APICULTURE NEW ZEALAND

13 June 2017

MPI Food Assurance Team
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: manuka.honey@mpi.govt.nz

Dear Sir/Madam

Attached are the comments that Apiculture New Zealand wishes to present on the *Proposed General Export Requirements for Bee Products.*

You will note that this document specifically covers Apiculture New Zealand's comments on the Ministry's Mānuka Honey Science Definition.

We have prepared a separate document on the GREX, titled *APINZ Submission to MPI on the GREX 13 June 2017.*

Yours sincerely

Karin Kos
Chief Executive

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13 JUNE 2017

PROPOSED GENERAL REQUIREMENTS FOR BEE PRODUCTS

SUBMISSION BY APICULTURE NEW ZEALAND ON MPI'S MĀNUKA HONEY SCIENCE DEFINITION

(Apiculture New Zealand Standards, Compliance and Regulatory Focus Group)

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A. EXECUTIVE SUMMARY

The following submission covers Apiculture New Zealand's (ApiNZ) review of the Ministry for Primary Industries (MPI) mānuka honey science definition.

- ApiNZ supports a Government regulated and robust definition of New Zealand mānuka honey - one that is clear on what mānuka is, and isn't, and gives consumers confidence in the integrity and authenticity of the product.
- We share MPI's stated objectives that "the science definition is essential to maintain New Zealand's premium position in overseas markets and for the continued growth of our export honey industry."
- We have reviewed MPI's science definition with that objective in mind and welcome the overall approach MPI has taken with the incorporation of chemical markers as part of the ID test.
- There are, however, a number of serious issues which ApiNZ wishes to flag and which compromises ApiNZ's ability to endorse MPI's definition as currently proposed.

DNA Test

- A significant proportion of high-grade mānuka honey, tested by members of the ApiNZ Standards Focus group, is not meeting the current DNA definition. In many cases the results are 'Not detectable'. These samples typically show an abundance of the chemical markers characteristic of mānuka honey. These 'down-grades' would result in a significant loss of value in the most valuable segment of the industry and must be fully addressed for this marker to be included in the definition.
- We appreciate that MPI is already looking into a refinement of the DNA test and method. ApiNZ welcomes this additional work and have offered our assistance to MPI in resolving this significant challenge. A summary of the data collected from ApiNZ members is given in Appendix 4. If the DNA method cannot be successfully refined in the necessary timeframe, we recommend that its use be discontinued, and it is not included in the definition.
- Currently ApiNZ members are uncertain as to the value of the DNA test in combination with the nominated chemical markers and propose that additional and/or other chemical markers may provide an alternative and more cost-effective solution.

Chemical Markers

- ApiNZ agree that the use of chemical markers can support an accurate and cost-effective method that follows sound scientific principles established within the mānuka honey industry.
- However, we do not believe that the current nominated markers (even when used in combination with the DNA test, assuming it can be successfully calibrated) will accurately discriminate mānuka honey. The markers proposed are new to consumers and scientists and will therefore take some time to become established and for the scientific publication/ challenge process to conclude.

- There are already two established markers (leptosperin and methylglyoxal) within the industry and we recommend that these be added to the definition, potentially in place of the DNA test, and especially if the DNA test method cannot be successfully adjusted at this time.
- We recommend the addition of leptosperin ≥ 63mg/kg to the definition for multifloral and ≥ 100mg/kg for monofloral mānuka honey.
- We recommend the addition of methylglyoxal ≥ 100mg/kg be added to the definition for monofloral mānuka honey.

Multifloral mānuka

ApiNZ believes the criteria for defining product in this category are too broad:

- ApiNZ is concerned that the definition as currently proposed provides opportunities for unethical blending. The opportunities for blending non-mānuka honeys to upgrade them to multifloral mānuka and potentially monofloral mānuka are obvious.
- In addition, there is the CODEX requirement that any monofloral honey should be 'wholly or mainly' from a defined floral source.
- The development of monofloral native NZ honeys (outside of mānuka) will be compromised due to commercial pressure to blend towards a mānuka definition.
- There are many examples being cited by industry of products meeting the proposed definition for multifloral mānuka that do not reasonably resemble mānuka honey from a sensory perspective. There is nothing in the definition that speaks to the consumers' experience, ie their observation of organoleptic values such as colour, flavor, aroma. For example, a honey that tastes predominantly of honeydew should not be able to pass as either a mono or multifloral mānuka, or be sold as such.
- We recommend the addition of leptosperin and methylglyoxal to the definition to significantly reduce this risk.

Next steps

- In light of the concerns raised above, ApiNZ believes the current definition as it stands has the potential to compromise consumer and international partner confidence in the integrity and authenticity of New Zealand mānuka honey.
- These concerns have been raised with MPI during the consultation process and we acknowledge and welcome MPI's ongoing review of the DNA test.
- We urge MPI to continue to work with industry to implement a workable solution that delivers the best outcome for apiculture and NZ Inc.
- We recommend establishing an agreed industry/government process to achieve this, one that considers industry and MPI input to date; sets clear and agreed parameters for what we want to achieve, and resets the timetable to achieve an industry/government solution.

- We believe this can be done efficiently, and in a time frame that would allow us to achieve our overseas markets' expectations in a timely way and meet our consumers' needs.
- Apiculture New Zealand is confident that if we can agree these next steps and work through the issues to resolve industry's genuine concerns we will achieve the outcome we all share. A government regulated and robust definition for New Zealand mānuka honey and a strong foundation for future growth.

B. INTRODUCTION

- Apiculture New Zealand supports a Government regulated and robust definition of New Zealand mānuka honey - one that is clear on what mānuka is and isn't, and gives consumers confidence in the integrity and authenticity of the product.
- We share MPI's stated objectives that "the science definition is essential to maintain New Zealand's premium position in overseas markets and for the continued growth of our export honey industry." It is important that:
    - overseas regulators have confidence in the assurances we give them about New Zealand mānuka honey
    - consumers in export countries are confident they are getting the 'real deal'.
- Mānuka honey is a very valuable market asset for producers and for New Zealand and it needs to be carefully protected. The definition therefore needs to be very clear what mānuka is, and what it isn't.
- On this basis, ApiNZ charged its Standards, Compliance and Regulatory Focus Group (Standards Focus Group, Appendix 1) and supporting science advisors to undertake due diligence on the MPI's proposed science definition during the consultation process.
- We have reviewed MPI's science definition with that objective in mind and welcome the overall approach MPI has taken with the incorporation of chemical markers as part of the ID test. However, the ApiNZ membership wishes to flag a number of significant issues that compromise their ability to endorse the definition as currently proposed.
- Note that a separate submission on the specific General Requirements for Export (GREX) is attached as a separate document.

C. SELECTION OF ATTRIBUTES – CHEMICAL MARKERS AND DNA (POLLEN)

- MPI s proposed definition includes testing for a combination of 5 attributes (4 chemical markers and 1 DNA marker from mānuka pollen) to distinguish mānuka honey from other honey types and to identify monofloral and multifloral mānuka honey.
- The Standards Group supports using science to identify monofloral from multifloral mānuka and establish its distinctiveness against other honey types.
- Regarding the science, we have concerns in three key areas:
    - DNA pollen test failing for high grade mānuka honeys
    - chemical markers
    - multifloral mānuka definition is too generous.

DNA pollen test

- MPI has advised that the application of a DNA pollen marker for honey testing is ground breaking, and we understand the test has no precedence as a marker for testing honey internationally. While the Group accepts that new science is part of ongoing improvement, the science needs to be robust, have integrity, be accepted, and be defensible by the appropriate regulatory authorities in international markets.
- ApiNZ believes the test as currently defined is not fit for purpose.
- Test samples show that a significant proportion of high-grade mānuka honey is not meeting the current DNA definition. In many cases the results are 'Not detectable'. These samples typically show an abundance of the chemical markers characteristic of mānuka honey. The failures appear to be in proportion to the methylglyoxal content and HMF levels, suggesting a reaction over time that adversely affects the recovery of mānuka DNA. It should be noted that much of mānuka honey packed for retail consumption would have been produced the previous season, so is likely a minimum of 12 months old.
- A sample requires only one or more grains of mānuka pollen to qualify as mānuka, regardless of any other pollen source identified and in any quantity. Tests with traditionally low levels of known and acknowledged mānuka characteristics or non mānuka honey passed the DNA pollen test
- Currently ApiNZ members are uncertain as to the value of the DNA test in combination with the nominated chemical markers and propose that additional chemical markers (see next section) may provide an alternative and more cost-effective solution. Selecting an appropriate and 'fit for purpose' suite of chemical markers that effectively differentiate mānuka honey from other honeys in first instance would:
    - Avoid the redundant requirement for the DNA pollen test
    - Avoid the incremental complexity and much higher cost of DNA analysis
    - Integrate better with parallel industry initiatives to implement portable hand-held fluorescence technology based devices that would enable stakeholders throughout the supply and value chain to readily measure whether a honey is mānuka or not mānuka.
- We appreciate that MPI is already looking into a refinement of the DNA test and method. ApiNZ welcomes this addit onal work and have offered to assist MPI during the resolution of this significant challenge. However, the fundamental question is whether the DNA pollen test is required at all?
- A summary of the data collected from ApiNZ members is given in Appendix 3.

Chemical Markers

- ApiNZ agrees that the use of chemical markers provide an accurate, cost effective method and follows sound scientific principles established within the mānuka honey industry.
- However, we do not believe that the current nominated markers (even when used in combination with the DNA test) will accurately discriminate mānuka honey. The markers proposed are new to consumers and scientists and will therefore take some time to become established and for the scientific publication/ challenge process to conclude. There are already two established markers (leptosperin and methylglyoxal) within the industry and we recommend that these be added to the definition, potentially in place of the DNA test, and especially if the DNA test method cannot be successfully adjusted at this time.

- We recommend the addition of leptosperin ≥ 63mg/kg to the definition for multifloral and ≥ 100mg/kg for monofloral mānuka honey.
    - The dynamics of leptosperin are well understood and the compound is stable over the shelf life of the product.
    - Leptosperin is already well established as a marker within the industry
- We recommend the addition of methylglyoxal ≥ 100mg/kg be added to the definition for monofloral mānuka honey. Because:
    - We have seen a significant proportion of high-MGO honey samples unexpectedly failing the DNA test. The addition of methylglyoxal as a marker would enable the incorporation of a cut off for exempting DNA testing while MPI is addressing this with the PCR technology. We propose that a statement be included such as '*Mānuka honey's passing all other monofloral criteria are exempt from DNA testing if the MG level is 500 mg/kg or greater'* unless the ongoing DNA refinements fu ly address this issue.
    - The addition of methylglyoxal will support the transition from the 'interim labelling guide' to the new GREX much easier – the compound will be included in both versions.
    - It is indicated that one of the reasons why methylglyoxal was not selected as a marker is that the levels are 'unstable' and that it can be artificially added.
    - The dynamics of methylglyoxal are well understood and the compound is, in effect, stable over the shelf life of the product. The industry effectively manages this currently.
    - With respect to the risk of potent al adulteration – this applies equally to the chemical markers proposed n the new definition. PLA can be purchased and added to honey. We understand that the government is putting in screens for the importation of the at risk chemicals; the same could be done for DHA and MGO, if this is not already in place.
- The addition of methylglyoxal and leptosperin to the definition would have minimal impact to the timeframe of introducing the definitions; the accredited assays are already in place at many laboratories and frequently used as a part of grading systems, so are already measured.
- The addition of methylglyoxal and leptosperin will also address the concern that two non-mānuka honeys could be blended to meet the proposed definition. While we recognise that this may be considered a fraudulent practice and the industry does not condone this practice, it would be difficult to detect and enforce.
- Due to a proportion of high grade manuka honeys failing to meet the PLA level for monofloral mānuka (400mg/kg), it is the recommendation of ApiNZ that methylglyoxal and leptosperin markers are added to the definition and that the PLA levels be reduced to 300mg/kg for a monofloral mānuka honey.

D. **MULTIFLORAL MĀNUKA**

ApiNZ believes the criteria for defining product in this category are too broad.

- The ApiNZ membership is concerned that the definition, as currently proposed, provides opportunities for blending and upgrading non-mānuka honeys to multifloral mānuka. This is obvious to ApiNZ and a totally unacceptable risk to the industry by way of loss of reputation/integrity in having these products on the market with MPI's official endorsement.

- The development of monofloral native NZ honeys (outside of mānuka) will be compromised due to commercial pressure to blend toward a mānuka definition.
- In addition, there is the CODEX requirement that any monofloral honey should be 'wholly or mainly' from a defined floral source.
- There are many examples being cited by industry of products meeting the proposed definition for multifloral mānuka that do not reasonably resemble mānuka honey from a sensory perspective. There is nothing in the definition that speaks to the consumers' experience, ie their observation of organoleptic values such as colour, flavor, aroma. For example, a honey that tastes predominantly of honeydew should not be able to pass as either a mono or multifloral mānuka, or be sold as such.
- We recommend the addition of leptosperin and methylglyoxal markers to the definition to significantly reduce this risk.

E. OTHER ISSUES

Key to the success of the definition is maintaining consumer confidence and we propose other enhancements to the definition that will help maintain consumer confidence as follows:

- Aligning the standard with the framework of the Codex Alimentarius Honey Standard will add to its credibility and embrace a code that has been developed with common sense consumer expectation in mind – plus make it more acceptable to importing countries.
- A requirement for the product to meet the sensory requirements of the floral descriptor. While evidence of compliance to this requirement would not be required in order to obtain an export certificate, the exporter would, however, be required to justify their grading decision if challenged.
- The alignment of the CODEX would extend to Section 6.1.8, Country of Origin which states "where honey has been designated according to floral, plant source, or by the name of a geographical or topological region, then the name of the country where the honey has been produced shall be declared."

Potential impact on international reputation and consumer confidence

- The current definition as it stands has serious potential implications for the reputation of the New Zealand honey industry and New Zealand Inc. and the trust of our international markets and consumers.
- The industry's concerns rest on the potential of the current science definition and markers inadvertently opening the door to legitimising opportunistic blending of multiple honey types to produce New Zealand Government specification mānuka honey, offshore.
- This also risks New Zealand mānuka honey being devalued and commoditised, undermining its acknowledged, premium position in global markets
- This is not supported in any way by the New Zealand apiculture industry and goes against the objectives industry and Government shares in "ensuring overseas regulators have confidence in the assurances we give them about New Zealand mānuka honey and that consumers are confident they are getting the real deal."
- Of critical importance to the success of the definition will be the need for overseas regulators/markets to accept and implement, and if required enforce in their own jurisdictions.

- Additionally, we cannot afford to lose sight of our consumers want – the unique properties of New Zealand mānuka and confidence that they 'get the real deal'.

Consultation & information sharing

- ApiNZ via the Standards Group appreciated MPI's attendance at its meetings on 27 April and 30 May as part of its discovery work, and MPI's regional workshops held with wider industry as part of the consultation process.
- While ApiNZ recognises that MPI needed to undertake its research independently as the government regulator we would have expected, as is international best practice, full access to MPI's research analyses once released publicly.
- However, ApiNZ, along with the rest of industry, has only had access to a summary research analysis, which has constrained our ability to provide fully informed feedback.
- We welcome the continued collaboration with MPI and request a greater involvement with the assessment of the revised DNA test and as the GREX is final sed

MPI's test method and sample evaluation

- MPI's 804 honey samples were provided by honey producers (mostly in New Zealand and some from Australia and other countries). In addition, they were collected from single apiary sites.
- ApiNZ is concerned that these samples were not additionally independently verified for their floral authenticity by MPI. Independent verification is an important step in minimising the risk of misidentification and ensuring a reliable honey collection.

APPENDIX 1

The Apiculture New Zealand Standards, Compliance and Regulatory Focus Group advocates for effective regulation, ensuring New Zealand's honey industry maintains an international reputation for producing safe and compliant products. We watch over the standards, compliance and regulatory framework that support the apiculture sector, inform our members on key issues and work with stakeholders and government to make sure industry is consulted and our views are heard.

Members include:

Chair: Tony Wright, Comvita
Chris Bowman, King Honey
Peter Bray, Airborne Honey
Darren Clifford, Taylor Pass Honey
Pam Flack, Arataki Honey
John Hartnell, Board member, Apiculture NZ
Ricki Leahy, Board member Apiculture NZ
John Rawcliffe, UMF Honey Association
Young Mee Yoon, Honey New Zealand

Science advisors supporting the Standards Group wi h their work on the MPI mānuka honey science definition included:

Jonathan Stephens, Comvita
Mandy Suddes, Mānuka Health

We would also like to acknowledge the support of ApiNZ members who openly shared and provided lab test results with the ApiNZ Standards Focus Group. This information was invaluable in supporting a considered industry-wide assessment of the definition.

APPENDIX 2

Comvita Samples - Pollen

The samples below were tested at Comvita, Analytica (PCR), and GNS (pollen). Interesting to note the inconsistency between kanuka DNA recovery and mānuka DNA recovery relative to pollen abundance.

The HMF results show an apparent correlation with Cq values, suggesting the chemical age (maturity) of the honey has an influence.

Sample ID	DHA	HMF	MGO	4-HPLA	3-PLA	2-MBA	2`-MAP	Lepto	Mānuka Cq	Kanuka Cq	total pollen /10g	mānuka %	mānuka pollen /10g	kanuka%	kanuka pollen /10g
33079347	300	20.0	121	9.9	391.2	2.9	7.3	198.1	38.2	29.3	348,367	20	68,628	24	83,260
33106041	259	10.3	111	8.4	339.2	2.2	3.8	156.5	33.5	29.2	448,605	13	56,076	21	95,104
33114188	257	8.6	106	7.5	298.3	2.7	6.1	149.3	33.4	28.2	382,016	9	33,999	23	89,010
33114193	257	13.2	99	7	286.7	2	4.0	135.3	32.9	29.5	303,552	13	38,248	25	75,888
33121002	986	38.2	596	20.7	883.8	9.1	23.3	544.7	36.9	36.9	369,977	43	159,460	40	147,991
33126263	1767	21.4	875	49.1	1,184.7	22.2	25.2	924.2	38.4	34.2	274,408	73	198,946	5	14,544

APPENDIX 3: DNA Test results

This section considers the data from a number of ApiNZ members where monofloral mānuka honey that has failed the DNA test, passed all MPI's chemical markers, and therefore been downgraded to non-mānuka honey. ApiNZ is happy to provide the details and names of the suppliers directly to MPI if this is required.

Supplier 1:

UMF™	Leptosperin	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
18.4	512	8.2	810	9.1	31	38.9

The latter 4 chemical marker values and Cq value were on the sample summary report returned to Supplier 1 by MPI. It is not clear which lab performed the testing, however we believe the DNA testing was conducted by dNature. The MPI classification of 'non-mānuka honey' is at odds with the chemical marker data, all of which point toward this being a strongly monofloral mānuka honey.

Supplier 2:

MGO	DHA	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
418	744	5.5	690	9.6	12.3	>36
106	190	2.8	340	2.1	4.2	>36
628	1565	8.2	850	16 4	16.2	>36
513	1300	6.2	650	6.1	12.2	>36
105	139	3.1	420	3.5	4.2	>36

Testing was conducted at Hill Laboratories. The chemical markers are well over the definition limits and the levels of MGO and DHA also support a classification of either multifloral or monofloral mānuka honey.

Further results showing high levels for key marker compounds are listed below. Where supplied, the results for UMF grade, MGO and DHA are also displayed. Although not specified, it is believed the testing below has been performed at Analytica Laboratories.

Supplier 3:

UMF™	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
16.6	9.69	848	5.44	18.3	>36
20.4	9.26	1160	8.96	21	>36

Supplier 4:

UMF™	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
19.4	9.6	1200	7.31	26.8	>36
7.7	6.89	725	1.87	5.04	>36

Supplier 5:

MGO	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
320	4.4	869	15.1	16	>36
327	4.2	531	4.6	10.9	>36
337	3.62	516	5.43	7.76	>36
392	4.7	631	7	19.2	>36
404	7.6	597	8.1	14.6	>36
417	7.2	600	12.2	11	>36
529	5.8	660	4.4	20	>36
548	7.55	728	9.77	16.6	>36
559	8.1	797	9.96	14.7	>36
559	7.98	790	9.35	15.1	>36
560	7.29	834	12.9	16.9	>36
561	9.6	763	11.2	16.9	>36
561	7.65	830	13.5	15	>36
567	9.76	667	12.4	12.1	>36
568	10.3	803	11.3	16.1	>36

568	8.96	831	10.7	14.7	>36
569	9.16	758	12.1	13.5	>36
571	8.6	731	9.66	16.7	>36
578	10.6	774	13.3	14	>36
578	5.5	629	12.8	15.5	>36
620	10.5	682	12.3	14.1	>36
620	5.9	1000	13.5	9.1	>36
637	9.8	910	25	12.6	>36
653	9.47	702	15.3	13.5	>36
660	8.1	917	6.9	16.6	>36
660	8.3	935	8.6	12.4	>36
1041	10.1	1830	143	7.8	>36
1135	8.2	755	50	24	>36

Supplier 6:

MGO	DHA	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
870	1660	13.5	1050	8.5	20.6	>36
1160	2000	9.0	936	9.5	18.0	>36
842	2640	7.1	1110	24.4	6.2	>36
756	982	9.1	848	6.9	13.5	>36
758	987	8.9	849	6 6	13.0	>36
798	1200	8.8	837	7.5	14.1	>36
597	740	8.7	915	4.7	13.4	>36
670	1690	7.1	921	8.4	17.7	>36
537	790	6.7	689	6.8	8.2	>36

The suppliers of the above results are understandably concerned given the honey tested against the proposed definition has significant levels of DHA and MGO (easily meeting established industry criteria) and yet have no detectable levels of mānuka DNA

Supplier 7:

DHA	HMF	MGO	4-HPLA	3-PLA	2-MBA	2`-MAP	Lepto	Mānuka Cq	Kanuka Cq	Total pollen /10g	Mānuka %	Mānuka pollen /10g	Kanuka%	Kanuka pollen /10g
300	20.0	121	9.9	391.2	2.9	7.3	198.1	38.2	29.3	348,367	20	68,628	24	83,260
259	10.3	111	8.4	339.2	2.2	3.8	156.5	33.5	29.2	448,605	13	56,076	21	95,104
257	8.6	106	7.5	298.3	2.7	6.1	149.3	33.4	28.2	382,016	9	33,999	23	89,010
257	13.2	99	7	286.7	2	4.0	135.3	32.9	29.5	303,552	13	38,248	25	75,888
986	38.2	596	20.7	883.8	9.1	23.3	544.7	36.9	36.9	369,977	43	159,460	40	147,991
1767	21.4	875	49.1	1,184.7	22.2	25.2	924.2	38.4	34.2	274,408	73	198,946	5	14,544

The above shows similar trends to what has been seen in other samples; abundant levels of mānuka chemical markers and yet elevated or failing cycle counts. The pollen testing was performed by GNS and provides another perspective. Whether or not GNS have correctly differentiated mānuka and kanuka pollen, there is ample pollen of either present from which to extract DNA. Assuming they are correct, the rela ionship between pollen and the associated DNA is unusual, as shown in Figure 4. It is counterintuitive to have less extractable DNA when the amount of pollen increases.

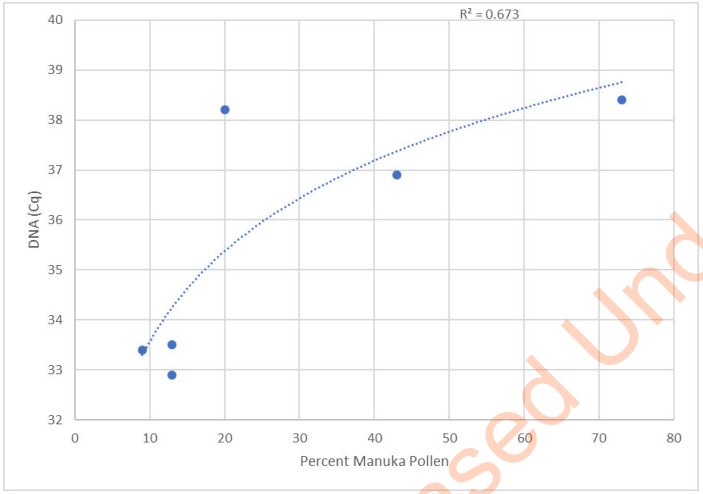

Figure 4.

Supplier 8:

UMF™	Leptosperin	4-HPLA	3-PLA	2-MBA	2-MAP	Cq
17.1	231	5.94	894	10.3	11	>36
16.6	210	6.93	863	10.3	13.2	>36
14.8	645	8.6	654	3.43	11	>36
19.9	705	7.93	786	6.87	12.9	>36
12.4	441	9.03	958	4.12	6.43	>36
16.9	584	11	1,190	5.56	8.68	>36
21.3	708	9.98	908	8.02	13.4	>36

Incubation Experiment

Analytica performed an experiment to explore the potential interaction of MGO and DHA on the measurable levels of mānuka DNA in honey. The text below is an excerpt from their report.

Methodology

Five honeys that were classified as multi-floral mānuka by the MPI chemical test and the DNA test were selected for the incubation experiment (Table 1). These samples were selected because they had high concentrations of mānuka DNA which were necessary to observe any changes that may occur in the DNA during incubation with MGO and DHA.

Table 1. Samples used for the incubation experiment and their chemical marker concentrations and DNA Cq values

Sample ID	HPLA (mg/kg)	2MBA (mg/kg)	2MAP (mg/kg)	3PLA (mg/kg)	DNA (Cq)
A	1.6	2.0	2.3	225	29.54
B	2.7	1.4	5.9	360	27.73
C	2.7	1.7	7.4	337	27.94
D	3.1	2.0	7.8	353	26.77
E	3.1	2.3	7.8	376	26.44

Incubation of Honey

A 1.4 ±0.05g sample of each honey was added to 0.9 mL of water containing the equivalent of 0, 100 and 1,000 mg/kg of methylglyoxal (MGO) and 0, 100 and 1,000 mg/kg of dihydroxyacetone (DHA) to mimic typical levels that these chemicals are found in Mānuka honey. The mixed samples were then incubated in a forced-air oven at 27 °C for 36 hours. After incubation, the samples were centrifuged at 15,000 rcf for 5 minutes and the pollen washed and processed though the full MPI DNA reference test protocol, and the concentration of DNA was determined against and standard curve of concentration (pg/mL) vs. Cq values. Appropriate negative and positive controls were run to ensure that method performed to an acceptable level.

Results

The honey incubation (Figure 5) showed that as the concentration of MGO and DHA increases, the amount of measurable DNA decreases. Since the pollen was washed before being lysed and the DNA extracted, the probable cause of decreased DNA measurable by the test is not because MGO and DHA are directly affecting the PCR reaction, but rather that the MGO (and possibly DHA) are interacting with the DNA in the pollen.

