
Order Number: N/A
Reference: N/A

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	Dihydroxyacetone (DHA)	Methylglyoxal (MG)	Non-Peroxide Activity* (NPA)	Hydroxymethylfurfural (HMF)
Units Reporting Limit		mg/kg 40	mg/kg 8	%w/v phenol eq. 1.3	mg/kg 1
20-30167-1	CRH18/A2	565	253	9.8	10
20-30167-2	CRH18/B1	750	286	10.5	7
20-30167-3	CRH18/FF2	195	121	6.3	13
20-30167-4	CRH18/GG6	335	188	8.2	20
20-30167-5	CRH18/K1	573	224	9.1	6
20-30167-6	CRH18/I10	708	262	10.0	6

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 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.