



Certificate of Analysis

Archers Apiaries Ltd
 Cromwell
 Attention: Mark Archer
 Phone:
 Email:

Lab Reference: 20-11161
 Submitted by: N/A
 Date Received: 19/03/2020
 Date Completed: 23/03/2020
 Order Number: N/A
 Reference: 2020 Extraction

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

3in1

Laboratory ID	Sample ID	Dihydroxyacetone (DHA)	Methylglyoxal (MG)	Non-Peroxide Activity* (NPA)	Hydroxymethylfurfural (HMF)
<i>Units Reporting Limit</i>		mg/kg 40	mg/kg 8	%w/v phenol eq. 1.3	mg/kg 1
20-11161-1	Drum 1 C	1,010	97	5.5	2
20-11161-2	Drum 2 C	1,020	98	5.5	2
20-11161-3	Drum 3 C	1,010	97	5.5	2
20-11161-4	Drum 4 C	988	90	5.2	2
20-11161-5	Drum 5 C	1,010	96	5.4	2
20-11161-6	Drum 6 C	995	91	5.3	2
20-11161-7	Drum 1 D	946	83	5.0	2
20-11161-8	Drum 2 D	946	84	5.0	2
20-11161-9	Drum 3 D	906	75	4.7	2
20-11161-10	Drum 4 D	941	83	5.0	2
20-11161-11	Drum 5 D	923	78	4.8	2
20-11161-12	Drum 6 D	948	83	5.0	2
20-11161-13	Drum 1 E	1,050	101	5.6	2
20-11161-14	Drum 2 E	1,060	102	5.7	2
20-11161-15	Drum 3 E	1,070	101	5.6	2
20-11161-16	Drum 4 E	1,060	102	5.7	2
20-11161-17	Drum 1 F	992	95	5.4	2
20-11161-18	Drum 2 F	996	96	5.5	2
20-11161-19	Drum 3 F	963	94	5.4	2
20-11161-20	Drum 4 F	963	92	5.3	2
20-11161-21	Drum 5 F	986	95	5.4	2
20-11161-22	Drum 6 F	962	92	5.3	2

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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.