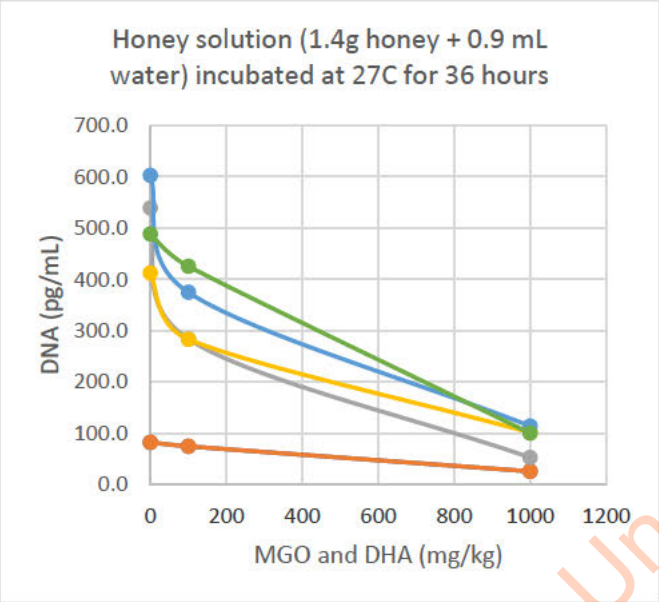

Figure 5. This shows a dose response relative to the amount of methylglyoxal present, supporting the published research elsewhere.

A further piece of supporting evidence is the apparent relationship with HMF (Figure 6).

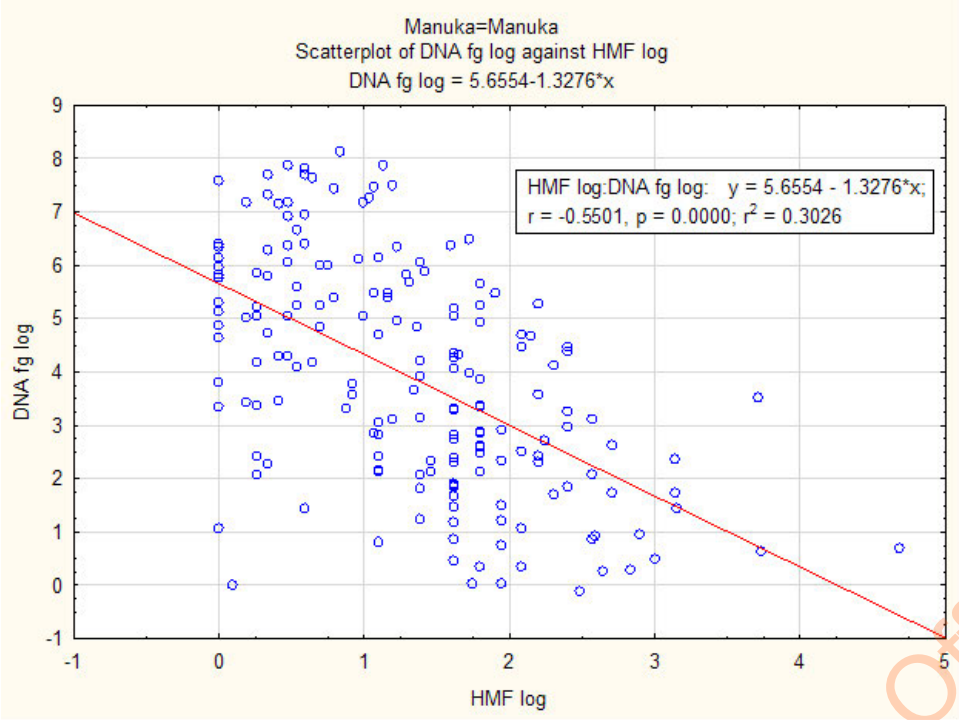

Figure 6.

HMF is an indication of chemical age; either true chronological age or accelerated aging caused by heating. As HMF therefore indicates the time that pollen DNA has been exposed to methylglyoxal it stands to reason that honeys with high HMF values have had longer for methylglyoxal at any level to damage the DNA. HMF, itself, is also a reactive aldehyde and quite possibly reacts with the DNA in its own right. The implications are significant across the spectrum of UMF™ grades. A high UMF™ grade manuka honey has a higher probability to fail, but given enough time, even a lower grade manuka honey could suffer the same fate. What this means for the shelf life of manuka honey is not yet clear, but DNA failures post-export appear likely.

Conclusions

The data collected by the industry over the last few weeks has resulted in some unexpected observations that must prompt a more in-depth investigation of the DNA test. For the industry to have confidence in the outcome many questions need to be asked, and there may be a need fo more comprehensive research to be conducted.

The concerns that need to be addressed are:

- Why does monofloral mānuka have less measurable mānuka DNA than multiflora mānuka?
- Has there been any work done to assess the potential to use very small amounts of high-DNA honey to convert non-mānuka honey into multiflora or monofloral honey?
- Why do apparent mānuka honey samples with abundant chemical markers not have any measurable DNA? Did the development of the definition account for the presence of other compounds characteristic of mānuka honey?
- Has there been an assessment of the financial impact on the industry given the tendency of the definition to fail high value honey?
- Why is there an inverse relationship between the amount of mānuka po len present and the measurable DNA?
- Has the interaction between DNA and other compounds commonly found in mānuka honey been considered?
- Has the stability of the measured mānuka DNA been investigated over the typical shelf life of the product?

pī·ā·ora BEES GIVING LIFE | APICULTURE NEW ZEALAND

13 June 2017

MPI Food Assurance Team
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: manuka.honey@mpi.govt.nz

Dear Sir/Madam

Attached are the comments that Apiculture New Zealand wishes to present on the *Proposed General Export Requirements for Bee Products.*

You will note that this document specifically covers Apiculture New Zealand's comments on the GREX, including a proposed rewrite of the Traceability Section 4.1.

We have prepared a separate document on the Ministry's Manuka Honey Science Definition titled, *Submission by Apiculture New Zealand on MPI's Mānuka Honey Definition (Apiculture New Zealand Standards, Compliance and Regulatory Focus Group)*

Yours sincerely

Karin Kos
Chief Executive

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APICULTURE NEW ZEALAND

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13 June 2017
Proposed General Export Requirements for Bee Products

SUBMISSION BY APICULTURE NEW ZEALAND ON THE PROPOSED GREX

(*Apiculture New Zealand Standards, Compliance and Regulatory Focus Group)*

Your details

Your name and title:	Karin Kos, Chief Executive
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	Apiculture New Zealand Standards, Compliance and Regulatory Focus Group
Your contact details (such as phone number, address, and email):	Level 7, 22 Panama Street, Wellington Tel 04 471 6254 Email: ceo@apinz.org.nz

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☐ beekeeper

   ☐ extractor

   ☐ processor

   ☐ packer

   ☐ exporter

   ☐ retailer of bee products

   ☒ other – please specify; peak industry body for Apiculture

   How long have you been involved in the apiculture industry:

   ☐ 0-5 years

   ☐ 5-10 years

   ☐ 10 + years

   ☒ not applicable

2. Do you operate under:

   ☐ an RMP under the Animal Products Act 1999

   ☐ the Food Act 2014 (Food Control Plan or National Programme)

   ☐ the Food Hygiene Regulations

   ☐ none of these

   ☒ not applicable

3. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☐ 51 – 500

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☐ More than 3000

4. What region of New Zealand do you operate in?

National industry organisation based in Wellington

5. If you export bee products please tell us a little about your business. How many people do you currently employ?

   ☐ 0

   ☐ 1 – 5

   ☐ 6 – 19

   ☐ 20 or more

6. What are the roles of your employees and how many are:

   ☐ beekeepers

   ☐ processors

   ☐ packers

   ☐ other – please specify

Impact of compliance costs for beekeepers, processors and exporters

7. Table 4.1.1 of the Discussion Document provides a summary of the estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

Compliance costs must always be kept to a minimum with any costs incurred measured to the value of any worthwhile outcomes achieved

8. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

GREX Clause 4 1 Pre-processing traceability requirements. We have estimated a snap shot of the cost to industry to indelibly mark each honey super with a unique form of identification. This is based only on the commercial element of the industry involving 720,000 hives with all honey supers fitted with RFID tags (fibreglass nail with technology embedded). • 3 supers per hive - RFID unit cost at not less than $1.00 each = $2,190,000 • Labour to install at say $ 2.00 per super = $4,320,000 • 600 scanners (at best 1 per 3 beekeeper team basis 400 hives per beekeeper) at say $1000 each = $600,000 • Technology collection and management – 1100 businesses at say $2500 = $2,750,000 • On-going replacements annually $500,000 • Technology links to AFB or Industry database - $300,000

Increased compliance cost – additional staff, RMP and Compliance audits, AFB audits There will be more costs, the roll out would be slow, and the uptake frustrating for beekeepers. We would expect an initial start-up cost to the industry of greater than $10,000,000 as a minimum. There would likely be a time delay as technology stocks will not be at hand, non-compliance will be considerable and ongoing for a considerable period – what impact on the industry's ability to trade

Clause 3.3
We also note the cost of listing for 800 commercial beekeepers at $178.25 per year. $142,600 – how many non-commercial beekeepers will also need to register 1000, 2000 or 3000 – they produce saleable quantities of honey.

Part 6 of the GREX
The costs of the new testing to verify whether a honey is Manuka or not is an added cost to industry considering that the previous 'grading' tests will continue to be undertaken. Total cost to industry is difficult to estimate but ApiNZ Standards Focus Group notes that the chemical marker and DNA tests are expensive and that the total added costs of testing honeys will be very significant. Will this be drum by drum – 8000 metric tonne = 24,000 drums all requiring verification.

9. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

The 'other' costs that will arise will certainly include administration.

The beekeeper at the hive will need to be trained to use new technology. Mistakes inevitably made will involve extra administration time which directly reflects added cost.

Smaller beekeeping businesses without the technical skills would struggle and need to employ added administrative staff. Another added cost.

The laboratory testing of honey with the new manuka definitions will incur much greater cost. A point to consider is that the tests to determine any grading of all honeys will still need to be undertaken. Remembering there are other honeys than manuka which also need analysing using accepted traditional methods.

There is no doubt to the importance regarding sampling of honey, staff training and record keeping but it creates more administration and therefore added cost.

No additional substances to be present in New Zealand honey

10. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☒ I agree because:

ApiNZ agrees in principle with MPI's intention to ensure additional substances are not present in New Zealand honey.

☒ I disagree because:

However, we disagree with any restrictive directives regarding beekeeping methodology.

There are many reasons why beekeepers would have honey supers on hives when the bees may also need feeding. e.g. one such example would be for managing swarm control by simply giving the bees some space in the hive to help prevent the development of any swarming impulse. Beekeepers could give many other examples equally important to the successful management of their hives.

Beekeepers are aware of the costs to themselves of their honey being rejected and know that 'suspect' honey could at any time be tested for sugar content.

We question where is the proof of the problem? It has been documented previously that problems with C4 sugars in honey has invariably been associated with high active Manuka honey, it is not evident in any other honey variety. There is science, that has been previously shared with MPI, of this correlation that prove the tests are indicating false positive results that are a phenomenon unrelated to any sugar feeding of hives.

We discourage any further compliance requirements such as documenting the circumstances when bees are fed with anything other than honey.

The proposed documentation, as suggested by MPI, will not enhance any purposeful outcomes and in practice would be virtually impossible to regulate. This would most likely prove to be a case where a compliance cost would achieve no added value. (See our comment question 7)

We recommend that clause 3.1 (2) be deleted from the GREX.

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

It is suggested that beekeepers declare in the Harvest Declaration that industry best practice has been adhered to.

Simple definitions of what constitutes industry best beekeeping practices can be outlined in the Guidance box at the end of **PART 3: 3.1**

An example is suggested as per below.

Guidance
To ensure that bee products intended for export are fit for their intended purpose, in relation to composition and representation, beekeepers must adhere to Industry best beekeeping practice which typically requires that:

a) the beekeepers hive management practice ensures any supplementary feeding of the hives is performed in such a way as to minimise the risk that any honey harvested would contain anything other than naturally gathered nectar and pollen; and
b) that a recycling policy of removing old brood comb out of the beehive is practiced with the purpose of reducing possible contamination of any varroacide or bee pathogen residues. This best beekeeping practice policy will develop stronger bee health rewarded with increased production; and
c) that all varroa treatments are used as specifically recommended by the manufacturer; and
d) that beekeepers must maintain the integrity of product traceability by employing a practice that ensures each stack of honey loaded onto the truck at harvest is clearly marked and identified to its originating apiary, with the date of harvest, during transit and storage through to process.

Any bee feeding method referred to in clause 3.1(1)(a) should be a recommendation to conform to industry best beekeeping practice that will achieve a harvest outcome of pure unadulterated honey.

11. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☒ I agree because:

The ApiNZ Standards Focus Group agrees in principle that the issue needs addressing but

☒ I disagree because:

Disagrees with the approach being suggested as beekeeping has some complex and varied methods of operation within the hive. Best practice outcomes should be encouraged rather than having undefinable prescriptive beekeeping methods written in to the GREX which would be impossible to audit to compliance.

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

We suggest that it is most often the beekeeping practice that needs to improve. Please note the Guidance paragraph as suggested in the previous question. Recommend PART **3: 3.1 (1) b)** **(**honey is not harvested from honeycomb previously part of a brood nest) is totally deleted from the GREX.

Processors of bee products to operate under a risk based measure

12. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☒ I agree because:

Agree. The purpose of traceability is to give confidence in the product. That is why New Zealand's RMP operators, who are professional in their operations, have verifiable record-keeping systems in place and are audited regularly. All operators are responsible for the integrity of traceability and that ultimately depends on the accuracy of all documentation. Industry should not need to carry the burden of potentially non-compliant product stemming from premises operating under differing criteria that may potentially damage our overseas reputation. All bee products compliant for export must be processed and remain within an RMP system.

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

13. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

Beekeepers supplying bee products for export must be listed so they are known to both MPI and the RMP operator. It is important that contact details are available to both the operator and MPI so that relevant information may be confirmed.

However, it must be acknowledged that the cost of listing does create an economic barrier for beekeepers with small hive holdings which in turn encourages many to remain non-listed. In this regard, we question why subsequent annual renewals should cost the same as the initial registration.

As always with these subscription type renewals it is always the non-compliant minority who endlessly soak up the administrative budget. It is suggested therefore to introduce a rewarding proviso that, if renewal is paid by the due date, the annual renewal cost would be reduced to half i.e. $86.25.

Or alternatively, a once only registration fee could be applied, which would be a fairer process, encourage higher transparency and stop product being driven underground.

Industry would be more supportive of the listing system if **annual listing renewal costs** were not so prohibitive and were structured also to encourage compliance.

☐ I disagree because:

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

It has been recommended to industry that in time the AFB PMP Apiweb system will need to be completely overhauled and upgraded as its functionality is now outdated.

As part of this overhaul we strongly recommend that the apiary registration system is designed to accommodate all the regulatory functions that MPI and Biosecurity may need to provide apiary registration and beekeeper information. This could also include, for example, locations of RMP premises, Honey houses and other storage facilities etc. as an enhanced tool not only for biosecurity purposes but also bee product traceability.

If legislation provided for this enhancement then the need for ‘listing’ beekeepers may in time become redundant as the Industry database provided all core information.

Pre-processing traceability requirements

14. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

Disagree as a system of indelibly marking and tracing each honey super with a unique marker will not work for the majority of beekeepers. Most beekeepers will find maintaining accurate and meaningful tracing records impossible which would lead to an unsatisfactory traceability outcome, and massive non-compliance. An achievable and more practical 'in-field' system, such as simply tagging stacks of honey as harvested and loaded onto the truck at the apiary, as currently widely practised, will be more suitable and acceptable to industry. The ApiNZ Standards Focus Group suggest that the same traceability outcome, that the MPI's proposal to indelibly mark each honey super was endeavouring to achieve, will be successfully achieved with the added inclusion of a bullet point within the Guidance section found in PART 3 3.1 - Honey to be fit for purpose. This bullet point could be written as a requirement pertaining to best industry practice to maintain bee product integrity as related to traceability. Perhaps this could be written as; • That beekeepers must maintain the integrity of product traceability by employing a practice that ensures each stack of honey loaded onto the truck at harvest is clearly marked and identified to its originating apiary along with the date of harvest, during both transit and storage through to process. (Please also refer to the Guidelines as drafted in question 10.) This does not preclude larger or any operations who may wish to manage their businesses using high levels of technologies, given they would have the scale and expertise to find value in the information for other apiary management functions.

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

In terms of achieving traceability, rather than a system of indelibly marking and tracing each honey super with a unique marker, it could help if a beekeeper's honey supers were marked (i.e. branded or numbers painted on) but only with the beekeeper's registration number as given under the AFB PMP. This would provide at least some visual and practical traceability especially at the operator's premises where several beekeepers honey supers may be stored awaiting processing.

It must be noted that many beekeepers are actually indelibly branding their supers anyway as a means to combat theft etc. Industry would need a lead in time of at least two years to become fully compliant.

A review of unique marking protocol is required so that traceability of ownership past and present is correctly recorded on beekeeping equipment.

15. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

Feedback from ApiNZ and from those attending MPI's regional workshops have shown a clear indication that the costs associated with this both in dollar terms, time and frustration would be intolerable. The proposal will not be acceptable by any means.

Traceability from beekeepers to operators – harvest declarations

16. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

Yes, all bee product harvested for export must be declared on a Harvest Declaration. Of paramount importance are the declarations of the date of harvest and location from where honey was harvested for compliance with the Tutin in Honey Standard, and also, the declaration of compliance to the AFB Pest Management Plan, an issue of growing importance.

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

ApiNZ Standards Focus Group has as part of the consultation process met with MPI to discuss and introduce new ideas that will work better for industry and strengthen the traceability down the supply chain for both domestic and export consumption.

Key to the recommendation of the Standards Focus Group is that when a bee product is harvested the beekeeper must provide a harvest declaration statement at point of first delivery of the bee product to an RMP premise.

The Harvest Declaration introduces the 'raw' bee product into the RMP system.

It is the document on which the listed beekeeper or beekeeper/operator, on delivery of the bee product to the RMP premise, declares all relevant harvest information such as number of supers, registered apiary sites, date of harvest etc. Most importantly the beekeeper signs a declaration of compliance to the regulatory requirements of the harvest, safety, traceability and AFB status of the product.

For ease of compliance regarding practicalities at delivery to an RMP premise, the original harvest declaration is proposed to be a paper version and signed on delivery to the premise.
RMP operators may choose to use an electronic version but must also print and hold on file a paper version of the declaration signed by the beekeeper.

The beekeeper must keep a copy of his/her harvest declaration (duplicate copy). The RMP operator who now takes responsibility for the product within the RMP keeps the original copy.

It is only when the honey supers are processed (extracted), and only when the honey is in the bulk holding tank, pre-drumming off, does the product become a Batch (as defined in the GREX).

The 'harvested product' as documented in the harvest declaration has now been processed into a Batch. The Batch is recorded as a definite quantity of bee product that can now be identified as it progresses down the export chain, for example per pail, drum or pallecon.

The operator must maintain a verifiable inventory control system to record all the process details by keeping extraction or processing records, stock and batch records to demonstrate traceability that will ultimately be required when providing a Bee Product Process Document.

It is proposed that MPI design and provide on their website a Bee Product Process Document (Process Document).

As the Process Document is operated within the RMP system it could be in either electronic or paper form but must be identifiable to the operator with a unique code and/or reference number as determined by the operator. The purpose of the Process Document is to strengthen traceability by assisting the operator in providing a process and procedure to support traceability - from the raw bee product - to a processed bee product - to the final packed or bulk product - to export.

MPI would need to decide whether the declarations as signed by beekeepers on the Harvest Declarations have any need to be carried forward on the process document. We suggest they needn't. However, we do recognise that the Tutin (and potentially the AFB) status of the batch of honey, now as a processed product, needs to be declared, but by the operator.

The Process Document must accommodate at least two purposes.

1) To provide the link from the raw product to the processed batch.

It is the document that will provide a system to link traceability from the apiary (Harvest Declaration) to the processed Batch. A Process Document will be filled out for each Batch of extracted honey. For traceability and verification purposes, operators would need to develop their own compliant record keeping systems.

As an easy example, a copy of the Process Document could be printed and simply have the paper copies of the relevant harvest declarations attached (i.e. stapled) and held in a file. Or the Harvest Declaration could be scanned and held on record electronically

Or any alternative method the operator may prefer using their technology options to best advantage.

2) To provide a process to link product batches or part batches between operators.

A Process Document will accompany consignments of processed bee product when transferred to another premise. Rather the same way as the harvest declaration has been used by industry in the past. It provides both the consignor and consignee with greater consignment detail and importantly could be used to reconcile traceability between operators as to number of drums per batch or cartons of packed product etc. The process document could be emailed through ear ier with other documents such as laboratory reports, pollen analysis, MGO, manuka definition, Tutin test results etc. as many in industry currently do.

Traceability of bee product between operators may well meet the regulatory requirements using E Dec. transfer documentation. However, traceability will be strengthened by providing process and procedure options to support compliance within industry.

MPI must then design the format and content of the process document to be fit for purpose.

The ApiNZ Standards Focus Group consider there will be no added value to traceability by indelibly identifying each honey super with a unique form of identification. But when used for its primarily designed purpose, the Harvest Declaration will strengthen the traceability between beekeeper and operator from harvest to delivery at the RMP premise.

The Focus Group in working with MPI has previously forwarded an example of a rewritten traceability section of the GREX. It is an easier way to communicate and understand the detail in the hope that it will make a good start to fulfilling the purpose of the GREX in a way that is most workable for industry as well as meeting the regulatory requirements.

An updated version of PART 4 has been drafted and is included at the end of this document, as Appendix 1.

17. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☐ I agree because:

☒ I disagree because:

The pre-processing costs of complying with the process that MPI are suggesting in the draft GREX will be extremely onerous for the beekeeper. Added focus of traceability on each individual honey super creates huge added compliance costs which will not deliver any value gain, as the process will not achieve any added benefit around traceability or product value.

Please refer to our statement in question 7

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

18. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☒ I agree because:

Yes agree.

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

If the recommendations outlined above, regarding the traceability from beekeepers to operators, are adopted then the detail of transfer documentation should be thought through to capture any important elements of traceability, for instance by referencing any relevant Process Documents etc. It is suggested that industry does not differentiate between export bee product intended for countries requiring official assurances or for countries not requiring official assurances. It is considered better that all product is treated equally to the highest requirement.

Labelling of monofloral and multifloral mānuka honey

19. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☒ I agree because:

Yes

☐ I disagree because:

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

20. MPI considers there are likely to be options available to businesses to support compliance with the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☒ I agree because:

☐ I disagree because:

☐ I have concerns because:

21. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☒ I agree because:

Yes

☐ I disagree because:

22. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☒ I agree because:

Agree because the grading systems are how the value of the product is determined. The new definition should not change what is genuine manuka honey. The intention of the new definition is to strengthen the integrity of the product. So, in effect this should not impact on the current grading systems.

☐ I disagree because:

23. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

The determination of where ultimately the line is drawn between mānuka and mānuka multi-floral or blend will potentially impact the price that is paid by the market. It is important that this determination lands correctly, otherwise we risk damaging the market through low grade inferior blended mānuka.

24. Do you have any comments on the summary science report?

Yes, and please see our separate submission, titled:
Proposed General Requirements for Bee Products
Submission by Apiculture New Zealand on MPI's Mānuka Honey Definition
(Apiculture New Zealand Standards, Compliance and Regulatory Focus Group)

25. Do you have any further comments regarding the definition of mānuka honey?

Laboratory Tests

26. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☒ I agree because:

Yes.

☐ I disagree because:

27. The costs associated with these proposals are likely to vary depending on the size and volume o samples being tested. What impact do you consider these proposals will have on your business?

See earlier comments Para 8.

Drum by drum analysis is common practice for mānuka.

Do you have any suggestions for minimising any impacts?

Transitional provisions

28. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree and propose an alternative timeframe:

ApiNZ considers the MPI lead in/transition time to be entirely impractical and not feasible adding significantly to cost in several areas. While we appreciate the desire that the changes apply to the coming season, this should not be 'at any cost'.

The standard period for amendments to the Australia New Zealand Food Standards Code is 12 months and at times this period is extended. A transition period of 12 months does not prohibit earlier uptake by industry should that prove commercially advantageous or commercially feasible. However it does provide relief for those operators with extensive stock in hand and for smaller operators.

29. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

☒ I agree because:

Yes, industry will have to work with this requirement.
Industry has known that there will be a change and have reacted to that uncertainty for a while now.

☐ I disagree because:

Any other feedback

30. Are there any other parts of this discussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).

Government mānuka honey science definition. **Please also see separate submission by ApiNZ titled: Proposed General Requirements for Bee Products Submission by Apiculture New Zealand on MPI's Mānuka Honey Definition (Apiculture New Zealand Standards, Compliance and Regulatory Focus Group)**

If complications arise from any uncertainty regarding the robustness of the mānuka definitions then the notification of the GREX should be delayed until such time that both MPI and industry are confident with any strengthening amendments to the definitions that either industry or MPI may have suggested.

It is very important that the definitions are robust enough to satisfy all the original objectives. Those include such things as;

- Will the definitions protect consumers and producers from fraud?
- Will they also provide markets with confidence and assurances?
- And will they protect our reputation as a supplier of safe and authentic food?

If these basic criteria are not met then the mānuka industry could expect to take a huge set back.

We only get one shot at this and we both, MPI and industry, need to each have confidence that the definitions are fit for purpose and that we have got it right.

Appendix 1: 4.1 Traceability – proposed content from ApiNZ

General Export Requirements for Bee Products

Part 4: Requirements relating to traceability

4.1 Pre-processing traceability requirements.

(1) Beekeepers must:

a) Indelibly mark each honey super with the unique beekeepers' identification code as allocated and issued by the AFB PMP; and
b) For each apiary site where hives are located in a harvest season, keep records of the following information:

1) The global positioning system (GPS) location of the apiary site (sites are required to be notified under the AFB PMP); and
2) The dates and volumes of honey (e g. number of supers) or other bee products harvested from each individual apiary.

c) Provide any of the information specified in paragraph (b) to any of the following officials as applicable, within 24 hours of a request being made by any of them:
i) the Director-General;
ii) an animal product officer;
iii) recognised agency or recognised person; or
iv) an authorised person.

(2) Where honey supers are sold, any previous beekeeper identifier must be struck through such that it is still legible so it is clear as to the previous owners of the honey supers.

Comment regarding 4.1 (2) for MPI to consider (not intended as content of GREX) The current ruling under the AFB PMP Order 1998, requires the beekeeper to remove or alter the existing identification code in such a way as to make it clear that the identification code no longer applies to that beehive and beekeeper.

It is the recommendation of the AFB PMP, that this is reviewed and that the history of ownership is retained on the honey super with ownership codes left intact. The original owner being the top brand (code) subsequent ownership to sit below. Branding placement instructions will need to be determined.

Guidance

- Beekeepers should be particularly aware of the requirements set out in clause 13.45 of the Animal Products Notice: Specifications for Products Intended for Human Consumption (issued 1 March 2016).

- That clause 13.45 requires apiarist and beekeepers to ensure that:
  - beehives are constructed of and maintained with materials that are not sources of hazard to the honey or other bee products; and
  - honey supers, both before and after extraction, are stored in a manne that will minimise contamination; and
  - honey supers are protected from contamination during transportation to minimise exposure to dusts, fumes and other contaminants.

- Beekeepers should be aware that all apiary sites used for honey production are required to be registered under the AFBPMP.

4.2 Traceability from beekeepers to operators - Harvest declarations

1) A beekeeper must prepare a harvest declaration for every delivery of bee product that the beekeeper intends to supply to an operator for export and:

   a) provide the declaration to the operator who first processes the bee product; or
   b) if the beekeeper is also the operator, keep the harvest declaration as part of his or her records.
   c) the operator must have a verifiable policy and procedure that provides traceability of every portion of any consignment of bee product that enters the premises for processing.

2) A harvest declaration must be in the form notified by the Director-General on the relevant MPI website and must include the following information:

   a) a unique harvest declaration reference number as assigned by the operator;

   b) name and business address of the beekeeper;

   c) beekeeper listing ID (where applicable);

   d) any registration number provided to the beekeeper under the AFB PMP;

   e) name of the operator receiving the bee product and the receiving RMP identifier;

   f) bee product type (e.g. Honey, Pollen, Propolis);

   g) quantity and unit (e.g. Supers, boxes, kilos, mats) of product;

   h) descriptive code to identify between any differing portion of the consignment e.g. seasonal, geographic or nectar specifics of any bee products

   i) each apiary MAF ID number (as allocated under the AFB PMP) from where the product was harvested;

j) date of harvest;

k) declaration of compliance with the ACVM Act 1997 where agricultural compounds were used on or in the hives;

l) if the bee products are honey, identify whether it needs to be tested for Tutin and, if not, on what grounds;

m) declaration that hives were free from clinical signs of AFB as per the latest inspection carried out by an authorised person pursuant to the AFB PMP;

n) declaration that best beekeeping practices were adhered to and that the hives were not fed feed supplements other than for bee health and survival purposes throughout the harvest season.

o) declaration that the harvesting, storage, and delivery of the product minimised its exposure to contamination.

(3) A harvest declaration is not valid unless:

a) it is signed and dated by the beekeeper who submits it; and

b) the information it contains is complete, accurate and truthful.

(4) The purpose of the harvest declaration is to confirm matters within the knowledge of the beekeeper relating to the fitness for purpose of the product.

(5) The operator who first processes the bee product must not commence processing the bee product, and must not transfer t to a third party, unless:

a) the harvest declaration has been received; and

b) the operator has checked the harvest declaration to ensure it is complete and reasonably believes the harvest declaration to be accurate and truthful.

(6) For every harvest declaration received by an operator from a listed beekeeper or from the beekeeper who is also the operator, the operator must:

a) sign and date the harvest declaration; and

b) assign a unique reference number in the following format; for example, PHDK999/230417/051 where PHD is Paper Harvest Declaration, K999 is the beekeeper registration number as provided to the beekeeper under the AFB PMP (simplified without any leading zeros in the number), forward slash, date ddmmyy, forward slash, '051' being the digits unique to that harvest declaration as assigned by the operator; and

c) print the number referred to in paragraph (b) on to the harvest declaration.

(7) The operator must retain a copy of every harvest declaration supplied by a beekeeper and a register of the unique number allocated to that document.

(8) The operator must maintain the traceability from the harvest declaration to the batch of processed bee product by preparing a Bee Product Process Document for each batch of bee product processed. The operator must keep a record of all Bee Product Process Documents and attach a copy of the relevant Harvest Declaration/s to each Bee Product Process Document.

(9) The purpose of the Bee Product Process Document is to provide the operator with the processes and procedures to support traceability of the processed product for export.

(10) The bee product process document:

a) must be in the form notified by the Director-General in a relevant MPI website; and
b) be provided in paper or electronic form; and
c) must be signed (electronic signature is acceptable) and dated by the operator; and
d) must contain the following information:

i) name and business address of the operator;

ii) RMP identifier and a unique reference number for the process document;

iii) bee product type (i.e. Honey, Pollen, Propolis);

iv) bee product batch reference (e.g. Bh2 17);

v) definite quantity of batch (i.e. number of drums, pails, cartons);

vi) the assigned unique reference numbers to the relevant harvest declarations;

vii) declared Tutin statement relative to each Harvest Declaration

viii) declaration that the processing and storage of the product minimised its exposure to contamination.

4.3 Traceability between operators – Transfer documentation

4.3.1 Application

(1) This clause 4.3 applies to all bee products intended for export to countries for which official assurances are not required.

Guidance

- An operator is not required to comply with this clause 4.3 if he or she is exporting to a country that requires an official assurance.
- Bee products intended for export to countries for which official assurances are required are already subject to the traceability provisions in the Animal Products Notice: Official Assurances Specifications for Animal Material and Animal Products. Therefore, they are not required to be subject to the traceability provisions in this clause 4.3.

4.3.2 Transfer documentation accompanying bee products not requiring official assurances

(1) Where a consignment of bee products not requiring an official assurance is transferred from one premises to another, the operator of the sending premises (the consignor) must provide a transfer document to the operator of the receiving premises (the consignee).

(2) The transfer document:

a) must be in the form notified by the Director-General in a relevant MPI website; and b) may be provided in paper or electronic form; and
c) must be signed (electronic signature is acceptable) and dated by the consignor;
d) must contain the following information:

i) name and ID of the consignor (i.e. RMP ID or Risk-based measure ID under the Food Act 2014, whichever is applicable);
ii) name and ID of the consignee (i.e. RMP ID, Risk based measure ID under the Food Act 2014 or exporter registration ID, whichever is applicable);
iii) source transfer document;
iv) departure date;
v) product description;
vi) packing unit;
vii) quantity of unit;
viii) net weight;
ix) market eligibility list;
x) if the bee products are honey, identify whether it needs to be tested for Tutin and, if not, on what grounds; and
xi) declaration of whether the product is fit for purpose.

(3) To avoid doubt, nothing in this clause 4.3.2 prevents an operator who is an authorised user from raising a transfer document (i.e. eligibility declaration or eligibility document) in AP E-cert for the purposes of this clause.

4.4 Reconciliation of traceability documents

(1) Operators must have processes and procedures to demonstrate traceability as follows:

a) the connection between a harvest declaration, a bee product process document and a resulting outgoing transfer document (as required under clause 4.3.2) where bee product identified in the harvest declaration is transferred to other premises with that outgoing transfer document; and

b) the connection between an incoming transfer document and a resulting outgoing transfer document where bee product identified in the incoming transfer document is transferred to another premise with that outgoing transfer document.

(2) Transfer documents that are raised for the transfer of bee products identified in a bee product process document must contain the unique reference number of that bee product process document.

Ministry for Primary Industries
Manatū Ahu Matua

Proposed General Export Requirements for Bee Products

For all exporters of bee products from New Zealand

SUBMISSION FORM

Consultation document 2017

The Ministry for Primary Industries (MPI) proposes to consolidate, clarify, and introduce export requirements for all bee products intended for export.

You are invited to have your say on the proposed changes, which are explained in the discussion document and specified in the draft Animal Products Notice: General Export Requirement for Bee Products notice.

Consultation closes on **13/6/17**

How to have your say

Have your say by answering the questions in the discussion document, or commenting on any part of the proposals outlined in the draft Animal Products Notice: General Export Requirements for Bee Products. This submission form provides a template for you to enter your answers to the questions in the discussion document and email your submission back to MPI.

Please include the following information in your submission:

☐ the title of the discussion document 'Proposed General Export Requirements for Bee Products';

☐ your name and title;

☐ your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it; and

☐ your contact details (such as phone number, address, and email).

MPI encourages you to make your submission electronically if possible. Please email your submission to: manuka.honey@mpi.govt.nz

If you wish to make your submission in writing, these should be posted to the following address:

General Export Requirements for Bee Products Submission
MPI Food Assurance Team
PO Box 2526
Wellington 6140

The following points may be of assistance in preparing comments:

- ☐ where possible, comments should be specific to a particular section in the document. All major sections are numbered and these numbers should be used to link comments to the document;
- ☐ where possible, reasons and/or data to support comments should be provided;
- ☐ the use of examples to illustrate particular points is encouraged; and
- ☐ as a number of copies may be made of your comments, please use a legible font and quality print, or make sure hand-written comments are clear in black or blue ink.

Submissions are public information

Everyone has the right to request information held by government organisations known as "official information". Under the Official Information Act 1982, information is to be made available to requesters unless there are good or conclusive grounds under the Official Information Act for withholding it.

If you are submitting on this discussion document, you may wish to indicate any grounds for withholding information contained in your submission. Reasons for withholding information could include that information is commercially sensitive, or that the submitters wish personal information such as names or contact details to be withheld. MPI will consider such grounds when deciding whether or not to release information

Any decision to withhold information requested under the Official Information Act 1982 may be reviewed by the Ombudsman.

For more information please visit http://www.ombudsman.parliament.nz/resources-and-publications/guides/official-information-legislation-guides

Your details

Your name and title:	s 9(2)(a)
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	s 9(2)(a) s 9(2)(a)
Your contact details (such as phone number, address, and email):	s 9(2)(a)

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☒ beekeeper

   ☒ extractor

   ☒ processor

   ☒ packer

   ☒ exporter

   ☒ retailer of bee products

   ☐ other – please specify;

   How long have you been involved in the apiculture industry:

   ☐ 0-5 years

   ☐ 5-10 years

   ☒ 10 + years – OVER 70 YEARS

   ☐ not applicable

2. Do you operate under:

   ☒ an RMP under the Animal Products Act 1999

   ☐ the Food Act 2014 (Food Control Plan or National Programme)

   ☐ the Food Hygiene Regulations

   ☐ none of these

   ☐ not applicable

3. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☐ 51 – 500

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☒ More than 3000

4. What region of New Zealand do you operate in?

Hawke's Bay

5. If you export bee products please tell us a little about your business. How many people do you currently employ?

☐ 0

☐ 1 – 5

☐ 6 – 19

☒ 20 or more

What are the roles of your employees and how many are:

☒ beekeepers

☒ processors

☒ packers

☒ other – please specify

Impact of compliance costs for beekeepers, processors and exporters

6. Table 4.1.1 of the Discussion Document provides a summary of the estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

s 9(2)(b)(ii) in extra costs and administration
Potential to destroy our business along with other long standing, well managed and ethical beekeeping businesses

7. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

Clause 3.2 - All under RMP - No change
Clause 3.3 Source only from listed beekeepers - Small administrative cost – Hugh potential to destroy our business - If small beekeeper chooses to sell to public to avoid cost of registering and their small batches cause deaths from tutin toxins
Part 4 and part 7 –Changes to traceability and record keeping - Estimate s 9(2)(b)(ii)
Clause 5.1-5.3 – relabel stock, reprint pots s 9(2)(b)(ii)
Clause 5.4 –test results before export cert - depends on final test cost est s 9(2)(b)(ii) per year
Clause 5.6 – verification of Manuka claims included in costs of 5.4
Part 6 – laboratory tests - s 9(2)(b)(ii)

8. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

Difficult to estimate administration and staff training cost involved.

Can MPI estimate the costs of effectively policing and/or auditing things like super traceability and hive feeding.

No additional substances to be present in New Zealand honey

9. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

We believe that our beekeeper management ensures sugar is not extracted with honey. It is often necessary to feed hives when they have honey supers on. Weather can change very quickly and a strong hive can starve equally as quickly. We do not believe including hive feed management should be included in the GREX at all.

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

We would be happy to include extra questions on the hive declaration in regard to good management practices when feeding hives

10. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

There are limits currently in place and systems to check that limits are not exceeded. Good management should mean honey is produced within these limits. We question suppliers in respect of varroa and other pest control and are happy to include these in a harvest declaration	

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

More industry training including by processors to beekeepers.

Processors of bee products to operate under a risk based measure

11. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☒ I agree because:

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

12. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☐ I agree because:

.

☒ I disagree because:

We do not believe that the MPI beekeeper list has achieved anything at all.
It has just added cost to beekeepers. As processors we have always monitored who we extract honey for. The list is unnecessary. We would be interested to know if anyone at all has been rejected. The list is poorly presented making names hard to find. The application form has been difficult for many and they have missed the option not to display their information. This has led to unwanted sales emails and we also believe to email spam. The cost of being listed has put some small beekeepers off having honey extracted by larger processes and increased the risk of small batches with tutin toxins being sold.

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

We believe that the AFB PMP Apiweb system is the correct beekeeper listing. If it is funded to ensure it can be updated and if rules are changed to allow some of the information to be made available to MPI where necessary it will be all that is needed.

Pre-processing traceability requirements

13. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

We do not believe that individually marking supers and recording their movement will benefit traceability in any way. This system would be operationally impractical for most beekeepers, extremely costly and of no benefit to anyone. Our current systems trace honey back to each production apiary. These systems are subject to regular external audit as part of our RMP. All our supers are branded with our E1 number.

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

Current RMP system adequately traces honey back to apiary.

14. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

The cost would be extremely with for no traceability gain.

Traceability from beekeepers to operators – harvest declarations

15. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

This is the current situation with our RMP. We believe it is important that the Harvest Declaration remain as a paper document. We already require more information from our suppliers than the current declaration – much of this is in line with MPI suggestions.

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

16. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☒ I agree because:

The harvest declaration proposals will not cause any significant extra cost

☒ I disagree because:

The proposed “traceability to supers” would be prohibitive.

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

17. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☒ I agree because:

We use our own form for this traceability. We would prefer paper document to electronic. The document need on y reference the Harvest Dec numbers – the information should not need to be repeated nor copies attached to each process document.

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

Labelling of monofloral and multifloral mānuka honey

18. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☒ I agree because:

It would seem to be the best format currently available

☐ I disagree because:

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

19. MPI considers there are likely to be options available to businesses to support compliance with the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☒ I agree because:

☐ I disagree because:

☐ I have concerns because:

20. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☐ I agree because:

☒ I disagree because:

We believe that the proposal may have very significant impact on existing rights. We have marketed manuka honey for at least 50 years. Our manuka honey is of a good standard. It looks like manuka honey, tastes like manuka honey, smells like manuka honey and behaves under processing like manuka honey. Our customers are happy to purchase and consume it as manuka honey. We believe that most manuka produced in our area is a from a range of nectars which MPI now want to split into manuka and kanuka despite the history of the product and the codex definition allowing the traditional use of the common name "manuka" to include a range of plants including those that MPI intend to exclude as "kanuka"

21. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☒ I agree because:

Agree because the grading systems are how the value of batches of manuka honey are determined. The grading systems distinguish "table manuka" from higher value manuka. Any new definition should not change the product but rather strengthen the integrity of the product

☐ I disagree because:

22. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

This will depend on the standard set for manuka and multifloral manuka and the potential impact on the price that is paid by the market. It is important that this determination lands correctly, too tight and demand would exceed production, too loose and we risk damaging the market with honey that includes very little manuka.

23. Do you have any comments on the summary science report?

We are not honey scientists – We are beekeepers.
The science used seems flawed and does not seem to have taken into regard the information from the specialist honey industry scientists.

24. Do you have any further comments regarding the definition of mānuka honey?

We do not believe the proposed definition is fit for purpose.
We believe MPI need to work with industry to better define manuka honey.

Laboratory Tests

25. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☒ I agree because:

☐ I disagree because:

26. The costs associated with these proposals are likely to vary depending on the size and volume of samples being tested. What impact do you consider these proposals will have on your business?

Part 6 – laboratory tests - s 9(2)(b)(ii)

Do you have any suggestions for minimising any impacts?

Transitional provisions

27. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

☒ I agree because:

Export customers will want a zero lead time.

☒ I disagree and propose an alternative timeframe:

Six weeks is a much shorter time than usual for this type of legislation

28. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

☒ I agree because:

We agree for Manuka definitions.

☒ I disagree because:

Not appropriate for changes to hive declaration etc

Any other feedback

29. Are there any other parts of this discussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).

We do not believe that the proposed manuka definition is fit for purpose as currently written.

We have always been concerned at MPIs determination to produce a standard that excludes “kanuka” from their description of manuka. There is no problem with the bees or processers blending batches of manuka type honeys. Traditional grading processes should be respected and used alongside specialist grading systems such as UMF® We believe that any new manuka honey definition should include reference to taste, colour, aroma and thixotropic nature.

The problem is with sale of product that is nothing like “New Zealand Manuka Honey” A standard is needed that excludes product that is marketed by fraudulent and unethical people in New Zealand and overseas. It needs to exclude “New Zealand Manuka Honey” that is in reality

- Not honey eg Honey diluted with corn syrup and other similar products
- Honey that is not from New Zealand eg Australian Jellybush
- New Zealand honey that is wholly or mainly from a source unrelated to sources commonly and historically referred to as Manuka eg Beach honey dew, Rewarewa, Clover or Nodding Thistle.
- Honey that has been adulterated with chemicals so that test results mark it as high grade manuka honey.

We do not believe that the proposed manuka definition will be acceptable to Codex.
We do not believe it will provide confidence or assurance.
We do not believe it will protect consumers or producers.

We believe that MPI need to work urgently with the beekeeping industry to find a definition that will address the original objectives. We believe it can be done with open and frank discussion, respect and acceptance.

Submission on the "Proposed General Export Requirements for Bee Products" discussion document.

To whom it may concern,

My name is s 9(2)(a) and my partner, s 9(2)(a), and I own and operate s 9(2)(a), a RMP registered beekeeping business in Northland, New Zealand. We currently produce approximately 5-15 tonnes of predominantly medium to high activity Manuka honey each spring, then another 5-15 tonnes of monofloral kanuka honey each summer. We have been involved in the beekeeping industry since 2000 when we bought 20 beehives and have been at our current level of about 500 hives since 2013.

Lack of Uniqueness of Chemical Markers

My main point I want to make in this submission is that the definition of Manuka honey is not robust enough. Only one of the chemical markers is known to be unique to Manuka nectar, that is 2-methoxyacetophenone (2 MAP) (the exception to this is sample 15_76 *Trifolium repens,* white clover, in the MPINectarData14/15 data file, which appears to be a data entry error). In fact all of the other chemical markers, 4-hydroxyphenyllactic acid (4 HPLA), 2-methoxybenzoic acid (2 MBA) and 3-phenyllactic acid (3 PLA) are found in the nectar of other common NZ trees at levels similar, if not exceeding, that of Manuka nectar.

The following is a few examples of this taken from the MPINectarData15/16 data file.

- 4 HPLA in *Kunzea* Spp. (Kanuka)

Sample ID

16_161 180 mg/L

16_163 190 mg/L

These 4 HPLA results are higher than any of the Manuka samples in the data set.

- 2 MBA in *Weinmannia racemosa* (Kamahi)

Sample ID

16_204 15 mg/L

16_221 14 mg/L

These 2 MBA results are higher than most of the Manuka samples in the data set.

- 3 PLA in *Kunzea* Spp. (Kanuka)

Sample ID

16_109 4350 mg/L

16_189 4970 mg/L

16_300 6910 mg/L

These and many other results show that kanuka nectar has higher levels of 3 PLA than Manuka nectar.

Theoretical Blending Example

I now want to use test results from my own honey to illustrate how a monofloral Manuka honey, according to the draft GREX, can be produced by blending a large amount of non-manuka honey with a small amount of Manuka honey. This blending would take place in the shed after extraction but it could also be achieved in the hives by leaving a little extra honey on the hives at the end of spring harvest.

I had a 4200kg homogenized batch of kanuka honey (EE2/17) tested for chemical markers at s 9(2)(b)(ii) (attachment Kanuka16-17ChemicalMarkers) and for pollen content at GNS Science (attachment PollenKanuka16-17) Note: In the discussion paper it states "Pollen as determined by microscopy does not distinguish Manuka pollen from kanuka pollen". This is not true. s 9(2) have been performing honey pollen analysis that distinguishes between the two species for some time.

The results are as follows:

Chemicals	4 HPLA	2 MBA	2 MAP	3 PLA
mg/kg	2.6	1.9	<0.8	801
Pollen	Total concentration 274,000 grains/10 grams honey			
	Kanuka	74%	202,760 grains/10 grams honey	
	Manuka	2%	5,480 grains/10 grams honey	

The rest was a wide range of nectar bearing plants including Apiaceae (5%) and *Metrosideros* (4%).

I also had some single drum (300 kg) samples of matured high activity Manuka honey tested for chemical markers at s 9(2)(b)(ii) (attachment Manuka14ChemicalMarkers) and pollen content at GNS (attachment Manuka14PollenAnalysis).

The results for one of these drums (M14 2/8) are as follows:

Chemicals	4 HPLA	2 MBA	2 MAP	3 PLA
mg/kg	6.3	12.8	16	1060
Pollen	Total concentration 346,000 grains/10 grams honey			
	Manuka	76%	262,960 grains/10 grams honey	
	Kanuka	2%	6,920 grains/10 grams honey	

The rest was a wide range of nectar bearing plants including *Trifolium* (5%) and Apiaceae (4%).

If all the above honey was blended together you would get 4,500kgs of honey with the following profile:

Chemicals	4 HPLA	2 MBA	2 MAP	3 PLA
mg/kg	2.85	2.63	1.06	818
Pollen	Total concentration 278,800 grains/10 grams honey			
	Kanuka	68%	189,704 grains/10 grams honey	
	Manuka	2%	22,645 grains/10 grams honey	

This honey would be classified as a monofloral Manuka honey by MPI but it is clearly not "wholly or mainly from that particular source". Based on my knowledge and experience, I would estimate this blend would contain no more than 10% pure Manuka honey, along with over 50% kanuka, and significant contributions of Pohutakawa, *Weinmannia*

sylvicola (towai), and *Geniostoma ligustrifolium* (Hange Hange). The latter two of these trees are significant sources of honey for northland beekeepers, yet their nectars were not analysised for this standard.

Manuka Pollen DNA Test

The above honey samples were also tested for Manuka pollen DNA by s 9(2)(b)(ii) and both of the samples used in the example passed (Kanuka honey Cq 34.02, Manuka honey Cq 33.55). However some of my high activity Manuka samples failed. I know that the MPI have finally acknowledged that there is a major flaw in the DNA test, and have reported that a modification to the test method is forthcoming, but there has been no time for submitters like myself to test their failed samples by the "new" test.

MPI scientists should have noticed this flaw in the test before the draft GREX was published but failed to because of a lack of attention. It is an oversight that the stability of the DNA in Manuka honey has not been investigated along with the chemical attributes in the Honey Incubation Trial. The possible ability of methylglyoxal (MG) and hydroxymethylfurfural (HMF) to degrade or damage DNA is very easily established with a Google search. Also s 9(2)(a) told me that the results from the archive samples (MPIHoney_CART data file) were used to assess how the DNA behaved. Of the 99 archive "Manuka" samples tested, 15 failed the DNA test yet none failed any of the chemical marker tests. That should have had "alarm bells" ringing.

An alternative approach

In my opinion the MPI needs to change its approach to this situation and use *Leptospermum* unique markers that have meaningful thresholds. The proposed standard of 5 markers, 3 of which are found in other honeys, and only one of which has a meaningful threshold (the other 4 only need to be present at, or barely above, detectable limits). Ironically the only marker that has a meaningful threshold (3 PLA) is more abundant in some kanuka nectars than most Manuka nectars.

Two chemical markers unique to *Leptospermum* nectar are already well known and should be used in the standard, namely Leptosperin and Dyhydroxyacetone (DHA). Both MPINectarData files show Leptosperin and DHA are only found in *Leptospermum* spp. nectar, yet these chemicals have been deemed unsuitable due to instability over time and at elevated temperatures.

My argument is, in the case of leptosperin, the MPI Honey Incubation Trial showed some decrease in levels over time but only at the highest temperature (this also happened to the levels of 2 MAP in the honey). The reality is honey is a natural product that needs to be handled and stored correctly to prevent it degrading. Everyone in the industry knows exposing honey to elevated temperature, either during processing or storage, is likely to alter the honey to your detriment. By this I mean increasing HMF levels in the honey to a point where it makes it harder to sell, but this could also mean lowering your Leptosperin levels and therefore the value of the honey.

In the case of DHA, it is ve y well known that over time DHA in honey is converted to Methyglyoxal (MG), therefore the MG content of a honey has a direct correlation to the amount of DHA that was in that honey when it was made. As the honey ma ures the DHA level goes down and the MG level goes up, to a point where DHA and MG almost converge. Even though it is recognised that Manuka nectar from different parts of New Zealand has varying levels of DHA, the MG content of manuka honey (or a conversion of it, such as NPA) is currently and will continue to be the standard by which manuka honey purity is rated and valued internationally. The reality is Manuka honey is marketed and priced internationally almost exclusively on MG content, therefore all genuine Manuka honey leaving New Zealand should have measurable amounts of DHA and MG in it.

My suggestion for the Manuka standard is as follows:

Monofloral Manuka	Leptosperin	>100 mg/kg
	2 MAP	>3 mg/kg
	DHA	>225 mg/kg
	MG	>150 mg/kg

If a sample fails to reach any of these four thresholds then it is not Monofloral Manuka honey.

Multifloral Manuka	Leptosperin	>25 mg/kg
	2 MAP	>1 mg/kg
	DHA	>75 mg/kg
	MG	> 50 mg/kg

If a sample fails the monofloral test yet passes the above thresholds it is a Multifloral Manuka honey. If a sample fails to reach any of the above thresholds it is non-manuka honey.

I have not included the other Manuka unique marker from the MPI draft standard, namely the Manuka pollen DNA test, in my standard. This is because of the DNA test with a pass mark of Cq < 36 only tells you whether there is Manuka pollen present or not. It is not a reliable quantitative measure of pollen abundance and there ore only serves the purpose of making artificial adulteration of honey more difficult. I don't think that the extra time it takes and money it costs to get DNA tests done is worth it if it is only serving this purpose. I have been told by a lab technician that has conducting these tests that the "modified" test is likely to be significantly more expensive and time consuming due to need to use extra reagents and processes in the method.

Summary

In summary I think the weakness of the standard will not stand up to international scrutiny and directly contradicts the objectives of the proposals contained in the discussion paper. Namely to "ensure a robustness of the assurances provided by New Zealand" and to "provide confidence for markets and overseas regulators that honey labelled as Manuka is authentic".

This standard has to the potential to damage the international reputation of Manuka honey even more so than the "any goes" situation we have now because it is going to make all the low purity Manuka honey exported overseas (the honey currently criticised as being "fake") legitimate. To put it bluntly, if the MPI are willing to "rubber stamp" a honey as monofloral Manuka when it is probably be less than 10% Manuka honey by volume then that is government endorsed fraud. I think the MPI has seriously underestimated the honesty and intelligence of NZ Manuka producers and exporters if they think we are going to be satisfied with this standard.

Honey Pollen Analysis

s 9(2)(b)(ii)

Paleontology Department
s 9(2)(b)(ii)

Client: s 9(2)(b)(ii)

Sample: EE2/17 **Analysis date:** 23/03/2017

GNS laboratory number: L30257

Colour density (Pfund): 85 mm

Pollen concentration: 221,000 pollen grains per 10 g honey

Pollen type	% mean	95% limits min	max
Leptospermum type (manuka/kanuka)	76.4	73.0	79.5
Apiaceae	5.5	4.0	7.5
Metrosideros type (rata/pohutukawa)	4.6	3.2	6.5
Lotus (trefoil)	3.7	2.5	5.4
other nectar-bearing plant pollen	9.8	7.8	12.3

nectarless plant pollen 1.7 %

honey-dew elements (HDE) 0.5 %

based on a total pollen count of 652 pollen of nectar-bearing plants

Palynological Classification: manuka monofloral

Notes: Other nectar-bearing plant pollen includes Elaeocarpus (hinau), Trifolium type (clover), Rhopalostylis, Knightia (rewarewa), Taraxacum (dandelion), Weinmannia (kamahi), Geniostoma (pigwood), Ranunculaceae (buttercups), Salix (willow), Castanea, Cordyline, Acacia, Coprosma, Asteraceae (Daisy), Brassicaceae and Muehlenbeckia etc. About 3% of Leptospermum type is manuka (the rest kanuka) based on our preliminary research.

Technician: s 9(2)(b)(i)

Pollen analyst: s 9(2)(b)(i)

Honey Pollen Analysis

s 9(2)(b)(ii)

Paleontology Department
s 9(2)(b)(ii)

Client: s 9(2)(b)(ii)

Sample: M14 2/6 **Analysis date:** 15/05/2017

GNS laboratory number: L30415

Colour density (Pfund): 87 mm

Pollen concentration: 274,000 pollen grains per 10 g honey

Pollen type	% mean	95% limits min	max
Leptospermum scoparium (manuka)	52.0	47.6	56.3
Kunzea (kanuka)	5.5	3.8	7.8
Trifolium type (clover)	14.6	11.8	18.0
Apiaceae	4.3	2.9	6.4
Geniostoma (pigwood)	2.9	1.8	4.8
Other nectar-bearing plants	20.7	17.4	24.4

nectarless plant pollen 2.3 %

honey-dew elements (HDE) 0.0 %

based on a total pollen count of 512 pollen of nectar-bearing plants

Palynological Classification: manuka/kanuka multifloral

Notes: Other nectar-bearing plant pollen includes Weinmannia (kamahi), Metrosideros type (rata/pohutukawa), Knightia (rewarewa), Liliaceae, Ranunculaceae (buttercups), Acacia, Taraxacum (dandelion), Solanaceae, Lotus (trefoil), Rosaceae, Corynocarpus (Karaka), Salix (willow), Hedycarya, Brassicaceae, Asteraceae (Daisy), Eucalyptus, Elaeocarpus (hinau), Muehlenbeckia, Lamiaceae and Populus etc.

Technician: s 9(2)(b)(i)

Pollen analyst: s 9(2)(b)(i)

Honey Pollen Analysis

s 9(2)(b)(ii)

Paleontology Department
s 9(2)(b)(ii)

Client: s 9(2)(b)(ii)

Sample: M14 2/8 **Analysis date:** 15/05/2017

GNS laboratory number: L30416

Colour density (Pfund): 90 mm

Pollen concentration: 346,000 pollen grains per 10 g honey

Pollen type	% mean	95% limits min	max
Leptospermum scoparium (manuka)	75.9	72.0	79.5
Kunzea (kanuka)	2.0	1.1	3.7
Trifolium type (clover)	5.2	3.6	7.5
Apiaceae	4.0	2.6	6.1
Metrosideros type (rata/pohutukawa)	2.4	1.4	4.2
Other nectar-bearing plants	10.4	8.1	13.4

nectarless plant pollen 2.4 %

honey-dew elements (HDE) 1.0 %

based on a total pollen count of 498 pollen of nectar-bearing plants

Palynological Classification: manuka monofloral

Notes: Other nectar-bearing plant pollen includes Geniostoma (pigwood), Lotus (trefoil), Ranunculaceae (buttercups), Griselinia (puka), Taraxacum (dandelion), Knightia (rewarewa), Solanaceae, Corynocarpus (Karaka), Brassicaceae, Acacia, Salix (willow), Asteraceae (Daisy), Clematis, Pseudopanax and Phormium (flax) etc.

Technician: s 9(2)(b)(i)

Pollen analyst: s 9(2)(b)(i)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-10600
Submitted by:
Date Received: 1/05/2017
Date Completed: 16/05/2017
Order Number:
Reference: Manuka 14

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxy acetophenone 2-MAP	3-Phenyllactic acid 3-PLA
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20
17-10600-1	M14 2/1	5.67	13.3	12.7	1,140
17-10600-2	M14 2/2	4.17	11.6	9.90	863
17-10600-3	M14 2/3	4.75	11.6	11.0	864
17-10600-4	M14 2/4	3.38	7.71	6.81	791
17-10600-5	M14 2/5	4.34	10.1	9.99	901
17-10600-6	M14 2/6	6.23	14.0	14.7	1,070
17-10600-7	M14 2/7	6.23	14.7	16.1	1,140
17-10600-8	M14 2/8	6.34	12.8	16.0	1,060
17-10600-9	M14 2/9	6.52	13.8	17.2	1,110
17-10600-10	M14 2/10	5.22	11.6	12.6	920
17-10600-11	M14 2/11	5.99	14.0	16.2	1,020
17-10600-12	M14 2/12	6.63	15.8	13.4	1,050
17-10600-13	M14 2/13	5.61	13.1	11.6	920
17-10600-14	M14 2/14	4.35	10.4	8.68	813
17-10600-15	M14 2/15	5.48	13.1	12.2	1,010
17-10600-16	M14 2/16	5.65	12.7	13.5	1,040
17-10600-17	M14 2/17	4.94	11.6	11.2	949

Manuka Markers in Honey* Approver:

s 9(2)(b)(ii)

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

Method Summary

Manuka Markers	Solvent extraction, LC-MS/MS analysis. s 9(2)(b)(ii) has interim approval from the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP).

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-10857
Submitted by:
Date Received: 3/05/2017
Date Completed:
Order Number:
Reference:

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxy acetophenone 2-MAP	3-Phenyllactic acid 3-PLA
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20
17-10857-2	EE2/17 21	2.63	1.88	<0.8	801

Manuka Markers in Honey* Approver:
s 9(2)(b)(ii)

Method Summary

Manuka Markers

Solvent extraction, LC-MS/MS analysis.
s 9(2)(b)(ii) has interim approval from the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP).

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

[Not relevant to request]

From: s 9(2)(a) @xtra.co.nz>
Sent: Saturday, 10 June 2017 5:28 p.m.
To: Manuka Honey
Subject: submission

s 9(2)(b)(ii)

s 9(2)(a)

10 June 2017

PROPOSED GENERAL EXPORT REQUIREMENTS FOR BEE PRODUCTS

Submission from the s 9(2)(a)

The s 9(2)(b)(ii) would like to express their strong support for clause 3.3.1 in the draft General Export Requirements for Bee Products (GREX), specifically 2 b:

3.3.1 Application

(1) Clause 3.3 applies to all beekeepers who do not operate under a risk-based measure.

(2) Clause 3.3 does not apply to beekeepers who:

a) operate under a risk-based measure; or

b) who have an exclusive supply contract with an RMP operator and whose activities are covered by the operator's RMP; or

c) do not supply bee products for export (i.e. only supply bee products for the domestic market).

(3) Beekeepers who have been listed by the Director-General pursuant to clause 7.4 of the Animal Products Notice: Official Assurances Specifications for Animal Material and Animal Products:

a) are deemed to be listed beekeepers for the purposes of this Notice; and

b) do not have to re-apply for listing under clause 3.3.3.

As we understand and interpret this clause (with help from MPI officials at the regional consultation meeting in Whangarei), it allows non-commercial beekeepers to extract their honey under an exclusive arrangement with a certified RMP operator, without the need to register on the MPI Beekeeper List. This is a sensible and practical approach to deal with the needs of the two thirds of New Zealand beekeepers who have non-commercial numbers of hives, without lumbering them with an ongoing cost of the beekeeper list. We submit that the Harvest Declaration document, and associated audit procedures of an RMP premises, provides MPI with more certainty and traceability than the Beekeeper List.

The s 9(2)(a) would like to see this part of the GREX retained in the final draft of this document.

The s 9(2)(a) also fully supports the submission of Apiculture New Zealand on the proposed Manuka Definition and General Export Requirements for Bee Products; and asks that MPI implements the recommendations made in the Apiculture New Zealand submission.

Yours sincerely,

s 9(2)(a)

Proposed General Export Requirements for Bee Products

For all exporters of bee products from New Zealand

SUBMISSION FORM

Consultation document 2017

The Ministry for Primary Industries (MPI) proposes to consolidate, clarify, and introduce export requirements for all bee products intended for export.

You are invited to have your say on the proposed changes, which are explained in the discussion document and specified in the draft Animal Products Notice: General Export Requirement for Bee Products notice.

Consultation closes on **23 May 2017.**

How to have your say

Have your say by answering the questions in the discussion document, or commenting on any part of the proposals outlined in the draft Animal Products Notice: General Export Requirements for Bee Products. This submission form provides a template for you to enter your answers to the questions in the discussion document and email your submission back to MPI.

Please include the following information in your submission:

☐ the title of the discussion document 'Proposed General Export Requirements for Bee Products';

☐ your name and title;

☐ your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it; and

☐ your contact details (such as phone number, address, and email).

MPI encourages you to make your submission electronically if possible. Please email your submission to: manuka.honey@mpi.govt.nz

If you wish to make your submission in writing, these should be posted to the following address:

General Export Requirements for Bee Products Submission
MPI Food Assurance Team
PO Box 2526
Wellington 6140

The following points may be of assistance in preparing comments:

☐ where possible, comments should be specific to a particular section in the document. All major sections are numbered and these numbers should be used to link comments to the document;

☐ where possible, reasons and/or data to support comments should be provided;

☐ the use of examples to illustrate particular points is encouraged; and

☐ as a number of copies may be made of your comments, please use a legible font and quality print, or make sure hand-written comments are clear in black or blue ink.

Submissions are public information

Everyone has the right to request information held by government organisations, known as "official information". Under the Official Information Act 1982, information is to be made available to requesters unless there are good or conclusive grounds under the Official Information Act for withholding it.

If you are submitting on this discussion document, you may wish to indicate any grounds for withholding information contained in your submission. Reasons for withholding information could include that information is commercially sensitive, or that the submitters wish personal information such as names or contact details to be withheld. MPI will consider such grounds when deciding whether or not to release information.

Any decision to withhold information requested under the Official Information Act 1982 may be reviewed by the Ombudsman.

For more information please visit http://www.ombudsman.parliament.nz/resources-and-publications/guides/official-information-legislation-guides

Your details

Your name and title:	s 9(2)(a)
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	s 9(2)(a)
Your contact details (such as phone number, address, and email):	s 9(2)(a)

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☒ beekeeper

   ☐ extractor

   ☐ processor

   ☐ packer

   ☐ exporter

   ☐ retailer of bee products

   ☐ other – please specify

2. How long have you been involved in the apiculture industry:

   ☐ 0-5 years

   ☐ 5-10 years

   ☒ 10 + years (40 years)

   ☐ not applicable

3. Do you operate under:

   ☐ an RMP under the Animal Products Act 1999

   ☐ the Food Act 2014 (Food Control Plan or National Programme)

   ☐ the Food Hygiene Regulations

   ☒ none of these

   ☐ not applicable

4. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☒ 51 – 500

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☐ More than 3000

5. What region of New Zealand do you operate in?

Thames - Coromandel

6. If you export bee products please tell us a little about your business. How many people do you currently employ?

☒ 0

☐ 1 – 5

☐ 6 – 19

☐ 20 or more

What are the roles of your employees and how many are:

☐ beekeepers N/A

☐ processors

☐ packers

☐ other – please specify

Impact of compliance costs for beekeepers, processors and exporters

7. Table 4.1.1 of the Discussion Document provides a summary of he estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

This statement appears incorrect. The only costs shown are for the beekeeper listing fee, which I consider unrealistically high, especially if imposed annually.

The costs of implementing the proposal to trace supers could only be described as horrendous, both in monetary and human terms.

8. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

<u>Pre-processing Traceability Requirements</u>

As a beekeeper I have no problems at all with the requirements to keep records of:
c (i) location of the apiary (we already use MAF registration details which include GPS).
(iii) the dates and totals of supers added or removed from each apiary site (good managers would automatically maintain field records of this – myself included).
(ii) the dates and volumes of honey harvested from the supers together with a record of which apiary (or group of apiaries) those supers were filled at.

In contrast, I am extremely unhappy with the suggestions that all supers should have a unique recording system and that records be maintained of all movements. Such a process may well be a justifiable expense amongst some of the larger corporate businesses to help with their disease control problems, management of staff performance reviews and perhaps to enable income reconciliation with business partners. For them the costs are spread across a larger scale of operation, are by individual choice and are for the sole benefit of those operators. They have little, if any, connection with food safety. To foist these practices and costs onto smaller businesses and operators (or even larger ones who already have good systems for managing disease control and other functions) would be an imposition out of all proportion with the intention of the regulations.

For me personally, I operate as a lone operator except for the occasional help of an assistant when removing the honey crop and for shifting hives on and off seasonal flows. To accurately record the details of each super as suggested, I would need to hire staff to carry out that function and although this would not be a full-time job they would have to travel with me everywhere I went and for almost the entire time I am at work during the season. On those occasions when I was being assisted by a helper for crop removal and hive shifting, I would need to provide a second vehicle as my utility has only two seats. This scenario is obviously so farcical it does not warrant attempting to put a costing on it. The only alternative to hiring staff would be for me to take on the recording function myself. This would significantly reduce my ability to manage the hives and their end product which for me is also not acceptable.

In addition to the labour costs involved in either case there would also be the outlay for the tags (plus their on-going replacement costs), the reading equipment and presumably a computerised recording system – none of which I need or desire. I gave up running a larger business and employing staff to become a lone operator concentrating on managing fewer hives to a better standard and for better outcomes. I believe I achieve those targets and have no wish to go back to the past. This proposal would not just be a costly exercise in futility. Given the field conditions beekeepers operate in it would also be prone to failures in the recording process and therefore unreliable from an audit point of view.

The details in the proposed version of the Harvest Declaration together with a Code of Practice requirement that the beekeeper has kept further apiary records showing apiary locations with numbers of hives and supers would provide the maximum traceability possible back to the hive. The individual identification of each super cannot add anything to this traceability because once the honey passes the extraction process it becomes homogenised in a line of drums. After further packing it becomes impossible to refer to any particular pot of honey back beyond the collective information provided in the current Harvest Statement. The integrity of the product and the oversight by MPI would not be improved by bar-coding the supers or, perhaps more precisely, the frames themselves.

Not only does the proposal invite criticism as "recording for the sake of it" but it also proves nothing, would not be fail-safe in practice and could not be reliably audited.

9. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

As a routine practice I already test all manuka honey by individual core-sample at the time of sale. The tests done are those currently in line with meeting UMFHA packing standards and have proved to be a satisfactory means of trading and at an appropriate cost. If the new tests proposed by MPI can better that situation then they would be acceptable, but not if they cannot.

No additional substances to be present in New Zealand honey

10. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☒ I agree because:

I agree that bees should not be fed sugar during the harvest season (except as required to ensure the survival of the bees) as a substitute for honey.

☒ I disagree because:

With the tendency for overcrowding of hives, particularly on manuka areas, it has become necessary for many beekeepers to feed pollen substitutes prior to and during honey flow to maintain brood health. Technically, these proteins would not be stored (at least not in the honey supers) but there should be greater clarity on whether or not the restriction applies to supplements as well as sugar.

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

11. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

I prefer to extract honey solely from supers placed above a queen excluder, and therefore not currently part of the brood nest. However, there are times when at least some of these combs will have at some time in their past been used in the brood nest situation with no way of ascertaining that history. This requirement would also severely restrict normal hive management for most beekeepers, e.g. brood manipulation for hive development or swarm control prior to or during the flow, uniting weaker colonies or the addition of nuclei for repair and dealing with the inevitable occasional failure of the queen excluder, if one is used.

I believe the regulation would be too harsh to be acceptable but suggest an expression of preference for such a standard be included in the code of practice referred to under "Guidance".

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

Processors of bee products to operate under a risk based measure

12. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☒ I agree because:

All bee products ntended for export should be processed under the same Regulations.

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

13. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

All bee products intended for export should meet the same Regulatory requirements of supply.

☐ I disagree because:

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

I support the principle that all beekeepers producing honey for retail sale domestically or for export, either directly or through subsequent processors, should all be required to operate under the same standards. This would mean that all product would carry the same quality assurances, including honey sold for export or for consumption in NZ, or for purchase by visitors to NZ that may take either the honey or its reputation with them on their travels.

Pre-processing traceability requirements

14. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

Part 4.1.1.d Provision of Information

Records of honey production from individual apiary sites are jealously guarded trade secrets forming part of the goodwill of a beekeeping business. When the original RMP regulations were introduced it was recognised that there needed to be an information disconnect point between the various operators in the beekeeper/extractor/packer process. The current process of using MAF ID numbers for identifying apiaries meets any trace-back requirements for food safety without compromising the privacy issues that would arise from providing greater detail on the Harvest Statement. Neither contract extractors nor honey packers feel comfortable being (potentially) entrusted with the production and source records of their beekeeper suppliers and do not want the possible mistrust that could develop from being put in such a situation.

The new proposals suggest that while the beekeeper must keep comprehensive apiary site and production records he must also provide those records upon request. This presents a situation where such highly sensitive information could be expected to be provided to another party and in such a comprehensive form. Furthermore these details could conceivably then be matched with related information subsequently available at the RMP audits of subsequent processors and even be accrued annually. At this point the beekeeper has no way of tracing who may have had access to this confidential information or its distribution and the consequences in the event of misuse could be catastrophic to his business.

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

I suggest the wording be changed to read “make available for inspection” and include provisions preventing the records being copied or transmitted or the requests being made as a standard practice.

Furthermore, the Code of Practice should specifically approve the use of hand-written field diaries and not request data storage in a transmissible form as compulsory.

It could be said that with the changes I have suggested there is little to be gained by changing from the current Harvest Statement which until now has been regarded as the appropriate base document for entry into the RMP system. The fact that MPI may not have automatic access to the Apiary Register does not reduce the traceability of the honey because in the unlikely event of a food-safety related trace-back being required then those details could still be accessed from the beekeeper concerned. Maybe the system does not need changing, but the Code of Practice could do with an update.

15. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

See previous comments (Question 8)

Traceability from beekeepers to operators – harvest declarations

16. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

Once again, if a product qualifies for export to any market it should qualify for all markets and all should meet the same standards

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

17. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☐ I agree because:

☐ I disagree because:

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

18. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☐ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

Labelling of monofloral and multifloral mānuka honey

19. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☐ I agree because:

☒ I disagree because:

1. Of the proposed chemical markers, two (3-PA and 4-HPA) cannot distinguish between manuka, kanuka and ling (Calluna). One of the remaining two (2-MB) is equally represented in manuka and kanuka and also well-represented in honeydew. (s 9(2)(a) , 15 May 2017). Since kanuka is likely to be one of the principal contaminating sources in genuine manuka honey, I fail to

see the logic in relying on these chemicals.

2. The DNA/pollen test has already been shown to have difficulties recognising superior honeys in the higher activity bracket. The test must be equally capable of authenticating honeys both before and after marketing and without any level of doubt where such high-value honeys are concerned.

3. For MPI to intimate (MPI update 7 June 2017) that a proportion of high-grade honey samples can be expected to fail the test is reckless in the extreme.

4. It has also been shown that the full test suite of 4 chemical markers and the DNA test could be applied to dilution rates (with non-manuka) of up to 1 in 4 for monofloral manuka or 1 in 20 in multifloral and yet still pass in that category (s 9(2)(j)). This short-coming could exacerbate one of the industry's major concerns, i.e. too much lower grade manuka is currently undermining the public confidence in the product and standards.

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

There are chemical markers already established in the market both in NZ and overseas. These have been in use for some time by a large section of the industry and provide the basis for authentication and valuation of the majority of the honey supplied by beekeepers. These chemicals (DHA, MGO, Leptosperin and Lepteridine) should be added to the test suite in substitution for the DNA test and also 3-PA, 4-HPA and 2-MB.

In particular, while there is any possibility that the DNA test could yield false results it should be dispensed with and replaced by one or more of the recommended markers now in use.

20. MPI considers there are likely to be options available to businesses to support compliance with the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☐ I agree because:

☐ I disagree because:

☐ I have concerns because:

21. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☐ I agree because:

☐ I disagree because:

22. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☒ I agree because:

These grading systems are part of the manuka story and have evolved over the past 20+ years. They are what creates the value of the honey. If MPI has a role to play in their regard it would be to discourage the proliferation of various systems that seek to undermine or compete with established ones, especially where that is done by unequal comparison leading to deception of the consumer.

☐ I disagree because:

23. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

Left unmodified, the definition could be seriously at odds with current grading systems when inappropriate test results appeared. The public debate that would ensue would not be good for business and either the industry or MPI would suffer a huge loss of value or credibility.

24. Do you have any comments on the summary science report?

Unfortunately, I have lost confidence in the report given the weight of discrediting science and the controversy surrounding test outcomes.

25. Do you have any further comments regarding the definition of mānuka honey?

The test must be unequivocal in its ability to authenticate genuine manuka honey and also to recognise when it is a blend with kanuka or other honeys or has been fraudulently enhanced. It must also be equally repeatable for audit processes in importing countries, including/especially once the honey has matured. I rather doubt that having to suggest to someone that their methods "may need a tweak" or they "may not know how to take a sample" will be any more constructive overseas than it has been here!

Laboratory Tests

26. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☐ I agree because:

☐ I disagree because:

27. The costs associated with these proposals are likely to vary depending on the size and volume of samples being tested. What impact do you consider these proposals will have on your business?

Do you have any suggestions for minimising any impacts?

Transitional provisions

28. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

☐ I agree because:

☐ I disagree and propose an alternative timeframe:

29. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

☐ I agree because:

☐ I disagree because:

Any other feedback

30. Are there any other parts of this discussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).

Further feedback on the Science programme

The manuka honey industry began nearly 30 years ago with the research by the late Prof Peter Molan whereby the special antibacterial properties were recognised. The world quickly became aware of the benefits associated with this honey and its reputation, based on personal experiences, has led to the value being between 4x and 10x that of other honeys. Those experiences are real and the customer continues to expect those properties to be part of their "manuka" honey. We are not allowed to market the honey as antibacterial for food purposes but the fact that it is used in pharmaceutical products further supports the public image.

The authenticity test that both MPI and the Industry now seek carries with it the immense responsibility of being able to identify the quality and purity of manuka honey that will enable the consumer to continue to have such confidence in the product.

Ministry for Primary Industries
Manatū Ahu Matua

Proposed General Export Requirements for Bee Products

For all exporters of bee products from New Zealand

SUBMISSION FORM

Consultation document 2017

The Ministry for Primary Industries (MPI) proposes to consolidate, clarify, and introduce export requirements for all bee products intended for export.

You are invited to have your say on the proposed changes, which are explained in the discussion document and specified in the draft Animal Products Notice: General Export Requirement for Bee Products notice.

Consultation closes on **23 May 2017.**

How to have your say

Have your say by answering the questions in the discussion document, or commenting on any part of the proposals outlined in the draft Animal Products Notice: General Export Requirements for Bee Products. This submission form provides a template for you to enter your answers to the questions in the discussion document and email your submission back to MPI.

Please include the following information in your submission:

☒ the title of the discussion document 'Proposed General Export Requirements for Bee Products';

☒ your name and title;

☒ your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it; and

☒ your contact details (such as phone number, address, and email).

MPI encourages you to make your submission electronically if possible. Please email your submission to: manuka.honey@mpi.govt.nz

If you wish to make your submission in writing, these should be posted to the following address:

General Export Requirements for Bee Products Submission
MPI Food Assurance Team
PO Box 2526
Wellington 6140

The following points may be of assistance in preparing comments:

- ☒ where possible, comments should be specific to a particular section in the document. All major sections are numbered and these numbers should be used to link comments to the document;
- ☒ where possible, reasons and/or data to support comments should be provided;
- ☒ the use of examples to illustrate particular points is encouraged; and
- ☒ as a number of copies may be made of your comments, please use a legible font and quality print, or make sure hand-written comments are clear in black or blue ink.

Submissions are public information

Everyone has the right to request information held by government organisations, known as "official information". Under the Official Information Act 1982, information is to be made available to requesters unless there are good or conclusive grounds under the Official Information Act for withholding it.

If you are submitting on this discussion document, you may wish to indicate any grounds for withholding information contained in your submission. Reasons for withholding information could include that information is commercially sensitive, or that the submitters wish personal information such as names or contact details to be withheld. MPI will consider such grounds when deciding whether or not to release information.

Any decision to withhold information requested under the Official Information Act 1982 may be reviewed by the Ombudsman.

For more information please visit http://www.ombudsman.parliament.nz/resources-and-publications/guides/official-information-legislation-guides

Your details- ***Note: this document pairs up with my supporting letter to MPI attached to the submission email. Please read this.***

Your name and title:	s 9(2)(a) [redacted]
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	s 9(2)(a) [redacted]
Your contact details (such as phone number, address, and email):	s 9(2)(a) [redacted]

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☒ beekeeper

   ☒ extractor **(Through a contract extractor but we are hands on in this process)**

   ☒ processor

   ☒ packer

   ☒ exporter

   ☒ retailer of bee products

   ☒ other – please specify **(Aerial Block assessments, land/resource development and management, Mānuka Oil)**

2. How long have you been involved in the apiculture industry:

   ☒ 0-5 years

   ☐ 5-10 years

   ☐ 10 + years

   ☐ not applicable

3. Do you operate under:

   ☐ an RMP under the Animal Products Act 1999

   ☐ the Food Act 2014 (Food Control Plan or National Programme)

   ☐ the Food Hygiene Regulations

   ☒ none of these **(processing is carried out through a partner/contractor who we work alongside- s 9(2)(b)(ii) We are working on our own purpose built facility at present)**

   ☐ not applicable

4. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☐ 51 – 500

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☒ More than 3000

5. What region of New Zealand do you operate in?

All of the North Island from the far North to Southern Wairarapa as well as the top of the South Island. We specifically target High Grade Manuka Honey

6. If you export bee products please tell us a little about your business. How many people do you currently employ?

☐ 0

☐ 1 – 5

☐ 6 – 19

☒ 20 or more

What are the roles of your employees and how many are:

☒ beekeepers **(14ppl)**

☒ processors **(2ppl)**

☒ packers **(2ppl- same 2 as above)**

☒ other – please specify **(1x CEO, 1x COO, 1x Commercial Accountant, 1x NZ Marketing/Communication's Manager, 1x UK Marketing Communications manager, 1x Brand Development manager, 1x Operation Manager, 2x logistics/apiary support, 1x landowner liaison, 1x Innovations Manager/Process Tech, 1 x Admin**

Impact of compliance costs for beekeepers, processors and exporters

7. Table 4.1.1 of the Discussion Document provides a summary of the estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

1) As explained in my supporting letter, my main concern is if all our current packed honey that we have in our NZ warehouse for the UK market is deemed as Non Manuka because it continues to fail DNA tests and the current DNA test is not adapted/changed or removed and instead brought into force then we will have s 9(2)(b)(ii) **worth of labelled, packed stock that will have no value to us as of the 31st of July 2017. Also if the high grade honey we produce continues to produce false negatives then our company will not be viable into the future.**
2) More administration staff and resources will be required for the accurate management of our current 25,000 honey supers. Unable to give exact costs until we know the finer detail of how MPI expect us to deal with all possible situations.
3) Further testing this season on packed honey and then post processing test for all consumer batches in the future s 9(2)(b)(ii) **We will then be testing every batch extracted each year, which based off out forecast will be approximately 122 tests** s 9(2)(b)(ii) **next season and** s 9(2)(b)(ii) **the following with further annual increases after that. We will also carry out tracking tests if we feel the results are varying due to the possibility of the chemical markers and DNA not being stable over long periods of time.**

8. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

Answered above

9. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

- **Interest on borrowed money to bridge our cashflow needs until honey buyers feel confident to start buying honey again once the system is finalised and mutually beneficial**
- **A lot of honey we have in stock at present that doesn't grade as Mono Floral will now be worth considerably less on the wholesale markets and will most likely be valued at less than the cost of production meaning these blocks will no longer be viable and we made a loss on that honey**
- **Consumer education**
- **Cull out of existing brood frames which are now used in honey suppers**

No additional substances to be present in New Zealand honey

10. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☒ I agree because:

- **It is not cost effective for an operation like ours to feed hives while on blocks due to the remote locations we work. We would only do this if it was a matter of colony health**
- **Given the issues associated with C4 levels using sugar syrup it is too risky using supplements during the season as the bees can mobilise stored honey between the brood box and supers. Honey stored from later in summer, early autumn or spring will contain Multi floral honey which can also be mobilised to the honey supers. This contamination will be unavoidable.**

  Note: We run a ZERO tolerance to having feeders in production hives (hives producing Human Consumption Honey). We also never harvest any honey from below the excluder (Frames in the brood box). It's worth understanding this and also that even with no feeders and sugar syrup present while hives are on our Manuka blocks we can still get elevated levels of C4. There are a few possible reason for this of which we are investigating but it's clear that the bees do shift honey from the brood box up into the supers and vice versa.

☐ I disagree because:

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

Note: 3.1 (1)a- under the AFB Pest Management Strategy, the feeding of honey in frames from different hives is advised against to avoid the spread of AFB

Feeding Manuka or other Honey that hasn't passed pre bottling standards would be an option but not practical. Even if we feed honey rather than syrup during the season the risk of introducing contaminants is present.

Questions:

3.1 (1) a- Implies we can't feed with anything other than honey during harvest. With the above note about AFB management do you suggest we use frames of honey produced from only that hive? This would be impractical.

You need to define the word 'feeding', is this directed to supplements like sugar syrup as well as honey?

How will you police this? I guess for survival or not there needs to be 1 rule…

If an operator was to use supplement feed while supers were on, then would this need to be recorded on the harvest declaration for that block?

Will C4 testing become mandatory?

Will we show that we have complied by a 'tick box' style area on the harvest declaration or suggested new traceability form (in supporting letter)?

11. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☒ I agree because:

One of our Standard operating procedures (SOP'S) is to only harvest honey from the supers but it's not uncommon for brood frames to be placed above the excluder and become honey frames as after some time the queen will no longer lay in them due to their reduced diameter but they are still fine for honey storage. I can understand that these could be previously contaminated. This would mean a large 'cull' out of frames from beekeepers inventory.

Question:

Will the common practice of using old brood frames as honey frames, now no longer be suitable?

Are these varroacides residues tested for at present?

Will we show that we have complied by a 'tick box' style area on the harvest declaration or suggested new traceability form (in supporting letter)?

☐ I disagree because:

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

There are so many forms of treatment on the market now for varroa. How do we really know if they don't cause lingering chemicals to be present in honey? As a consumer, I am concerned about this more than if its Mono Floral or Multi Floral. I think this is an area that needs special attention. Not sticking brood frames in honey boxes does not necessarily eliminate this risk. The GREX has made me more aware of this risk now.

Processors of bee products to operate under a risk based measure

12. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☒ I agree because:

Yes I agree with this and feel this side of things should be very robust to insure the integrity of our packed product

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

13. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

Yes this is a good idea and insures MPI has an oversight of the supply chain.

☐ I disagree because:

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

Pre-processing traceability requirements

14. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal? **Please refer to my in-depth view in the supporting letter.**

☒ I agree because:

I agree that beekeepers should keep additional data, that can easily be interpreted and generated for MPI officials.

☒ I disagree because:

I disagree with the approach to use supers to provide traceability for honey.

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

See supporting letter. Depends on what these 'additional records' end up being. When I look at our hive placement plans, jobs and records in our TRUEVIEW system, I think we are ahead of the game. I don't think that tracking individual components has a bearing on honey quality/traceability but more associated with pathogens being transported through gear to gear contamination.

15. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

On the back of two poor seasons, the explosive growth of the Manuka honey industry and the "scrambling systems development" of MPI, I think a "grace" transition period is practical for whatever is implemented. Companies already under financial strain will not be able to resource the systems upgrades required to meet traceability regulation of the scale you have suggested. We do not want an industry shut down by the very systems developed to protect their livelihood.

The upfront cost of installing ID systems is an unknown (e.g, number of supers x the cost of a bar code) but the on-going cost of monitoring and running these systems could blow out as it far more variable. It will see extra staff needing to be hired etc.

Traceability from beekeepers to operators – harvest declarations

16. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

Provides the traceability you (MPI) need and should have for ALL exports. Also gives me confidence if I buy honey from another operator.

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

17. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☒ I agree because:

I can't imagine that there will be any significant costs with this at all

☐ I disagree because:

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

18. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☒ I agree because:

Sounds sensible

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

Labelling of monofloral and multifloral mānuka honey

19. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☐ I agree because:

☒ I disagree because:

Please carefully read my supporting letter and the supporting data to better understand that I do not support the 'current' Mānuka Honey definition

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

• **Reconsider the DNA testing** • **Consider only having Mono Floral Mānuka honey and not having multi floral as this still leads down the path of being misleading to consumers and promotes blending to make a p oduct that is not what it is** • **Or reconsider the parameters for the Multi floral honey as I feel the gap between Mono and Multi does not indicated the true quality of Mono Floral Mānuka honey** • **Consider using Leptospermum as a chemical marker or markers more unique to Mānuka (needs to be abundant, stable and unique)**

20. MPI considers there are likely to be options available to businesses to support compliance with the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☐ I agree because:

☐ I disagree because:

☒ I have concerns because:

As stated above in this document and in my attached supporting letter, as it is I have stock destined for an OA country that will be affected if this doesn't change and it is not possible to relabel.

21. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☒ I agree because:

Sounds fine and we do not have any trademarked words in our marketing material in regards to the word Mānuka

☐ I disagree because:

22. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☒ I agree because:

I agree that these are not changed but please see my important note below

☐ I disagree because:

23. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

Obviously we are planning to continue to market our honey as Manuka and not Multi Floral so we are hoping we don't need to change our brand look and feel. At present our consumers pay a premium for the activity of the honey, the MGO (Methylglyoxal). If it was for taste then they could well buy something a lot cheaper. I feel they will always be interested in the activity (MGO or UMF) of Mānuka honey as that's what makes it unique and different from other honeys.

Where it is going to get really confusing for consumers is that on a shelf in London we could have a jar of our premium 500+ MGO 'Mono Floral' Manuka Honey sitting there in all its glory. Then next to it another company could have their product which is a 500+ 'Multi Floral' Mānuka Honey. Then just to be fair based on the proposed definition there could be another jar of honey next to these two labelled 1000+ MGO clover honey, not even using the word Manuka. That's a problem.

24. Do you have any comments on the summary science report?

Do you think this example above is fair?
Do you think this example above is misleading to consumers?
Do you not think that Mānuka honey is Mānuka honey and that it should only be called that if it reaches 1 set of parameters?
Do you not think that for it to be called Mānuka honey it should be at least 50% Mānuka?
Are the chemical markers you have selected unique to only Leptospermum Scoparium?

25. Do you have any further comments regarding the definition of mānuka honey?

Let's get this right. But can we please consider all area's including the consumers as they are the most important part of this industry…

Laboratory Tests

26. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☒ I agree because:

All sounds practical and clear

☐ I disagree because:

27. The costs associated with these proposals are likely to vary depending on the size and volume of samples being tested. What impact do you consider these proposals will have on your business?

Basically we will need to test our honey at extraction, pre and post processing to make sure nothing changes. The chemical markers that have been picked and the DNA method has not proved to me that they are all stable so it will not be fixed over time, a bit like DHA, MGO and HMF in honey. This will mean regular testing, in particular at processing as it's every packers nightmare to have 20,000 jars of honey that are 0.2mg/kg under the target limit. In some case we will be packing honey that is 2-3 years old.

Do you have any suggestions for minimising any impacts?

I really think that it could only be the laboratories lowering the price of testing that could help as testing intervals can't really be changed as we need to do this to provide us with confidence as the honey is grown/matured and handled.

Transitional provisions

28. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree and propose an alternative timeframe:

I propose 12 weeks as a comfortable transition period. Like I have mentioned it all depends on the chemical marker and DNA testing outcome.

29. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

I don't think this is fair as we don't yet know what the final decision will be, I feel that there should be a generous transition period into OA countries for packed stock after the new GREX is actioned to allow us to sell up packed stock and avoid disposal. If the chemical and DNA testing issue is resolved then it won't be an issue for us but we won't know that till it's too late to do anything.

Any other feedback

30. Are there any other parts of this discussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).

Nothing that I haven't stated in this submission form and the attached supporting letter

I would encourage you to answer my question in both please

Thank you

s 9(2)(a) [redacted]

s 9(2)(b)(ii)

11/06/2017
Ministry for Primary Industries
Food assurance team

Proposed General Export Requirements for Bee Products- Supporting Letter

To whom it may concern

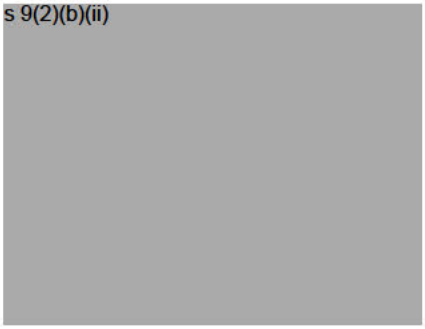
Firstly I would like to say that I take my hat off to you and your team for the work you have been doing. I can only imagine how much of a challenge it has been. There is no doubt that we need a better system to ensure a bright future for New Zealand Manuka Honey. Although the proposed GREX is certainly being debated as to being the perfect solution, I feel its heading in the right direction for what could work. There are always 2 sides to the story and you have the hard job of dealing with us 'Crazy' beekeepers who have been head down bum up over the last 4-5 years riding the Mānuka wave. Unfortunately we are about 3 years too late with this plan and it's going to be hard to 'undo' a lot of the paths, methods and markets operators have worked hard on making in the past few years but let's hope ultimately we could all benefit from it.

Secondly it worth explaining a bit more about who we s 9(2)(b)(ii) are and how we operate as we feel we are a bit unique in a way. In fact we are pretty special and it would have been great to work more closely with you through this process for that reason. s 9(2)(b)(ii) is a small/medium sized family owned company that is relatively new and fresh in the beekeeping industry. s 9(2)(b)(ii) was born out of an opportunity that popped up through being a service provider to a beekeeping company in a previous company we had of which we specialized in sustainable fertiliser and aerial application of that product. We saw the Honey industry with a fresh set of eyes. We saw un-utilized resource. We saw uneducated, misinformed landowners not getting a fair deal and not aware of it and we saw cowboy operators. Opportunity was knocking and the chance to be part of collecting one of the most unique and special gifts NZ nature provides. We had to be involved! It was clear we could do things a lot better than what we had seen in a short period of time. We quickly built our company around Transparency and Traceability with our partners, creating strong relationships with landowners, beekeepers suppliers and contractors. We are innovative thinkers; we developed a cloud based system called s 9(2)(b)(ii) which captures all information relevant to the blocks harvest and operations. We got a great response, landowners were very happy and wanted to work with us. We went to extremes to make sure every piece of the puzzle was perfect (staff, bees, equipment, timing) and we captured some of the highest quality honey from around NZ. Now 4 years on we are still working with the same principal and have growing 5000+ hives. We take pride in our position in the industry and produce the largest volumes of high grade (>15+) Mānuka honey in NZ. We now have our own consumer brand with sales mainly in the UK and NZ and some big plans ahead. We only bottle honey we produce so we can provide the assurance of its origin. We are not members of UMFA and our grading system for our consumers is MGO (Methylglyoxal).

Our Vision: be the world's most trusted Mānuka Honey brand

Our Mission: to produce and sell authentic Honey products that people love and trust, using transparent and ethical practices

s 9(2)(b)(ii)



For further information about us and the look and feel of our consumer brand than please visit s 9(2)(b)(ii) . Make sure you buy a few jars of honey while you're on their please!

It also worth knowing a bit more about myself, I have been with s 9(2)(b)(ii) since it was born and have helped shape the company into what it is today. I come from a history of Engineering, maintenance, aviation and logistics which has helped with my role as Innovation/logistic Manager and Process Technologist. I'm in charge of managing all our honey and the processing and packing of it. I also play a key role in our brand development projects. At present I'm project managing a multi-million dollar project that we have on with the design, building and commissioning of our main facility which will include extraction, storage, processing, packing and distribution of our honey. I also have spent my fair share of time on the coal face with my head in a hive. I'm a very practical thinker and always keen to learn and pass on knowledge. I love a challenge and will always give 110% to everything I'm doing.

I have been following through this whole process, taking note of what's happening and how it could affect us. I have attended multiple meetings and industry discussion groups. On first consideration after seeing the draft GREX, my gut feeling was that we s 9(2)(b) won't be negatively affected due to our approach to only harvesting the purest, highest quality Manuka honey there is as we have ways of doing this over and above many other beekeeping companies around NZ so we take pride in our method as well as the results we get which has proved it works. Once I started to hear negative things I had to stop myself form forming an opinion and judgement. In regards to testing I needed to base this submission on the hard facts from our honey rather than 'hear say' from my network of industry connections. So I made the call to test ALL our honey as per your chemical and DNA tests and have summarized some of the points from the Submission document below to give further explanation around the points that we have come up with for your consideration:

<u>2016/2017 honey tests (honey from this season just been):</u>
Refer to Appendix 1 (TTHC 2016-2017 Batches Tested for Chemical and DNA) (CONFIDENTUAL)
Refer to Appendix 2 - 17-09765-[R00] (2016-2017 Honey CHEMICAL 1)
Refer to Appendix 3- 17-09765-[R01] (2016-2017 Honey DNA 1)
Refer to Appendix 4- 17-09986-[R00] (2016-2017 Honey CHEMICAL 2)
Refer to Appendix 5 - 17-09986-[R01] (2016-2017 Honey DNA 2)
Refer to Appendix 6 - 17-11263-[R03] (2016-2017 Honey CHEMICAL 3)
Refer to Appendix 7 - 17-11263-[R05] (2016-2017 Honey DNA 3)

In total I tested 57 batches of honey from this season which provided results for around 70,500 kgs of honey. Refer to Appendix 1 for a summary of the honey with RAW data and Appendix 2, 3, 4, 5, 6 and 7 for supporting results. We do now have some further honey that hasn't been tested but I feel I have tested enough for now for the purpose of trialing the new tests. In both cases with the chemical and DNA I did not get any major surprises and only have three batches of multi floral honey and two batches of Non Manuka which I expected would not make the grade anyway. I have been trying to analyze the results from the 4 chemical markers and seem to be seeing a trend where the most significant marker- 3

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Phenyllactic acid (which is the only marker that changes the grading from mono to Multi to Non) is elevated in Kanuka honey as well which is surprising.

The history of this honey is simple. We started extracting early in the New Year (2017) and the extraction process involves pricking and spinning of the honey frames, centrifuge to remove wax and bee parts, thermolisation unit to warm the honey then into the homogenizing tank before going into the drum. We then take core samples from the drums for these tests.

Please have a look through the above information to get an idea of results for this new season honey.

Packed consumer honey (For UK and NZ consumers):
Refer to Appendix 8 - 17-11321-[R00] (2016 packed product CHEMICAL)
Refer to Appendix 9 - 17-11321-[R01] (2016 Packed product DNA)
Refer to Appendix 10 - AR-17-NU-005763-01 (Eurofins DNA validation)
Refer to Appendix 11- Analytica Results - 17-04089 (packed Product 4n1)
Refer to Appendix 12- Analytica Results - 17-04091-forecast-(R00) (packed Product Forecast)
Note that when you read the above results, to know the batch number of the honey you need, look at the sample ID column. The batch Number is the last 3 digits e.g 6030/002 is batch 2. Here is the conversion for the MGO:

Sample ID	MGO
6030	300+
6050	500+
6070	700+
6085	850+
6100	1000+

At the same time I tested all this season's honey I did a batch test on all of our 'packed honey' that we have done since July 2016 which is when we first launched our consumer brand. I thought this would be interesting and it certainly was. From the 22 samples I tested I only had 8 samples that passed the DNA test (refer to appendix 8 & 9). There was a clear trend that it was all the higher grade honey that had failed. I have nothing above 500mgo that has passed and even the ones that have passed are not very convincing. Our consumer brand is made up of 5 different Premium product ranges- 300+MGO, 500+MGO, 700+MGO, 850+MGO and 1000+MGO. You will notice that the DNA tests are done by Analytica. This was because we have always dealt with them in the past and because we were carrying out the tests for interest's sake I thought it would be fine to use for a guide and didn't expect that they would fail as I knew the history of this high quality honey. When I got these results I was encouraged by s 9(2)(b)(ii) to get them validated by s 9(2)(b)(ii) and I thought this would be useful for this submission to provide clear evidence of the issue we have. Refer to appendix 10 for the cross check DNA tests. It's clear that both labs are testing within the reporting limit which is reassuring. I'm happy to get further tests done at s 9(2)(b)(ii) or s 9(2) if

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needed. For further info on this honey refer to appendix 11 and 12 for DHA, MGO, HMF and forecast results from the most recent tests.

These results are keeping me awake at night. I have 12,500 jars of semi packed honey (in jars with labels but not in Outers yet) sitting in my NZ distribution shed awaiting staggered dispatch to the UK which won't be eligible if this new definition comes into place. I don't intend to and I'm not in the position to send this honey before July 31st. This honey has a retail value of around $2m NZD and the way our marketing stagey works is we send it in small parcels as orders come in due to our 'Direct' approach with consumers. The UK is an Official Assurance (AO) country. Bases on these tests it won't even pass the being Multi Floral. Relabeling is NOT an option. This is high grade Mānuka Honey.

I'm certain that we are getting false negative as when I compare the honey from the same blocks this season which has passed with honey that packed honey (from the season before) and it is failing. For example: From our packed product, Batch 17 (refer to appendix 10 was made with 2 drums from honey off a block which we harvested this season again and those results were fine (batch 134-Refer to Appendix 1). This leads me to believe there is an issue with testing aged, high MGO honey. I do not think it is a testing issue because this seasons honey would have given similar results but it hasn't.

I have provided all the raw information in the referenced appendix for you to work through so you can clearly see what I have found.

<u>History of the packed honey that failed the DNA test:</u>

All honey packed in from batch 2-13, 16-25 were from honey that was from the 2015/2016 harvest season. It had all been extracted early in 2016 which involves the normal process of spinning, centrifuge, thermolisation unit then homogenizing tank before going into the drum. It was then left until the packing date to mature to its intended MGO range in a temperature controlled room at around >26 degrees centigrade. At processing/bottling we heat the drum up, run the honey through a 200 micron filter cool the honey to 20 degrees centigrade, add the starter honey then leave it to cream for 48 hours before bottling it as 100% honey. In this case all labeled as Manuka Honey.

<u>Summary (in regards to the testing):</u>

In our eyes for honey to be called Manuka it needs to be at least 50% Mānuka. Your testing has claimed that we can narrow down things unique to Manuka so we should be able to do this. I feel it's still quite misleading to even have a category call 'multi floral Mānuka' and that the only factory to decide this is 3-Phenyllactic acid (3-PLA). It is clear by looking at some of my Kanuka blocks that honey from Kunzea Ericoides nectar has high levels of 3-PLA. I'm not a scientist but I would debate that 3-PLA is unique to Leptospermum Scoparium Nectar.

My view is that every chemical marker needs to firstly be unique then abundant (for accurate testing) and finally stable. I don't feel your limits are reflective enough to determine the better/more pure honey from the blend honey and reaching the limits can be done through a fairly easy blending program by packers. If I had a shed full of low grade blend honey I could very easily add a small amount of Mono floral honey and make it something it isn't which is

what I thought we were trying to avoid. Blending is not a great thing and really complicates the story to the consumer. It can be a necessary evil so achieve the results needed but it really complicates the traceability of the honey to one source. Consumers don't understand this and it's hard to educate them about it. Here's my example from the submission document for you to ponder:

"on a shelf in London we could have a jar of our premium 500+ MGO 'Mono Floral' Manuka Honey sitting there in all its glory. Then next to it another company could have their product which is a 500+ 'Multi Floral' Mānuka Honey. Then just to be fair based on the proposed definition there could be another jar of honey next to these two labelled 1000+ MGO clover honey, not even using the word Manuka"

Questions:

1. Is Leptosperin a suitable chemical marker to use and better than 3-PLA? It is unique, abundant and stable. If not, what are the reasons it didn't make the list?
2. Will you consider only having 2 categories- Mono Floral Mānuka and Non (Mānuka)?

Other points that I raise in the Submission Form:

In regards to the other key points around feeding hives, the use honeycomb from the brood box and further records, I think I have covered that in the submission document and have no further comments. There are some questions to be answered in these sections.

One area that does need some further comments is around the traceability and record keeping of inventory like honey supers. I really feel that your proposal adds a large amount of complexity into inventory management and I have some views around this. It seems like this new proposal is more in line with a Pest Management strategy than for honey traceability and if enforced it would take years to implement to the point that it is accurate to track honey supers let alone frames (as I suggest below) and unless it was consistent throughout the industry it could be a nightmare for officials to decipher.

Trying to have Honey 'X' specific to a super has its own challenges and to be 100% precise it's actually more specific to a frame (not that I'm suggesting we go down that path) than the super but that brings in even more complexity. Let me explain why/how:

- When a super/box is added to a production hive prior to it being deployed on a block it will typically have 8-10 frames in it. These would most commonly be what we call 'Wets' which are frames that have had honey in them and it has been extracted, leaving the bees the space to clean up these honeycomb cells and start to fill them with honey from the target flow on the block the hive is now on. In some cases the super will be full of new frames which the bees will draw the wax out before filling it with honey. Then in some situation beekeepers will place 1-2 feed frames in the super as a backup in the event that it is a poor honey flow and the bees need food. These frames will be marked and removed at harvest as we don't want that feed honey going through with the targeted honey. It's worth noting that we would normally place 3 supers on each hive as we fly all our hives into our remote sites so bringing in extra supers during the honey flow can be challenging and expensive.

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- During our mid-season check we will go around the apiary sites at check each individual hive and 'manipulate' them to ensure they are at the peak of their performance. In some cases we will move frames down into the brood box, sometimes we will bring frames up into the supers (no varroa treatment while in production) and then often we will stick frames full of honey from the 1st super up into the second one to entice the bees up into the second super. This all proving that when we leave that 'super' it is not the same as when we placed it on the hive prior to placement.
- At harvest we will fly our hives out into what we call a 'Dump site' where we spread the hives out and work on removing the honey. Because not every box will be fill on a hive the beekeeper will go through them and in some case consolidate the boxes because if he has 2 half fill boxes off one hive he will make 1 fill box. That's practical. If he ends up with 1 ½ fill boxes off one hive then he will fill the ½ box with frames from another hive so we end up with all the boxes being full that get sent to extraction. We get charged by the box so we like to have them all full and it makes for good efficiency.
- Due to the way we operate, we are confident that all our honey from multiple sites will be very close in quality so we don't get our honey extracted per site but instead per block. Some blocks may have up to 15 sites. Here's an example: We place 600 hives on a block called 'Mānuka Hills'. There are 15 sites on the property. We fly our hives in, we do a midseason check then we fly them out for a harvest. We harvest 1080 supers with the above method. All the 'Full' honey boxes are sent to the extraction facility marked 'Manuka Hills' with their accompanying Harvest Declaration. They extract that honey as one block 'Mānuka Hills' but it may end up being 11 batches (11x 1800kgs= 19440kgs which is approximately 66 drums). All this information is captured and uploaded into our TRUEVIEW system.

Another issue with box traceability is that during the extraction process all traceability will go out the window during the spinning phase as frames are either manually or automatically removed from the super, pricked or scraped then go into a spinner (most plants have 2). These get loaded up with 24-36 frames and spun for 3-2 minutes at 400 rpm. This makes it pretty impossible to place the correct frames back into the parent boxes in a commercial scale extraction plant doing 400-600 boxes a day.

I hope that explanation helps but whether it is tracing supers or frames I really don't see what we are going to gain. The examples above prove that what's happening inside that box is not very clean cut and doesn't set the foundation for an accurate tracking system. We are already over half way there with our harvest declaration that we submit with our honey. It narrows down a parcel of honey to a particular block with referenced sites via Apiweb. I know this doesn't link with MPI records but it could be very easy to add onto this document or generate a supplement document that is generated alongside the ordinal Harvest Declaration at harvest (specific to the block, number of boxes harvested and site ID) and then have further information added to it after extraction to then add information like Drum Numbers, batch numbers etc. Whatever it is it would be mandatory to complete and file for easy viewing by officials when needed. It won't necessarily travel as part of the drum history as it contains company IP e.g Block name and location. Remember companies like ours sell over up to 70% of our honey wholesale usually to large honey companies with consumer brands. These companies are our opposition in a sense so we don't what to be dropping our pants with this information and risk being crushed.

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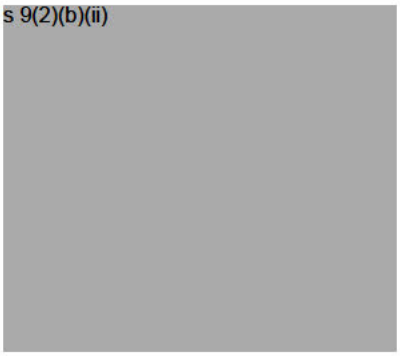

At present our s 9(2)(b)(ii) system captures all of the data you have asked for – 4.1 (1) c i-iii. It only excludes honey super ID codes. We are more than happy to show you this technology.

In summary I think it's impractical for honey to be specific to a super or frame, only to a block/property level. I agree that we as beekeepers can provide more information in some sort of generic document to back locations and specific details to drums of honey as well as its journey. In regards to product recalls the history of honey is certainly important but when I sell my honey at a wholesale level I want to know at that point that what goes out the door is 100% suitable and has passed all/any tests as I don't think waiting till it's in the hands of a consumer is the point to work backwards if there has been an issue along the way. If a buyer purchases my honey and blends it with other honey that has an issue then I don't want my reputation to be damaged because of the actions of processors further down the chain.

<u>Overall Summary:</u>

I don't know all the answers and I don't have a silver bullet to make things any easy on your process but I'm hoping that this submission has helped with giving views from the perspective of a producer and seller of Honey. Maybe you will find some merit to some of my explanations and ideas and let's hope the rest of the industry have also given valuable feedback.

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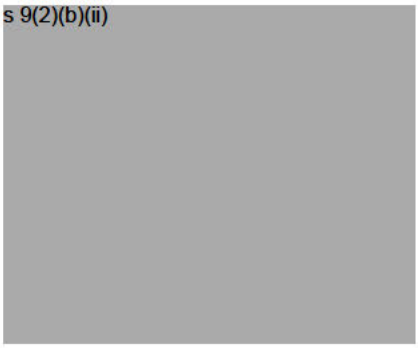

You will see from my attached submission that my biggest concerns right now are around the proposed science definition and the chemical and DNA tests of which the results from my honey have surprised me and if set in stone it will certainly have a negative effect on a company which I would think has all the ingredients right so far.

As I'm sure you are aware, this couldn't have come at a worse time and from a production, packing and marketing company's perspective this season has now become the perfect storm. With a well below average honey yield, higher C4's than normal and poor wholesale honey sales (flat markets) due to the unease and delays with this proposed new GREX (which we were all hoping was presented before the honey season started). We have had an budget blow out for our testing due to having to get all honey sampled and tested for chemical and DNA results just to be able to give buyers some form of confidence that the honey they have been offered will be suitable for them if they purchase it. On top of all this we have experience a slip in traction in our NZ and international consumer product sales due to the current general confusion about NZ Manuka honey which has been fueled by media. We are hurting right now and we are not the only ones. Companies in our position run very high cashflow peaks and it's critical that we sell honey in the first quarter of the year. This season we haven't been able to do it. It's also been hard to know what honey to sell and keep as we still don't know how it will be graded into the future with the recent DNA test issues. Like I said previously, I know you guys are working hard to sort it, we appreciate it but it needs to be sorted ASAP and it needs to be RIGHT so it's beneficial for producers and our worldwide consumers.

I appreciate the time that you have taken read this letter and encourage you to answer my questions in the submission so I can better understand the direction you have taken in the proposed GREX.

Please feel free to contact me, email me or request any further supporting data or information. I could have attached all the detail but its better you ask for something specific rather than me overloading you with data. I'm more than happy to provide samples or carry out retests if that's what needs to be done.

Look forward to your reply

Kind regards

s 9(2)(b)(ii)

s 9(2)(b)(ii)

2017 Chemical and DNA tests

										Test at extraction (2017)									Chemical/DNA						s 9(2)(b)(ii) Forecast	s 9(2)(b)(ii) Forecast Max	s 9(2)(b)(ii) Forecast NPA- 12	s 9(2)(b)(ii) Forecast NPA- 8	HMF- 8 months @ 27
Region	Harvest Date	No. of boxes	Honey type	Drum No.	Lab ID	Batch No.	Weight	Batch Kg's	Extraction date	Ratio	DHA	MGO	NPA	HMF	C4 %	Tutin	Lepto	4-HPLA	2-MBA	2-MAP	3-PLA	DNA	Class	Max NPA @ 20deg.	MGO @ 20deg.	months @ 20deg.	months @ 27 deg.	degrees
Ahipara	28/11/16 and 1-22/12/16	152	Manuka	170039	17-00443-2	13	297		6/01/2017	10.3	4070	397	12.8	3.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88		26.0	1282	22.1	24.5	27
				170040	17-00443-3	13	295			10.9	4220	388	12.6	2.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88		26.5	1321	22.4	24.9	26
				170041	17-00443-4	13	295			11.3	4230	376	12.4	2.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88		26.5	1319	22.3	24.8	26
				170042	17-00443-5	13	296			11.5	4290	373	12.4	2.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88	Mono	26.6	1334	22.4		
				170043	17-00443-6	13	296			11.8	4360	369	12.3	3.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88		26.9	1352	22.5		
				170044	17-00443-7	13	58			11.1	4390	396	12.3	3.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88		27.0	1360	22.6		
				Batch 13	17-00443-1	13		1537		10.9	4310	396	12.3	2.0	6.1	<0.01	913	9.90	20.0	7.32	1200	28.88		26.7	1138	22.4		
							1537																					
Ahipara	1/12/2016	53	Manuka	170046	17-00452-2	15	296		6/01/2017	13.4	4220	316	11.2	2.0	7.1	<0.01	864	8.98	24.6	9.22	1280	28.79		26.5	1291	21.7	24.3	26
				170047	17-00452-3	15	32			13.5	4180	309	11.0	2.0	7.1	<0.01	864	8.98	24.6	9.22	1280	28.79	Mono	25.9	1276	21.5	24.1	26
				Batch 15	17-00452-1	15		328		13.5	4340	321	11.3	2.0	7.1	<0.01	864	8.98	24.6	9.22	1280	28.79		26.5	1325	22.0		
							328																					
Ahipara	10/12/16 and 12/12/16	79	Manuka	170034	17-00408-2	11	297		6/01/2017	9.6	3760	390	12.7	4.0	5.8	<0.01	671	8.16	37.0	7.30	1120	30.57		24.9	1195	21.3	23.5	27
				170035	17-00408-3	11	286			9.7	3800	390	12.7	4.0	5.8	<0.01	671	8.16	37.0	7.30	1120	30.57	Mono	25.1	1205	21.4	23.6	27
				Batch 11	17-00408-1	11		583		9.6	3750	390	12.7	4.0	5.8	<0.01	671	8.16	37.0	7.30	1120	30.57		24.9	1193	21.3		
							583																					
Ahipara	22/12/2017	104	Manuka	170027	17-00402-2	9	294		5/01/2017	10.2	3320	327	11.4	3.0	4.8	<0.01	798	7.85	12.5	8.27	973	27.99		23.0	1047	19.6	21.7	27
				170028	17-00402-3	9	296			10.2	3270	320	11.3	3.0	4.8	<0.01	798	7.85	12.5	8.27	973	27.99		22.8	1031	19.4	21.5	26
				170029	17-00402-4	9	296			10.1	3270	324	11.4	3.0	4.8	<0.01	798	7.85	12.5	8.27	973	27.99	Mono	22.8	1033	19.5	21.5	27
				170030	17-00402-5	9	208			10.0	3280	327	11.4	3.0	4.8	<0.01	798	7.85	12.5	8.27	973	27.99		22.9	1036	19.5	21.6	27
				Batch 9	17-00402-1	9		1094		10.1	3310	328	11.4	3.0	4.8	<0.01	798	7.85	12.5	8.27	973	27.99		23.0	1045	19.6		
							1094																					
Ahipara	22/12/2017	65	Manuka	170049	17-00438-2	17	297		7/01/2017	9.8	3010	306	11.0	3.0	1.3	<0.01	684	6.58	13.1	5.69	784	28.17		21.8	955	18.6	20.5	27
				170050	17-00438-3	17	296			10.1	3090	307	11.0	4.0	1.3	<0.01	684	6.58	13.1	5.69	784	28.17		21.1	977	18.8	20.8	27
				170051	17-00438-4	17	296			10.3	3120	304	10.9	4.0	1.3	<0.01	684	6.58	13.1	5.69	784	28.17	Mono	22.1	982	18.8	20.9	27
				170052	17-00438-5	17	24			10.2	3060	299	10.8	4.0	1.3	<0.01	684	6.58	13.1	5.69	784	28.17		21.9	965	18.6	20.6	27
				Batch 17	17-00438-1	17		913		10.1	3010	298	10.8	3.0	1.3	<0.01	684	6.58	13.1	5.69	784	28.17		21.7	951	18.5		
							913																					
Ahipara	22/12/2017	61	Manuka	170031	17-00421-2	10	296		5/01/2017	9.8	3810	388	12.7	3.0	2.5	<0.01	939	9.48	13.2	7.48	1040	28.82		25.1	1208	21.4	23.7	26
				170032	17-00421-3	10	295			9.9	3760	381	12.5	3.0	2.5	<0.01	939	9.48	13.2	7.48	1040	28.82	Mono	24.9	1191	21.2	23.5	26
				170033	17-00421-4	10	67			9.9	3720	376	12.4	3.0	2.5	<0.01	939	9.48	13.2	7.48	1040	28.82		24.7	1179	21.1	23.3	26
				Batch 10	17-00421-1	10		658		9.7	3760	387	12.6	3.0	2.5	<0.01	939	9.48	13.2	7.48	1040	28.82		24.9	1193	21.3		
							658																					
East Cape	7/01/2017	192	Manuka	170096	17-00964-3	28	296		10/01/2017	10.4	292	28	2.6	<1	6.6	0.04	105	1.21	1.08	1.41	82	29.01		5.3	92	4.5	5.0	24
				170097	17-00964-4	28	295			11.4	297	26	2.5	<1	6.6	0.04	105	1.21	1.08	1.41	82	29.01		5.3	92	4.5	5.0	24
				170098	17-00964-5	28	296			11.2	302	27	2.5	<1	6.6	0.04	105	1.21	1.08	1.41	82	29.01	Multi	5.4	94	4.5	5.1	24
				170099	17-00964-6	28	295			12.1	290	24	2.3	<1	6.6	0.04	105	1.21	1.08	1.41	82	29.01		5.2	89	4.4	4.9	24
				170100	17-00964-7	28	295			9.3	186	20	2.1	<1	6.6	0.04	105	1.21	1.08	1.41	82	29.01		4.1	59	3.5	3.9	24
				Batch 28	17-00964-1	28		1477		11.1	288	26	2.5	<1	6.6	0.04	105	1.21	1.08	1.41	82	29.01		5.2	90	4.4	4.8	24
				170101	17-00964-8	29	295		11/01/2017	9.0	171	19	2.1	<1	7.3	0.03	105	0.86	<0.8	<0.8	60	30.41		3.9	55	3.4	3.7	24
				170102	17-00964-9	29	295			8.7	182	21	2.2	<1	7.3	0.03	105	0.86	<0.8	<0.8	60	30.41	NON	4.0	59	3.5	3.8	24
				170103	17-00964-10	29	296			8.4	185	22	2.2	<1	7.3	0.03	105	0.86	<0.8	<0.8	60	30.41		4.1	60	3.6	3.9	24
				170104	17-00964-11	29	121			11.3	270	24	2.3	<1	7.3	0.03	105	0.86	<0.8	<0.8	60	30.41		5.0	84	4.2	4.7	24
				Batch 29	17-00964-2	29		1007		7.9	182	23	2.3	<1	7.3	0.03	105	0.86	<0.8	<0.8	60	30.41		4.1	60	3.6	3.9	24
							2484																					
Wairoa	10/01/2017	279	Manuka	170173	17-00960-2	54	296		17/01/2017	8.3	332	40	3.2	<1	1.5	<0.01	195	1.66	2.43	2.21	182	29.02		5.8	108	5.1	5.6	24
				170174	17-00960-3	54	296			8.5	331	39	3.2	<1	1.5	<0.01	195	1.66	2.43	2.21	182	29.02		5.8	107	5.1	5.5	24
				170175	17-00960-4	54	296			8.6	354	41	3.3	<1	1.5	<0.01	195	1.66	2.43	2.21	182	29.02	Multi	6.1	115	5.3	5.8	24
				170176	17-00960-5	54	295			8.1	309	38	3.1	<1	1.5	<0.01	195	1.66	2.43	2.21	182	29.02		5.6	101	4.9	5.3	24
				170177	17-00960-6	54	296			8.0	313	39	3.2	<1	1.5	<0.01	195	1.66	2.43	2.21	182	29.02		5.7	103	5.0	5.4	24
				Batch 54	17-00960-1	54		1479		7.5	315	42	3.3	<1	1.5	<0.01	195	1.66	2.43	2.21	182	29.02		5.7	104	5.0		
				170178	17-01797-5	55	295		17/01/2017	5.1	213	42	3.3	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.8	77	4.4	4.6	24
				170179	17-01797-6	55	297			5.3	226	43	3.4	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.9	81	4.5	4.8	24
				170180	17-01797-7	55	296			5.0	205	41	3.3	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.7	74	4.3	4.6	24
				170181	17-01797-8	55	295			4.6	199	43	3.4	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44	Multi	4.6	74	4.3	4.5	24
				170182	17-01797-9	55	297			5.1	213	42	3.3	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.8	77	4.4	4.6	24
				170183	17-01797-10	55	295			4.5	199	44	3.4	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.7	74	4.3	4.6	24
				170184	17-01797-11	55	295			4.9	215	44	3.4	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.8	78	4.5	4.7	24
				Batch 55	17-01797-1	55		2070		4.9	200	41	3.3	<1	1.1	<0.01	150	1.23	1.85	1.54	120	29.44		4.6	73	4.3		
							3549																					
Te Uri	16/01/2017	249	Manuka	170242	17-01777-3	69	296		24/01/2017	16.4	3590	219	9.0	2.0	8.7	<0.01	978	11.20	13.10	32.00	1240	22.49		23.4	1078	19.1	21.6	25
				170243	17-01777-4	69	295			16.2	3550	219	9.0	2.0	8.7	<0.01	978	11.20	13.10	32.00	1240	22.49		23.3	1067	19.0	21.5	26
				170244	17-01777-5	69	295			16.3	3530	216	8.9	2.0	8.7	<0.01	978	11.20	13.10	32.00	1240	22.49	Mono	23.2	1061	18.9	21.4	25
				170245	17-01777-6	69	296			16.3	3540	217	8.9	2.0	8.7	<0.01	978	11.20	13.10	32.00	1240	22.49		23.3	1065	19.0	21.5	25
				170246	17-01777-7	69	295			16.2	3550	219	9.0	2.0	8.7	<0.01	978	11.20	13.10	32.00	1240	22.49		23.3	1067	19.0	21.5	26
				Batch 69	17-01777-1	69		1477		16.6	3560	215	8.9	2.0	8.7	<0.01	978	11.20	13.10	32.00	1240	22.49		23.3	1068	19.0		
				170247	17-01777-8	70	294			16.9	3760	222	9.0	2.0	8.1	<0.01								24.0	1126	19.6		
				170248	17-01777-9	70	294			17.2	3760	218	8.9	2.0	8.1	<0.01								24.0	1124	19.5		
				170249	17-01777-10	70	295			17.0	3730	220	9.0	2.0	8.1	<0.01								23.9	1117	19.5		
				170250	17-01777-11	70	295			16.8	3730	222	9.0	2.0	8.1	<0.01								23.9	1118	19.5		
				170251	17-01777-12	70	83			16.6	3710	224	9.1	2.0	8.1	<0.01								23.9	1114	19.5		
				Batch 70	17-01777-2	70		1261		17.0	3780	222	9.0	2.0	8.1	<0.01								24.1	1132	19.6		
							2738																					
Wairarapa	25/01/2017	196	Manuka	170367	17-02124-2	95	294		2/02/2017	10.1	709	70	4.5	1.0	12.9	<0.01	302	9.13	2.95	4.56	1300	27.4		9.1	224	7.7	8.6	25
				170368	17-02124-3	95	294			9.5	690	73	4.6	2.0	12.9	<0.01	302	9.13	2.95	4.56	1300	27.4		9.0	220	7.7	8.9	25
				170369	17-02124-4	95	293			9.1	621	68	4.4	2.0	12.9	<0.01	302	9.13	2.95	4.56	1300	27.4	Mono	8.5	199	7.3	8.0	25

				170370	17-02124-5	95	295			9.2	607	66	4.4	1.0	12.9	<0.01	302	9.13	2.95	4.56	1300	27.4		8.3	194	7.2	7.9	25
				170371	17-02124-6	95	294			9.0	614	68	4.4	1.0	12.9	<0.01	302	9.13	2.95	4.56	1300	27.4		8.4	197	7.2	8.0	25
				Batch 95	17-02124-1	95		1470		9.5	635	67	4.4	2.0	12.9	<0.01	302	9.13	2.95	4.56	1300	27.4		8.5	202	7.3		
			Kanuka	170372	17-02145-2	96	295			10.3	558	54	3.8	2.0	10.9	<0.01	279	10.40	2.70	4.75	1490	29.0		7.9	176	6.7	7.4	25
				170373	17-02145-3	96	293			10.2	551	54	3.8	2.0	10.9	<0.01	279	10.40	2.70	4.75	1490	29.0	Mono	7.8	174	6.6	7.3	25
				170374	17-02145-4	96	62			10.0	552	55	3.9	1.0	10.9	<0.01	279	10.40	2.70	4.75	1490	29.0		7.8	174	6.7	7.4	25
				Batch 96	17-02145-1	96		650		10.3	565	55	3.9	1.0	10.9	<0.01	279	10.40	2.70	4.75	1490	29.0		7.9	178	6.7		
Weber	27/01/2017	35	Manuka	170428	17-03174-2	113	287		8/02/2017	11.8	2250	190	8.2	3.0	17.6	<0.01	710	7.23	7.20	14.80	718	25.96	Mono	18.0	697	15.1	16.9	26
				Batch 113	17-03174-1	113		287		12.1	2320	192	8.3	3.0	17.6	<0.01	710	7.23	7.20	14.80	718	25.96		18.3	716	15.3		
							287																				
Motea	1/02/2017	150	Manuka	170460	17-03184-2	126	294		13/02/2017	12.0	2420	201	8.5	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.8	747	15.7	17.6	26
				170461	17-03184-3	126	294			12.1	2440	201	8.5	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.9	754	15.8	17.6	26
				170462	17-03184-4	126	294			12.0	2410	201	8.5	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.7	745	15.7	17.5	26
				170463	17-03184-5	126	294			11.8	2400	203	8.6	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.7	743	15.7	17.5	26
				170464	17-03184-6	126	294			11.7	2400	205	8.6	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68	Mono	18.7	744	15.7		
				170465	17-03184-7	126	294			11.7	2420	206	8.6	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.8	750	15.8		
				170466	17-03184-8	126	293			11.8	2410	205	8.6	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.8	747	15.8		
				170467	17-03184-9	126	30			11.9	2420	203	8.6	3.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.8	750	15.8		
				Batch 126	17-03184-1	126		2087		11.9	2380	200	8.5	2.0	10.3	<0.01	1090	8.95	6.78	22.70	842	25.68		18.6	738	15.6		
							2087																				
Ruatiti	15/03/2017	102	Manuka	170778	17-07897-2	204	295		27/03/2017	10.5	2530	241	9.5	3.0	6.7	<0.01	743	9.7	5.78	21.9	1110	27.95		19.5	796	16.6	18.3	26
				170779	17-07897-3	204	294			10.5	2540	243	9.5	3.0	6.7	<0.01	743	9.7	5.78	21.9	1110	27.95		19.6	800	16.6	18.4	26
				170780	17-07897-4	204	295			10.5	2590	246	9.6	4.0	6.7	<0.01	743	9.7	5.78	21.9	1110	27.95	Mono	19.8	813	16.8	18.6	27
				170781	17-07897-5	204	295			10.5	2600	248	9.7	4.0	6.7	<0.01	743	9.7	5.78	21.9	1110	27.95		19.8	816	16.8	18.6	28
				170782	17-07897-6	204	136			10.6	2600	246	9.6	4.0	6.7	<0.01	743	9.7	5.78	21.9	1110	27.95		19.8	818	16.8	18.6	28
				Batch 204	17-07897-1	204		1315		10.5	2550	244	9.6	4.0	6.7	<0.01	743	9.7	5.78	21.9	1110	27.95		19.6	803	16.7	18.5	27
							1315																				
Ruatiti	15/03/2017	160	Manuka	170783	17-07894-3	205	295		28/03/2017	9.6	2860	297	10.8	3.0	5.7	<0.01	732							21.1	908	18.1	20.0	26
				170784	17-07894-4	205	295			9.8	2880	294	10.7	3.0	5.7	<0.01	732							21.2	913	18.1	20.0	27
				170785	17-11263-37	205	294			8.1	2840	350	11.9	3.0	5.7	<0.01	732						Mono	21.4	927	18.6	20.4	27
				170786	17-07894-6	205	295			9.6	2870	298	10.8	3.0	5.7	<0.01	732							21.2	912	18.1	20.0	27
				170787	17-07894-7	205	294			9.6	2870	300	10.8	3.0	5.7	<0.01	732							21.2	912	18.1	20.0	27
				Batch 205	17-07894-1	205		1473		9.8	2980	304	10.9	3.0	5.7	<0.01	732	9.0	6.76	20.1	1150	28.33		21.7	946	18.5	20.4	27
				170788	17-07894-8	206	294			9.7	2870	296	10.8	4.0	5.7	<0.01	700	9.0	6.76	20.1	1150	28.33		21.2	911	18.1	20.0	27
				170789	17-07894-9	206	294			9.6	2820	294	10.7	3.0	5.7	<0.01	700	9.0	6.76	20.1	1150	28.33	Mono	21.0	897	18.0	19.8	27
				170790	17-07894-10	206	294			9.6	2800	291	10.6	3.0	5.7	<0.01	700	9.0	6.76	20.1	1150	28.33		20.9	889	17.9	19.7	27
				170791	17-07894-11	206	65			9.6	2820	295	10.7	3.0	5.7	<0.01	700	9.0	6.76	20.1	1150	28.33		21.0	896	18.0	19.8	26
				Batch 206	17-07894-2	206		947		9.6	2820	294	10.7	4.0	5.7	<0.01	700	9.0	6.76	20.1	1150	28.33		21.0	897	18.0	19.8	27
							2420																				
Ruatiti	14/03/17 & 15/03/17	168	Manuka	170792	17-07899-2	207	295		28/03/2017	13.0	2620	202	8.5	3.0	6.5	<0.01	739	9.7	5.24	15.1	1120	27.73		19.6	803	16.3	18.3	26
				170793	17-07899-3	207	295			12.8	2610	204	8.6	2.0	6.5	<0.01	739	9.7	5.24	15.1	1120	27.73	Mono	19.6	801	16.3	18.3	26
				170794	17-07899-4	207	294			13.1	2630	201	8.5	3.0	6.5	<0.01	739	9.7	5.24	15.1	1120	27.73		19.7	806	16.3	18.3	26
				170795	17-07899-5	207	136			13.1	2570	196	8.4	2.0	6.5	<0.01	739	9.7	5.24	15.1	1120	27.73		19.4	788	16.1	18.1	26
				Batch 207	17-07899-1	207		1020		13.1	2640	202	8.5	2.0	6.5	<0.01	739	9.7	5.24	15.1	1120	27.73		19.7	808	16.4	18.4	26
							1020																				
Waitaanga	20/03/2017	360	Manuka	170813	17-08780-2	215	295		31/03/2017	10.7	1760	165	7.6	2.0	0.2	<0.01	382	5.8	3.93	6.5	777	27.17		15.6	551	13.2	14.7	26
				170814	17-08780-3	215	295			10.5	1720	164	7.5	2.0	0.2	<0.01	382	5.8	3.93	6.5	777	27.17	Mono	15.5	541	13.1	14.5	26
				170815	17-08780-4	215	151			10.2	1680	165	7.6	2.0	0.2	<0.01	382	5.8	3.93	6.5	777	27.17		15.3	531	13.0	14.4	26
				Batch 215	17-08780-1	215		741		10.5	1730	164	7.5	2.0	0.2	<0.01	382	5.8	3.93	6.5	777	27.17		15.5	544	13.1	14.6	26
							741																				
Waverly	16/03/2017	194	Manuka	170817	17-08777-2	217	294		3/04/2017	8.1	2860	353	11.9	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		21.5	932	18.7	20.4	29
				170818	17-08777-3	217	295			8.0	2810	351	11.9	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		21.3	920	18.6	20.3	28
				170819	17-08777-4	217	295			8.1	2800	347	11.8	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		21.2	914	18.5	20.2	28
				170820	17-08777-5	217	294			8.1	2800	344	11.8	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		21.2	914	18.5	20.2	28
				170821	17-08777-6	217	294			8.3	2800	338	11.6	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75	Mono	21.1	909	18.4	20.1	28
				170822	17-08777-7	217	294			8.2	2760	337	11.6	4.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		21.0	899	18.3	20.0	28
				170823	17-08777-8	217	294			8.2	2670	326	11.4	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		20.6	869	17.9	19.6	28
				170824	17-08777-9	217	77			8.3	2650	320	11.3	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		20.5	863	17.8	19.5	29
				Batch 217	17-08777-1	217		2137		8.2	2790	342	11.7	5.0	5.6	<0.01	838	11.2	5.08	16.1	1450	27.75		21.1	909	18.4	20.1	28
							2137																				
Taranaki	18/03/2017	57	Manuka	170842	17-08774-2	222	295		5/04/2017	10.1	2270	225	9.1	3.0	1.8	<0.01	461	7.0	5.24	10.3	900	27.08	Mono	18.3	716	15.6	17.3	26
				170843	17-08774-3	222	107			10.2	2260	221	9.0	3.0	1.8	<0.01	461	7.0	5.24	10.3	900	27.08		18.3	714	15.5	17.2	27
				Batch 222	17-08774-1	222		402		10.1	2250	223	9.1	3.0	1.8	<0.01	461	7.0	5.24	10.3	900	27.08		18.2	712	15.5	17.2	27
							402																				
Waitaanga	19/03/2017	60	Manuka	170844	17-08771-2	223	294		5/04/2017	10.6	2330	219	9.0	3.0	2.8	<0.01	490	7.0	4.97	10.3	1010	27.77	Mono	18.5	731	15.7	17.4	26
				170845	17-08771-3	223	127			10.7	2310	216	8.9	3.0	2.8	<0.01	490	7.0	4.97	10.3	1010	27.77		18.4	723	15.6	17.3	26
				Batch 223	17-08771-1	223		421		10.8	2380	220	9.0	3.0	2.8	<0.01	490	7.0	4.97	10.3	1010	27.77		18.8	746	15.9	17.6	26
							421																				
Akitio	30/12/2016	120	Manuka	170071	17-00432-2	23	295		9/01/2017	16.3	2650	163	7.5	2.0	11.3	<0.01		9.47	7.5	28.20	835	25.03		19.5	797	15.9	18.0	25
				170072	17-00432-3	23	296			16.1	2650	165	7.5	1.0	11.3	<0.01		9.47	7.5	28.20	835	25.03		19.5	796	15.9	18.0	25
				170073	17-00432-4	23	296			16.3	2660	163	7.5	2.0	11.3	<0.01		9.47	7.5	28.20	835	25.03	Mono	19.5	798	15.9	18.1	25
				170074	17-00432-5	23	295			15.6	2580	165	7.6	2.0	11.3	<0.01		9.47	7.5	28.20	835	25.03		19.3	778	15.8	17.8	26
				170075	17-00432-6	23	160			15.7	2630	167	7.6	2.0	11.3	<0.01		9.47	7.5	28.20	835	25.03		19.4	791	15.9	18.0	26
				Batch 23	17-00432-1	23		1342		15.5	2590	167	7.6	2.0	11.3	<0.01		9.47	7.5	28.20	835	25.03		19.3	782	15.8		
							1342																				
Akitio	4/01/2017	276	Manuka	170053	17-00396-4	18	295		7/01/2017	15.7	2920	186	8.1	<1	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71		20.7	880	17.0	19.2	24
				170054	17-00396-5	18	297			15.7	2900	185	8.1	1.0	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71		20.7	875	16.9	19.1	24
				170055	17-00396-6	18	296			15.7	2900	185	8.1	<1	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71	Mono	20.7	875	16.9	19.1	24
				170056	17-00396-7	18	297			15.4	2930	190	8.2	<1	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71		20.8	884	17.0	19.3	24
				170057	17-00396-8	18	294			14.6	2960	203	8.6	<1	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71		21.0	898	17.3	19.5	25
				170058	17-00396-9	18	296			15.4	2980	193	8.3	1.0	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71		21.0	900	17.2	19.5	25

				Batch 18	17-00396-1	18		1775		15.6	2900	186	8.1	<1	6.8	<0.01	1380	10.20	10.1	30.50	997	24.71		20.6	874	16.9		
				170059	17-00396-10	19	297		8/01/2017	15.6	2790	179	7.9	<1	7.2	<0.01								20.2	841	16.5		
				170060	17-00396-11	19	296			15.6	2790	179	7.9	<1	7.2	<0.01								20.2	840	16.5		
				170061	17-00396-12	19	296			16.1	2900	180	8.0	<1	7.2	<0.01								20.6	873	16.8		
				170062	17-00396-13	19	295			15.4	2800	182	8.0	1.0	7.2	<0.01								20.2	846	16.6		
				170063	17-00396-14	19	296			16.4	2960	180	8.0	<1	7.2	<0.01								20.9	889	17.0		
				Batch 19	17-00396-2	19		1480		15.4	2810	183	8.1	1.0	7.2	<0.01								20.3	850	16.6		
				170064	17-00396-15	20	296		8/01/2017	15.6	2800	180	8.0	1.0	6.9	<0.01	1380							20.2	845	16.6	18.7	25
				170065	17-00396-16	20	296			15.4	2760	179	7.9	1.0	6.9	<0.01	1380							20.1	833	16.4	18.6	24
				170066	17-00396-17	20	133			15.3	2770	181	8.0	1.0	6.9	<0.01	1380							20.1	837	16.5	18.6	25
				Batch 20	17-00396-3	20		725		15.5	2830	182	8.0	1.0	6.9	<0.01	1380							20.3	852	16.6		
							3980																			
Pongaroa	7/01/2017	79	Manuka	170120	17-00936-2	35	294		11/01/2017	14.5	2150	148	7.1	2.0	13.9	<0.01	1020	8.6	6.05	23.4	834	25.67		17.3	653	14.3	16.1	25
				170121	17-00936-3	35	296			14.6	2160	148	7.1	2.0	13.9	<0.01	1020	8.6	6.05	23.4	834	25.67		17.4	656	14.3	16.1	26
				170122	17-00936-4	35	296			14.8	2170	147	7.0	2.0	13.9	<0.01	1020	8.6	6.05	23.4	834	25.67	Mono	17.4	657	14.3	16.1	25
				170123	17-00936-5	35	295			14.6	2150	147	7.0	2.0	13.9	<0.01	1020	8.6	6.05	23.4	834	25.67		17.3	652	14.2	16.1	26
				170124	17-00936-6	35	46			14.5	2150	148	7.1	2.0	13.9	<0.01	1020	8.6	6.05	23.4	834	25.67		17.3	652	14.2	16.1	26
				Batch 35	17-00936-1	35		1227		14.4	2130	148	7.1	2.0	13.9	<0.01	1020	8.6	6.05	23.4	834	25.67		17.2	648	14.2		
							1227																			
Pongaroa	5/01/2017	49	Manuka	170118	17-00931-2	34	295		11/01/2017	16.5	1470	89	5.2	2.0	13.6	<0.01	759	<0.08	4.43	14.6	873	26.36	Non	13.7	442	11.1	12.6	25
				170119	17-00931-3	34	146			16.6	1460	88	5.2	2.0	13.6	<0.01	759	<0.08	4.43	14.6	873	26.36		13.6	438	11.1	12.6	26
				Batch 34	17-00931-1	34		441		16.9	1500	89	5.2	2.0	13.6	<0.01	759	<0.08	4.43	14.6	873	26.36		13.8	449	11.2		
							441																			
Te Uri	11/01/2017	462	Manuka	170185	17-01797-12	56	295		17/01/2017	11.2	2050	183	8.0	2.0	11.3	<0.01	769	9.96	8.48	22.80	838	23.21		17.1	639	14.4	16.0	25
				170186	17-01797-13	56	295			14.7	2250	153	7.2	2.0	11.3	<0.01	769	9.96	8.48	22.80	838	23.21	Mono	17.8	681	14.6	16.5	25
				170187	17-01797-14	56	292			14.7	2230	152	7.2	2.0	11.3	<0.01	769	9.96	8.48	22.80	838	23.21		17.7	675	14.5	16.4	26
				170188	17-01797-15	56	295			14.4	2190	152	7.2	2.0	11.3	<0.01	769	9.96	8.48	22.80	838	23.21		17.5	666	14.4	16.3	25
				Batch 56	17-01797-2	56		1177		14.6	2220	152	7.2	2.0	11.3	<0.01	769	9.96	8.48	22.80	838	23.21		17.6	673	14.5		
				170189	17-01797-16	57	295		18/01/2017	14.5	2530	175	7.8	2.0	12.7	<0.01	860	11.60	9.12	23.30	960	22.54		19.1	768	15.7	17.7	26
				170190	17-01797-17	57	294			14.6	2540	174	7.8	2.0	12.7	<0.01	860	11.60	9.12	23.30	960	22.54		19.1	770	15.7	17.7	25
				170191	17-01797-18	57	294			14.6	2570	176	7.9	2.0	12.7	<0.01	860	11.60	9.12	23.30	960	22.54	Mono	19.2	778	15.8	17.9	25
				170192	17-01797-19	57	295			14.8	2590	175	7.8	2.0	12.7	<0.01	860	11.60	9.12	23.30	960	22.54		19.3	785	15.9	17.9	25
				170193	17-01797-20	57	295			14.9	2580	173	7.8	2.0	12.7	<0.01	860	11.60	9.12	23.30	960	22.54		19.3	781	15.8	17.9	25
				Batch 57	17-01797-3	57		1473		14.4	2540	176	7.8	2.0	12.7	<0.01	860	11.60	9.12	23.30	960	22.54		19.1	770	15.8		
				170194	17-01797-21	58	294		18/01/2017	14.2	2480	175	7.8	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		18.9	755	15.6	17.6	26
				170195	17-01797-22	58	294			14.1	2490	176	7.9	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		18.9	758	15.6	17.6	25
				170196	17-01797-23	58	294			14.1	2480	176	7.9	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		18.9	754	15.6	17.5	26
				170197	17-01797-24	58	295			14.3	2510	176	7.9	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		19.0	763	15.7	17.7	25
				170198	17-01797-25	58	294			14.6	2560	175	7.8	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77	Mono	19.2	776	15.8	17.8	26
				170199	17-01797-26	58	294			14.6	2550	175	7.8	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		19.2	774	15.8	17.8	26
				170200	17-01797-27	58	293			14.4	2500	174	7.8	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		18.9	758	15.6	17.6	25
				170201	17-01797-28	58	112			14.3	2520	176	7.8	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		19.1	767	15.7	17.7	25
				Batch 58	17-01797-4	58		2170		14.3	2540	178	7.9	2.0	12.0	<0.01	863	11.80	8.96	23.10	961	22.77		19.1	771	15.8		
							4820																			
Te Uri	14/01/2017	212	Manuka	170252	17-01783-3	71	296		24/01/2017	14.2	2650	186	8.1	2.0	10.6	<0.01	1010	12.10	8.24	24.70	1060	23.44		19.7	807	16.2	18.3	25
				170253	17-01783-4	71	295			13.9	2620	188	8.2	2.0	10.6	<0.01	1010	12.10	8.24	24.70	1060	23.44		19.6	799	16.2	18.2	26
				170254	17-01783-5	71	295			14.0	2620	187	8.1	2.0	10.6	<0.01	1010	12.10	8.24	24.70	1060	23.44	Mono	19.5	797	16.1	18.2	26
				170255	17-01783-6	71	294			14.0	2640	189	8.2	2.0	10.6	<0.01	1010	12.10	8.24	24.70	1060	23.44		19.6	803	16.2	18.2	25
				170256	17-01783-7	71	295			13.8	2660	193	8.3	2.0	10.6	<0.01	1010	12.10	8.24	24.70	1060	23.44		19.7	811	16.3	18.4	26
				Batch 71	17-01783-1	71		1475		14.0	2640	189	8.2	2.0	10.6	<0.01	1010	12.10	8.24	24.70	1060	23.44		19.6	805	16.2		
				170257	17-01783-8	72	295		25/01/2017	12.3	2580	210	8.7	2.0	11.0	<0.01	968	11.10	8.28	22.30	1040	24.19		19.5	797	16.3	18.2	26
				170258	17-01783-9	72	295			12.9	2520	196	8.4	3.0	11.0	<0.01	968	11.10	8.28	22.30	1040	24.19		19.2	775	16.0	17.9	26
				170259	17-01783-10	72	295			13.0	2500	193	8.3	3.0	11.0	<0.01	968	11.10	8.28	22.30	1040	24.19	Mono	19.1	766	15.9	17.8	26
				170260	17-01783-11	72	295			13.1	2550	194	8.3	2.0	11.0	<0.01	968	11.10	8.28	22.30	1040	24.19		19.3	783	16.0	18.0	26
				170261	17-01783-12	72	47			13.0	2570	198	8.4	2.0	11.0	<0.01	968	11.10	8.28	22.30	1040	24.19		19.4	789	16.1	18.1	25
				Batch 72	17-01783-2	72		1227		13.3	2560	193	8.3	2.0	11.0	<0.01	968	11.10	8.28	22.30	1040	24.19		19.3	784	19.3		
							2702																			
Te Uri	20/01/2017	374	Manuka	170311	17-02131-5	85	293		30/01/2017	15.4	2840	184	8.1	2.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.4	858	16.7	18.9	25
				170312	17-02131-6	85	295			15.8	2920	185	8.1	2.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.7	879	16.9	19.2	26
				170313	17-02131-7	85	294			15.9	2900	182	8.0	2.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.6	872	16.8	19.1	26
				170314	17-02131-8	85	294			15.8	2880	182	8.0	3.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.5	866	16.8	19.0	26
				170315	17-02131-9	85	295			15.4	2840	184	8.1	3.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.4	858	16.7	18.9	26
				170316	17-02131-10	85	295			15.5	2840	183	8.0	2.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.4	856	16.7	18.9	25
				Batch 85	17-02131-1	85		1766		15.3	2960	193	8.3	2.0	9.1	<0.01	856	12.00	10.70	24.70	1020	22.65		20.9	893	17.1		
				170317	17-02131-11	86	294			15.9	2870	181	8.0	1.0	9.5	<0.01	828							20.5	864	16.8		
				170318	17-02131-12	86	294			16.1	2890	180	8.0	2.0	9.5	<0.01	828							20.6	870	16.8		
				170319	17-02131-13	86	293			16.2	2900	179	7.9	2.0	9.5	<0.01	828							20.6	872	16.8		
				170320	17-02131-14	86	293			16.1	2890	179	7.9	2.0	9.5	<0.01	828							20.6	868	16.8		
				170321	17-02131-15	86	294			15.8	2820	179	7.9	2.0	9.5	<0.01	828							20.3	851	16.6		
				170322	17-02131-16	86	294			15.8	2850	180	8.0	2.0	9.5	<0.01	828							20.4	859	16.7		
				Batch 86	17-02131-2	86		1762		16.1	2960	184	8.1	2.0	9.5	<0.01	828							20.9	889	17.0		
				170323	17-02131-17	87	293			15.8	2840	180	8.0	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78		20.4	856	16.7	18.9	25
				170324	17-02131-18	87	293			16.1	2890	180	8.0	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78		20.6	869	16.8	19.0	25
				170325	17-02131-19	87	293			16.1	2850	177	7.9	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78	Mono	20.4	856	16.6	18.8	25
				170326	17-02131-20	87	295			16.2	2840	175	7.8	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78		20.4	854	16.6	18.8	26
				170327	17-02131-21	87	295			16.2	2820	174	7.8	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78		20.3	847	16.5	18.7	25
				170328	17-02131-22	87	293			15.9	2860	180	8.0	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78		20.5	860	16.7	18.9	26
				Batch 87	17-02131-3	87		1762		16.1	2890	179	8.0	2.0	9.9	<0.01	813	10.70	10.10	23.00	1050	22.78		20.6	869	16.8		
				170329	17-02131-23	88	295			16.0	2840	178	7.9	2.0	9.2	<0.01	811	11.80	10.70	23.60	1050	22.95		20.4	853	16.6	18.8	25
				170330	17-02131-24	88	293			16.0	2870	179	7.9	2.0	9.2	<0.01	811	11.80	10.70	23.60	1050	22.95	Mono	20.5	862	16.7	18.9	26
				170331	17-02131-25	88	193			16.2	2900	179	7.9	2.0	9.2	<0.01	811	11.80	10.70	23.60	1050	22.95		20.6	872	16.8	19.1	25
				Batch 88	17-02131-4	88		781		16.0	2860	179	7.9	2.0	9.2	<0.01	811	11.80	10.70	23.60	1050	22.95		20.5	861	16.7		
				170489	17-03758-3	133	297			11.0	2650	242	9.5	2.0	10.3	<0.01	822	11.70	9.91	22.30	990	23.66		20.0	829	16.9	18.8	26
				170490	17-03758-4	133	294			11.0	2660	242	9.5	2.0	10.3	<0.01	822	11.70	9.91	22.30	990	23.66		20.0	831	16.9	18.8	26
				170491	17-03758-5	133	294			10.9	2660	243	9.5	2.0	10.3	<0.01	822	11.70	9.91	22.30	990	23.66	Mono	20.0	832	16.9	18.8	26
				170492	17-03758-6	133	294			11.1	2680	242	9.5	2.0	10.3	<0.01	822	11.70	9.91	22.30	990	23.66		20.1	836	17.0	18.9	25
				Batch 133	17-03758-1	133		1179		11.2	2710	242	9.5	2.0	10.3	<0.01	822	11.70	9.91	22.30	990	23.66		20.2	846	17.1		
				170493	17-03758-7	134	294			11.7	2790	239	9.4	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71		20.5	866	17.2	19.2	25
				170494	17-03758-8	134	293			11.7	2780	238	9.4	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71		20.5	863	17.2	19.2	26

				170495	17-03758-9	134	294			11.3	2690	239	9.4	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71	Mono	20.1	839	17.0	18.9	25
				170496	17-03758-10	134	294			11.2	2670	238	9.4	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71		20.0	831	16.9	18.8	26
				170497	17-03758-11	134	294			11.2	2680	239	9.5	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71		20.1	834	16.9	18.8	25
				170498	17-03758-12	134	137			11.1	2690	243	9.6	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71		20.1	839	17.0	18.9	25
				Batch 134	17-03758-2	134		1606		11.2	2710	241	9.5	2.0	11.3	<0.01	823	11.40	10.30	22.30	990	23.71		20.2	844	17.0		
							8856																					
Central	16&21/02/2017	615	Manuka	170599	17-04810-5	160	294		27/02/2017	19.0	2920	154	7.3	1	7.3	<0.01	777	12.90	11.00	26.80	979	24.39		20.5	866	16.6	18.9	25
				170600	17-04810-6	160	295			19.0	2920	154	7.3	2	7.3	<0.01	777	12.90	11.00	26.80	979	24.39		20.5	867	16.6	18.9	25
				170601	17-04810-7	160	298			18.7	2800	150	7.1	2	7.3	<0.01	777	12.90	11.00	26.80	979	24.39	Mono	20.1	833	16.2	18.4	25
				170602	17-04810-8	160	294			18.5	2800	151	7.2	2	7.3	<0.01	777	12.90	11.00	26.80	979	24.39		20.1	833	16.2	18.5	26
				170603	17-04810-9	160	295			18.6	2810	151	7.2	2	7.3	<0.01	777	12.90	11.00	26.80	979	24.39		20.1	835	16.2	18.5	25
				170604	17-04810-10	160	294			19.2	2820	147	7.1	<1	7.3	<0.01	777	12.90	11.00	26.80	979	24.39		20.1	838	16.2	18.5	24
				Batch 160	17-04810-1	160		1770		18.9	2790	148	7.1	<1	7.3	<0.01	777	12.90	11.00	26.80	979	24.39		20.0	828	16.1		
				170605	17-04810-11	161	294			19.7	2800	142	6.9	2	7.5	<0.01	762							20.0	829	16.1	18.4	26
				170606	17-04810-12	161	294			19.7	2820	143	6.9	<1	7.5	<0.01	762							20.1	836	16.2	18.5	25
				170607	17-04810-13	161	298			19.2	2780	145	7.0	2	7.5	<0.01	762							19.9	826	16.1	18.3	25
				170608	17-04810-14	161	294			18.7	2750	147	7.1	1	7.5	<0.01	762						Mono	19.8	818	16.0	18.3	25
				170609	17-04810-15	161	293			19.0	2760	145	7.0	2	7.5	<0.01	762							19.9	820	16.0	18.3	25
				170610	17-04810-16	161	294			18.6	2770	149	7.1	2	7.5	<0.01	762							19.9	824	16.1	18.3	26
				170611	17-04810-17	161	294			18.7	2790	149	7.1	<1	7.5	<0.01	762							20.0	830	16.1	18.4	24
				Batch 161	17-04810-2	161		2061		19.1	2730	143	6.9	2	7.5	<0.01	762							19.7	810	15.9		
				170612	17-04810-18	162	294		28/02/2017	19.4	2890	149	7.1	2	6.7	<0.01	727							20.4	857	16.4	18.7	25
				170613	17-04810-19	162	294			19.4	2820	145	7.0	2	6.7	<0.01	727							20.1	837	16.2	18.5	25
				170614	17-04810-20	162	294			18.9	2820	149	7.1	2	6.7	<0.01	727						Mono	20.1	838	16.2	18.5	26
				170615	17-04810-21	162	294			19.1	2820	148	7.1	1	6.7	<0.01	727							20.1	836	16.2	18.3	25
				170616	17-04810-22	162	295			19.1	2820	148	7.1	1	6.7	<0.01	727							20.1	837	16.2	18.3	26
				Batch 162	17-04810-3	162		1471		19.6	2790	142	6.9	2	6.7	<0.01	727							20.0	827	16.1		
				170617	17-04810-23	163	294			19.1	2840	149	7.1	2	6.4	<0.01	757							20.2	842	16.3	18.4	24
				170618	17-04810-24	163	294			19.1	2870	150	7.1	1	6.4	<0.01	757							20.3	851	16.4	18.7	25
				170619	17-04810-25	163	294			19.1	2870	150	7.1	2	6.4	<0.01	757						Mono	20.3	852	16.4	18.5	25
				170620	17-04810-26	163	150			18.6	2840	153	7.2	2	6.4	<0.01	757							20.2	845	16.3	18.5	26
				Batch 163	17-04810-4	163		1032		18.9	2880	152	7.2	2	6.4	<0.01	757							20.4	855	16.4		
				170621	17-04802-3	164	294			17.5	2680	153	7.2	2	6.7	<0.01	884							19.6	799	15.9	18.0	25
				170622	17-04802-4	164	294			17.6	2670	152	7.2	1	6.7	<0.01	884							19.5	797	15.8	18.0	25
				170623	17-04802-5	164	294			17.8	2670	150	7.1	2	6.7	<0.01	884						Mono	19.5	796	15.8	18.0	25
				170624	17-04802-6	164	151			17.5	2620	150	7.1	2	6.7	<0.01	884							19.3	783	15.7	17.8	25
				Batch 164	17-04802-1	164		1033		17.5	2610	149	7.1	2	6.7	<0.01	884							19.3	779	15.6		
				170625	17-04802-7	165	297		1/03/2017	15.7	2610	166	7.6	2	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.4	788	15.9	17.9	25
				170626	17-04802-8	165	296			15.7	2610	166	7.6	1	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.4	787	15.9	17.9	25
				170627	17-04802-9	165	295			15.8	2630	166	7.6	2	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.4	791	15.9	18.0	25
				170628	17-04802-10	165	295			15.8	2680	170	7.7	2	7.3	<0.01	905	14.60	10.10	25.80	898	24.25	Mono	19.7	807	16.1	18.2	25
				170629	17-04802-11	165	296			16.1	2680	166	7.6	2	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.6	804	16.0	18.2	26
				170630	17-04802-12	165	293			16.3	2650	163	7.5	3	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.5	796	15.9	18.0	26
				170631	17-04802-13	165	38			15.8	2610	165	7.5	2	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.4	785	15.8	17.9	26
				Batch 165	17-04802-2	165		1810		15.8	2640	167	7.6	2	7.3	<0.01	905	14.60	10.10	25.80	898	24.25		19.5	794	15.9		
							9177																					
Wanganui	5/03/17 & 14/03/17	485	Manuka	170740	17-07891-4	198	295		22/03/2017	11.4	2470	217	8.9	2.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.1	769	16.1	17.9	26
				170741	17-07891-5	198	295			11.6	2460	212	8.8	3.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.0	763	16.0	17.8	26
				170742	17-07891-6	198	295			11.6	2470	213	8.8	3.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.1	766	16.0	17.9	26
				170743	17-07891-7	198	295			11.4	2450	215	8.9	3.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44	Mono	19.0	761	16.0	17.8	26
				170744	17-07891-8	198	294			11.3	2450	216	8.9	3.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.0	763	16.0	17.8	26
				170745	17-07891-9	198	295			11.5	2470	214	8.9	2.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.1	767	16.0	17.9	26
				170746	17-07891-10	198	295			11.5	2510	218	8.9	2.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.3	781	16.2	18.1	26
				170747	17-07891-11	198	295			11.3	2410	213	8.8	2.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		18.8	749	15.8	17.6	26
				Batch 198	17-07891-1	198		2359		11.3	2450	216	8.9	3.0	4.6	<0.01	576	9.6	6.81	20.2	1130	27.44		19.0	764	16.0	18.8	26
				170748	17-07891-12	199	295		23/03/2017	11.5	2720	236	9.4	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		20.2	844	17.0	18.9	26
				170749	17-07891-13	199	295			11.5	2620	227	9.2	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		19.8	815	16.6	18.5	26
				170750	17-07891-14	199	294			11.5	2690	233	9.3	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		20.1	837	16.9	18.8	26
				170751	17-07891-15	199	295			11.4	2620	230	9.2	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75	Mono	19.8	814	16.6	18.5	26
				170752	17-07891-16	199	295			11.5	2650	231	9.2	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		19.9	824	16.8	18.7	26
				170753	17-07891-17	199	295			11.5	2660	231	9.3	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		20.0	826	16.8	18.7	26
				170754	17-07891-18	199	294			11.6	2680	232	9.3	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		20.1	833	16.9	18.8	26
				Batch 199	17-07891-2	199		2063		11.4	2690	235	9.3	3.0	5.3	<0.01	622	10.2	7.16	21.1	1170	27.75		20.1	837	16.9	18.8	26
				170755	17-07891-19	200	294		23/03/2017	11.2	2620	234	9.3	3.0	5.7	<0.01	627							19.8	817	16.7	18.6	26
				170756	17-07891-20	200	294			11.3	2670	237	9.4	3.0	5.7	<0.01	627							20.0	832	16.9	18.8	26
				170757	17-07891-21	200	294			11.3	2640	234	9.3	3.0	5.7	<0.01	627						Mono	19.9	822	16.8	18.7	27
				170758	17-07891-22	200	294			11.2	2680	239	9.4	2.0	5.7	<0.01	627							20.1	836	16.9	18.9	26
				170759	17-07891-23	200	294			11.3	2660	236	9.4	3.0	5.7	<0.01	627							20.0	828	16.8	18.7	26
				170760	17-07891-24	200	275			11.3	2680	238	9.4	3.0	5.7	<0.01	627							20.1	836	16.9	18.8	26
				Batch 200	17-07891-3	200		1745		11.3	2650	235	9.4	3.0	5.7	<0.01	627							20.0	826	16.8	18.7	27
							6167																					
Wanganui	5/03/17 & 14/03/17	360	Manuka	170761	17-07892-4	201	296		24/03/2017	11.7	2710	231	9.3	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48		20.2	841	16.9	18.9	26
				170762	17-07892-5	201	296			11.7	2720	232	9.3	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48		20.2	844	17.0	18.9	27
				170763	17-07892-6	201	294			11.2	2730	243	9.5	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48		20.3	852	17.1	19.1	27
				170764	17-07892-7	201	294			11.4	2710	238	9.4	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48	Mono	20.2	842	17.0	18.9	27
				170765	17-07892-8	201	294			11.7	2750	236	9.4	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48		20.4	854	17.1	19.1	26
				170766	17-07892-9	201	294			11.5	2720	237	9.4	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48		20.2	846	17.0	19.0	27
				Batch 201	17-07892-1	201		1768		11.8	2720	231	9.2	3.0	6.6	<0.01	644	10.5	6.88	21.7	1190	27.48		20.2	843	16.9	18.9	27
				170767	17-07892-10	202	296			12.0	2750	229	9.2	3.0	5.6	<0.01	642							20.3	851	17.0	19.0	26
				170768	17-07892-11	202	294			12.3	2770	225	9.1	3.0	5.6	<0.01	642							20.4	856	17.0	19.0	26
				170769	17-07892-12	202	295			11.5	2730	237	9.4	3.0	5.6	<0.01	642							20.3	848	17.0	19.0	26
				170770	17-07892-13	202	293			12.0	2790	233	9.3	3.0	5.6	<0.01	642							20.5	864	17.2	19.2	26
				170771	17-07892-14	202	295			12.1	2760	228	9.2	3.0	5.6	<0.01	642							20.4	853	17.0	19.0	26
				170772	17-07892-15	202	295			11.9	2790	235	9.4	3.0	5.6	<0.01	642							20.5	865	17.2	19.2	27
				Batch 202	17-07892-2	202		1768		12.3	2790	226	9.1	3.0	5.6	<0.01	642							20.4	859	17.1	19.1	26
				170773	17-07892-16	203	294			12.3	2800	227	9.2	3.0	5.7	<0.01	646							20.5	863	17.1	19.1	26
				170774	17-07892-17	203	294			12.3	2780	226	9.1	3.0	5.7	<0.01	646							20.4	859	17.1	19.1	26
				170775	17-07892-18	203	294			11.9	2770	232	9.3	2.0	5.7	<0.01	646							20.4	856	17.1	19.1	26
				170776	17-07892-19	203	294			11.7	2740	234	9.3	2.0	5.7	<0.01	646							20.3	851	17.0	19.0	26

				170777	17-07892-20	203	126			11.6	2770	238	9.4	3.0	5.7	<0.01	646							20.4	860	17.2	19.1	26
				Batch 203	17-07892-3	203		1302		12.1	2770	228	9.2	3.0	5.7	<0.01	646							20.4	857	17.1	19.1	26
							4838																						
Waverly	20/03/2017	188	Manuka	170832	17-08754-3	220	295		5/04/2017	10.7	3640	339	11.7	3.0	4.3	<0.01	616	10.3	11.50	29.0	1560	25.74		24.2	1141	20.5	22.8	26
				170833	17-08754-4	220	294			10.7	3650	340	11.7	3.0	4.3	<0.01	616	10.3	11.50	29.0	1560	25.74		24.3	1144	20.6	22.8	26
				170834	17-08754-5	220	294			10.9	3650	336	11.6	3.0	4.3	<0.01	616	10.3	11.50	29.0	1560	25.74	Mono	24.3	1143	20.5	22.8	26
				170835	17-08754-6	220	294			10.5	3600	343	11.8	3.0	4.3	<0.01	616	10.3	11.50	29.0	1560	25.74		24.1	1133	20.5	22.7	27
				170836	17-08754-7	220	294			10.4	3570	342	11.7	3.0	4.3	<0.01	616	10.3	11.50	29.0	1560	25.74		24.0	1122	20.4	22.6	26
				Batch 220	17-08754-1	220		1471		10.9	3670	337	11.6	3.0	4.3	<0.01	616	10.3	11.50	29.0	1560	25.74		24.4	1149	20.6	22.9	26
				170837	17-08754-8	221	294			10.6	3600	339	11.7	3.0	5.2	<0.01	627							24.1	1130	20.4	22.7	26
				170838	17-08754-9	221	294			10.7	3650	340	11.7	3.0	5.2	<0.01	627							24.3	1144	20.6	22.8	27
				170839	17-08754-10	221	293			10.4	3560	342	11.7	3.0	5.2	<0.01	627						Mono	24.0	1119	20.3	22.5	27
				170840	17-08754-11	221	294			10.3	3520	341	11.7	3.0	5.2	<0.01	627							23.8	1108	20.2	22.4	26
				170841	17-08754-12	221	70			10.3	3530	342	11.7	3.0	5.2	<0.01	627							23.9	1113	20.3	22.5	26
				Batch 221	17-08754-2	221		1245		10.4	3550	340	11.7	3.0	5.2	<0.01	627	10.3	11.50	29.0	1560	25.74		23.9	1117	20.3	22.5	27
							2716																						
Taranaki	19/03/2017	29	Manuka	170850	17-08762-2	226	116		6/04/2017	9.4	2250	239	9.4	4.0	12.8	<0.01	563	8.24	5.36	14.80	855	25.60	Mono	18.3	716	15.7	17.3	28
				Batch 226	17-08762-1	226		116		9.3	2180	235	9.4	4.0	12.8	<0.01	563	8.24	5.36	14.80	855	25.60		18.0	698	15.5	17.0	28
							116																						
Pongaroa	25/01/2017	148	Manuka	170304	17-01791-3	82	294		27/01/2017	15.9	2590	163	7.5	2.0	11.2	<0.01	852	7.51	6.98	20.30	894	24.98		19.3	779	15.7	17.8	26
				170305	17-01791-4	82	296			16.0	2540	159	7.4	2.0	11.2	<0.01	852	7.51	6.98	20.30	894	24.98	Mono	19.0	763	15.5	17.6	26
				170306	17-01791-5	82	178			15.5	2440	157	7.3	2.0	11.2	<0.01	852	7.51	6.98	20.30	894	24.98		18.6	737	15.3	17.2	26
				Batch 82	17-01791-1	82		768		15.7	2560	163	7.5	2.0	11.2	<0.01	852	7.51	6.98	20.30	894	24.98		19.1	771	15.7	17.7	25
				170309	17-01791-6	84	294			15.8	2420	153	7.2	2.0	8.1	<0.01	797	7.56	7.51	23.40	790	25.20	Mono	18.5	729	15.1	17.1	25
				170310	17-01791-7	84	295			15.5	2410	155	7.3	2.0	8.1	<0.01	797	7.56	7.51	23.40	790	25.20		18.5	727	15.1	17.1	25
				Batch 84	17-01791-2	84		589		15.8	2470	156	7.3	2.0	8.1	<0.01	797	7.56	7.51	23.40	790	25.20		18.7	745	15.3	17.3	25
							1357																						
Pongaroa			Manuka	170455	17-03178-2	125	295		13/02/2017	12.1	2430	201	8.5	1.0	8.7	<0.01	933	10.10	8.34	21.60	846	25.39		18.9	752	15.8	17.6	25
				170456	17-03178-3	125	295			12.1	2450	203	8.6	3.0	8.7	<0.01	933	10.10	8.34	21.60	846	25.39		19.0	758	15.9	17.7	26
				170457	17-03178-4	125	294			11.9	2390	201	8.5	2.0	8.7	<0.01	933	10.10	8.34	21.60	846	25.39	Mono	18.7	739	15.6	17.5	26
				170458	17-03178-5	125	294			12.0	2410	201	8.5	3.0	8.7	<0.01	933	10.10	8.34	21.60	846	25.39		18.8	745	15.7	17.5	27
				170459	17-03178-6	125	160			12.0	2380	199	8.5	3.0	8.7	<0.01	933	10.10	8.34	21.60	846	25.39		18.6	736	15.6	17.4	26
				Batch 125	1703178-1	125		1338		12.0	2450	204	8.6	3.0	8.7	<0.01	933	10.10	8.34	21.60	846	25.39		18.9	757	15.8	17.7	26
							1338																						
Upper Takaka	5/03/2017	160	Manuka	170662	17-06783-2	176	295		10/03/2017	9.4	933	99	5.5	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		10.8	297	9.2	10.2	25
				170663	17-06783-3	176	294			9.5	932	98	5.5	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		10.8	297	9.2	10.2	26
				170664	17-06783-4	176	294			9.6	977	102	5.6	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		11.1	311	9.5	10.4	26
				170665	17-06783-5	176	294			9.4	966	103	5.7	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65	Mono	11.0	308	9.4	10.4	25
			MD1	170666	17-06783-6	176	295			9.4	962	102	5.7	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		11.0	307	9.4	10.4	26
				170667	17-06783-7	176	295			9.5	960	101	5.6	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		11.0	306	9.4	10.4	26
				170668	17-06783-8	176	295			9.5	980	103	5.7	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		11.1	312	9.5	10.5	26
				170669	17-06783-9	176	137			9.3	965	104	5.7	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		11.0	308	9.5	10.4	26
				Batch 176	17-06783-1	176		2199		9.6	971	101	5.6	2.0	8.2	<0.01	414	10.60	12.10	7.47	880	26.65		11.0	309	9.4	10.4	26
							2199																						
Anatori	5/03/2017		Manuka	170670	17-06791-2	177	295		10/03/2017	9.3	827	89	5.2	1.0	4.0	<0.01	286	16.40	13.40	4.89	553	26.67		10.0	264	8.6	9.5	25
				170671	17-06791-3	177	294			9.0	820	91	5.3	1.0	4.0	<0.01	286	16.40	13.40	4.89	553	26.67	Mono	10.0	263	8.6	9.5	25
			MC1	170672	17-06791-4	177	294			9.0	838	93	5.3	2.0	4.0	<0.01	286	16.40	13.40	4.89	553	26.67		10.1	269	8.7	9.6	26
				170673	17-06791-5	177	117			9.2	853	93	5.4	2.0	4.0	<0.01	286	16.40	13.40	4.89	553	26.67		10.2	273	8.8	9.7	26
				Batch 177	17-06791-1	177		1000		9.2	823	89	5.2	2.0	4.0	<0.01	286	16.40	13.40	4.89	553	26.67		10.0	263	8.6	9.5	26
				170674	17-06792-2	178	294		13/03/2017	10.0	1110	111	6.0	3.0	1.5	<0.01	380	22.70	18.90	7.89	604	26.86		11.9	352	10.2	11.2	26
				170675	17-06792-3	178	294			10.1	1090	108	5.9	3.0	1.5	<0.01	380	22.70	18.90	7.89	604	26.86		11.8	345	10.0	11.1	26
				170676	17-06792-4	178	295			10.3	1170	114	6.0	3.0	1.5	<0.01	380	22.70	18.90	7.89	604	26.86	Mono	12.3	368	10.4	11.5	26
				170677	17-06792-5	178	294			10.2	1180	116	6.1	3.0	1.5	<0.01	380	22.70	18.90	7.89	604	26.86		12.3	373	10.5	11.6	26
				170678	17-06792-6	178	266			10.4	1170	113	6.0	3.0	1.5	<0.01	380	22.70	18.90	7.89	604	26.86		12.3	368	10.4	11.5	26
				Batch 178	17-06792-1	178		1443		10.1	1150	114	6.0	2.0	1.5	<0.01	380	22.70	18.90	7.89	604	26.86		12.1	362	10.3	11.4	26
				170679	17-06793-2	179	294			9.0	1330	147	7.1	3.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.4	426	11.5	12.7	26
				170680	17-06793-3	179	294			9.0	1350	150	7.1	3.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.5	432	11.6	12.8	26
				170681	17-06793-4	179	294			8.8	1320	150	7.1	2.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.4	425	11.5	12.7	26
				170682	17-06793-5	179	294			9.0	1340	149	7.1	3.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.4	429	11.6	12.7	26
				170683	17-06793-6	179	274			9.1	1350	149	7.1	3.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.5	432	11.6	12.8	26
				170684	17-06793-7	179	293			9.1	1360	149	7.1	3.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.6	436	11.7	12.9	26
				Batch 179	17-06793-1	179		1743		8.9	1330	149	7.1	3.0	4.2	<0.01	429	29.30	24.00	7.83	773	26.39		13.4	428	11.6	12.7	26
				170685	17-06794-2	180	295		14/03/2017	10.8	1220	113	6.0	2.0	1.8	<0.01	386	25.50	20.40	7.05	614	25.61		12.5	381	10.6	11.8	26
				170686	17-06794-3	180	295			10.7	1190	111	5.9	2.0	1.8	<0.01	386	25.50	20.40	7.05	614	25.61		12.3	372	10.4	11.6	26
				170687	17-06794-4	180	295			10.8	1200	111	6.0	2.0	1.8	<0.01	386	25.50	20.40	7.05	614	25.61		12.4	376	10.5	11.7	26
				170688	17-06794-5	180	139			10.9	1220	112	6.0	2.0	1.8	<0.01	386	25.50	20.40	7.05	614	25.61		12.5	381	10.6	11.8	26
				Batch 180	17-06794-1	180		1024		10.9	1220	112	6.0	2.0	1.8	<0.01	386	25.50	20.40	7.05	614	25.61		12.5	380	10.6	11.7	26
				170689	17-06795-2	181	296			10.1	1330	132	6.6	2.0	3.5	<0.01	432	28.70	21.40	7.96	755	25.92		13.3	421	11.3	12.5	26
				170690	17-06795-3	181	295			10.2	1340	132	6.6	3.0	3.5	<0.01	432	28.70	21.40	7.96	755	25.92		13.3	423	11.3	12.5	26
				170691	17-06795-4	181	294			10.1	1320	131	6.6	2.0	3.5	<0.01	432	28.70	21.40	7.96	755	25.92		13.2	416	11.3	12.4	26
				170692	17-06795-5	181	82			10.2	1300	128	6.5	2.0	3.5	<0.01	432	28.70	21.40	7.96	755	25.92		13.1	409	11.1	12.3	26
				Batch 181	17-06795-1	181		967		10.0	1320	132	6.6	3.0	3.5	<0.01	432	28.70	21.40	7.96	755	25.92		13.2	418	11.3	12.5	26
				170693	17-06797-3	182	294			10.0	947	95	5.4	2.0	0.4	<0.01	313	20.40	15.90	5.78	590	26.59		10.8	300	9.2	10.2	25
				170694	17-06797-4	182	294			9.8	970	99	5.5	2.0	0.4	<0.01	313	20.40	15.90	5.78	590	26.59	Mono	11.0	308	9.4	10.4	25
				170695	17-06797-5	182	208			9.8	952	97	5.5	2.0	0.4	<0.01	313	20.40	15.90	5.78	590	26.59		10.9	302	9.3	10.3	26
				Batch 182	17-06797-1	182		796		9.8	945	96	5.4	2.0	0.4	<0.01	313	20.40	15.90	5.78	590	26.59		10.8	299	9.2	10.2	25
				170696	17-06797-6	183	294		15/03/2017	9.0	619	69	4.5	3.0	0.0	<0.01	234	13.00	11.10	4.51	434	27.06		8.5	199	7.3	8.0	26
				170697	17-06797-7	183	294			9.3	639	69	4.5	3.0	0.0	<0.01	234	13.00	11.10	4.51	434	27.06	Mono	8.6	204	7.4	8.1	26
				170698	17-06797-8	183	240			9.0	651	72	4.5	2.0	0.0	<0.01	234	13.00	11.10	4.51	434	27.06		8.7	209	7.5	8.2	26
				Batch 183	17-06797-2	183		828		9.1	637	70	4.5	3.0	0.0	<0.01	234	13.00	11.10	4.51	434	27.06		8.6	204	7.4	8.1	26
				170699	17-06798-2	184	294			9.1	818	90	5.3	2.0	5.0	<0.01	342	10.60	11.40	6.51	733	27.00		10.0	262	8.6	9.5	26
				170700	17-06798-3	184	294			9.1	839	92	5.3	2.0	5.0	<0.01	342	10.60	11.40	6.51	733	27.00		10.1	269	8.7	9.6	26
				170701	17-06798-4	184	294			9.4	852	91	5.3	2.0	5.0	<0.01	342	10.60	11.40	6.51	733	27.00		10.2	272	8.8	9.7	26
				170702	17-06798-5	184	230			9.2	854	93	5.4	2.0	5.0	<0.01	342	10.60	11.40	6.51	733	27.00		10.2	273	8.8	9.7	26
				Batch 184	17-06798-1	184		1112		9.2	843	92	5.3	2.0	5.0	<0.01	342	10.60	11.40	6.51	733	27.00		10.2	270	8.8	9.6	25
							8913																						

Taranaki		16	Manuka	170861	17-09655-2	230	83		7/04/2017	**5.5**	**661**	**121**	**6.3**	**3.0**	**29.2**	**0.04**	**275**	**3.62**	**2.60**	**3.63**	**288**	**28.16**	**Multi**	**9.3**	**234**	**8.5**	**9.1**	**26**
				Batch 230	17-09655-1	230		83		**5.4**	**657**	**122**	**6.3**	**3.0**	**29.2**	**0.04**	**275**	**3.62**	**2.60**	**3.63**	**288**	**28.16**		**9.3**	**233**	**8.5**	**9.0**	**27**
							83																				

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-09765
Submitted by:
Date Received: 20/04/2017
Date Completed:
Order Number:
Reference: MA,MB,MC,MD DNA

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Markers in Honey

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxyacetophenone 2-MAP	3-Phenyllactic acid
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20
17-09765-1	Batch 178 (MA1)	22.7	18.9	7.39	604
17-09765-2	Batch 180 (MA2)	25.5	20.4	7.05	614
17-09765-3	Batch 179 (MB1)	29.3	24.0	7.83	773
17-09765-4	Batch 181 (MB2)	28.7	21.4	7.96	755
17-09765-5	Batch 177 (MC1)	16.4	13.4	4.89	553
17-09765-6	Batch 182 (MC2)	20.4	15.9	5.78	590
17-09765-7	Batch 183	13.0	11.1	4.51	434
17-09765-8	Batch 176 (MD1)	10.6	12.1	7.47	880
17-09765-9	Batch 184 (MD2)	10.6	11.4	6.51	733

Manuka Markers in Honey Approver:
s 9(2)(a)

Method Summary

Manuka Markers Solvent extraction, LC-MS/MS analysis.
s 9(2)(b)(ii), has interim approval from the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP).

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-09765
Submitted by:
Date Received: 20/04/2017
Date Completed: 4/05/2017
Order Number:
Reference: MA,MB,MC,MD DNA

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Pollen DNA*

Laboratory ID	Sample ID	Manuka Pollen DNA
	Units *Reporting Limit*	Cq
17-09765-1	Batch 178 (MA1)	26.86
17-09765-2	Batch 180 (MA2)	25.61
17-09765-3	Batch 179 (MB1)	26.39
17-09765-4	Batch 181 (MB2)	25.92
17-09765-5	Batch 177 (MC1)	26.67
17-09765-6	Batch 182 (MC2)	26.59
17-09765-7	Batch 183	27.06
17-09765-8	Batch 176 (MD1)	26.65
17-09765-9	Batch 184 (MD2)	27.00

Manuka Pollen DNA* Approver:

s 9(2)(a)

Method Summary

Manuka Pollen DNA

Samples were analysed as received by the Laboratory for Manuka Pollen DNA by pollen DNA extraction followed by qPCR.

The DNA component of the MPI Manuka Honey Definition requires a Cq value of less than 36 to qualify for either a monofloral or multifloral Manuka honey.

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-09986
Submitted by:
Date Received: 24/04/2017
Date Completed:
Order Number:
Reference:

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxyacetophenone 2-MAP	3-Phenyllactic acid
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20
17-09986-1	Batch 201	10.5	6.88	21.7	1,190
17-09986-2	Batch 198	9.59	6.81	20.2	1,130
17-09986-3	Batch 199	10.2	7.16	21.1	1,170
17-09986-4	Batch 206	8.95	6.76	20.1	1,150
17-09986-5	Batch 207	9.68	5.24	15.1	1,120
17-09986-6	Batch 204	9.73	5.78	21.9	1,110
17-09986-7	Batch 220	10.3	11.5	29.0	1,560
17-09986-8	Batch 215	5.81	3.93	6.47	777
17-09986-9	Batch 217	11.2	5.08	16.1	1,450
17-09986-10	Batch 222	7.00	5.24	10.3	900
17-09986-11	Batch 223	7.03	4.97	10.3	1,010

Manuka Markers in Honey* Approver:

s 9(2)(a)

Method Summary

Manuka Markers Solvent extraction, LC-MS/MS analysis.
s 9(2)(b)(ii) has interim approval from the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP).

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-09986
Submitted by:
Date Received: 24/04/2017
Date Completed: 11/05/2017
Order Number:
Reference:

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Pollen DNA*

Laboratory ID	Sample ID	Manuka Pollen DNA
	Units *Reporting Limit*	Cq
17-09986-1	Batch 201	27.48
17-09986-2	Batch 198	27.44
17-09986-3	Batch 199	27.75
17-09986-4	Batch 206	28.33
17-09986-5	Batch 207	27.73
17-09986-6	Batch 204	27.95
17-09986-7	Batch 220	25.74
17-09986-8	Batch 215	27.17
17-09986-9	Batch 217	27.75
17-09986-10	Batch 222	27.08
17-09986-11	Batch 223	27.77

Manuka Pollen DNA* Approver:
s 9(2)(b)(ii)

Method Summary

Manuka Pollen DNA

Samples were analysed as received by the Laboratory for Manuka Pollen DNA by pollen DNA extraction followed by qPCR.

The DNA component of the MPI Manuka Honey Definition requires a Cq value of less than 36 to qualify for either a monofloral or multifloral Manuka honey.

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-11263
Submitted by:
Date Received: 9/05/2017
Date Completed:
Order Number: Bulk Chem/DNA
Reference: Bulk Chem/DNA

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxy acetophenone 2-MAP	3-Phenyllactic acid 3-PLA
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20
17-11263-1	170029/009	7.85	12.5	8.27	973
17-11263-2	170031/010	9.84	13.2	7.48	1,040
17-11263-3	170035/011	8.16	37.0	7.30	1,120
17-11263-4	170040/013	9.90	20.0	7.37	1,200
17-11263-5	170047/015	8.98	24.6	9.22	1,280
17-11263-6	170051/017	6.58	13.1	5.69	784
17-11263-7	170054/018	10.2	10.1	30.5	997
17-11263-8	170072/023	9.47	7.45	28.2	835
17-11263-9	170098/028	1.21	1.08	1.41	82
17-11263-10	170103/029	0.86	<0.8	<0.8	60
17-11263-11	170118/034	<0.8	4.43	14.6	873
17-11263-12	170122/035	8.64	6.05	23.4	834
17-11263-13	170175/054	1.66	2.43	2.21	182
17-11263-14	170180/055	1.23	1.85	1.54	120
17-11263-15	170187/056	9.69	8.48	22.8	838
17-11263-16	170191/057	11.6	9.12	23.3	960
17-11263-17	170199/058	11.8	8.96	23.1	961
17-11263-18	170243/069	11.2	13.1	32.0	1,240
17-11263-19	170254/071	12.1	8.24	24.7	1,060
17-11263-20	170258/072	11.1	8.28	22.3	1,040
17-11263-21	170305/082	7.51	6.98	20.3	894
17-11263-22	170309/084	7.56	7.51	23.4	790
17-11263-23	170314/085	12.0	10.7	24.7	1,020
17-11263-24	170327/087	10.7	10.1	23.0	1,020
17-11263-25	170330/088	11.8	10.7	23.6	1,050
17-11263-26	170370/095	9.13	2.95	4.56	1,300

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxy acetophenone 2-MAP	3-Phenyllactic acid 3-PLA
	Units *Reporting Limit*	mg/kg 0.8	mg/kg 0.8	mg/kg 0.8	mg/kg 20
17-11263-27	170372/096	10.4	2.70	4.75	1,490
17-11263-28	170428/113	7.23	7.20	14.8	718
17-11263-29	170457/125	10.1	8.34	21.6	846
17-11263-30	170462/126	8.95	6.78	22.7	842
17-11263-31	170491/133	11.7	9.91	22.3	990
17-11263-32	170495/134	11.4	10.3	22.3	990
17-11263-33	170604/160	12.9	11.0	26.8	979
17-11263-34	170626/165	14.6	10.1	25.8	898
17-11263-35	170850/226	8.24	5.36	14.8	855
17-11263-36	170861/230	3.62	2.60	3.63	288

Manuka Markers in Honey* Approver:
s 9(2)(b)(ii)

Method Summary

Manuka Markers Solvent extraction, LC-MS/MS analysis.
s 9(2)(b)(ii) has interim approval from the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP).

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-11263
Submitted by:
Date Received: 9/05/2017
Date Completed: 30/05/2017
Order Number: Bulk Chem/DNA
Reference: Bulk Chem/DNA

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

This is an amended report. Sample 17-11263-27 was repeated and passed the MPI test.

Results Summary

Manuka Pollen DNA*

Laboratory ID	Sample ID	Manuka Pollen DNA
	Units *Reporting Limit*	Cq
17-11263-1	170029/009	27.99
17-11263-2	170031/010	28.82
17-11263-3	170035/011	30.57
17-11263-4	170040/013	28.88
17-11263-5	170047/015	28.79
17-11263-6	170051/017	28.17
17-11263-7	170054/018	24.71
17-11263-8	170072/023	25.23
17-11263-9	170098/028	29.01
17-11263-10	170103/029	30.41
17-11263-11	170118/034	26.36
17-11263-12	170122/035	25.67
17-11263-13	170175/054	29.02
17-11263-14	170180/055	29.44
17-11263-15	170187/056	23.21
17-11263-16	170191/057	22.54
17-11263-17	170199/058	22.77
17-11263-18	170243/069	22.49
17-11263-19	170254/071	23.44
17-11263-20	170258/072	24.19
17-11263-21	170305/082	24.98
17-11263-22	170309/084	25.20
17-11263-23	170314/085	22.65
17-11263-24	170327/087	22.78
17-11263-25	170330/088	22.95
17-11263-26	170370/095	27.39

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

Manuka Pollen DNA*

Laboratory ID	Sample ID	Manuka Pollen DNA
	Units *Reporting Limit*	Cq
17-11263-27	170372/096	29.00
17-11263-28	170428/113	25.96
17-11263-29	170457/125	25.39
17-11263-30	170462/126	25.68
17-11263-31	170491/133	23.66
17-11263-32	170495/134	23.71
17-11263-33	170604/160	24.39
17-11263-34	170626/165	24.25
17-11263-35	170850/226	25.60
17-11263-36	170861/230	28.16

Manuka Pollen DNA* Approver:
s 9(2)(b)(ii)

Method Summary

Manuka Pollen DNA

Samples were analysed as received by the Laboratory for Manuka Pollen DNA by pollen DNA extraction followed by qPCR.

The DNA component of the MPI Manuka Honey Definition requires a Cq value of less than 36 to qualify for either a monofloral or multifloral Manuka honey.

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-11321
Submitted by:
Date Received: 9/05/2017
Date Completed:
Order Number: B2C Chem/DNA
Reference: B2C Chem/DNA

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxy acetophenone 2-MAP	3-Phenyllactic acid 3-PLA
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20
17-11321-1	6030/002	5.64	4.62	12.2	739
17-11321-2	6050/003	10.1	7.89	19.2	846
17-11321-3	6100/004	6.69	55.2	6.29	1,150
17-11321-4	6030/005	9.76	12.8	19.1	895
17-11321-5	6100/006	6.83	58.0	4.90	1,190
17-11321-6	6085/007	7.47	42.1	9.01	1,060
17-11321-7	6070/008	9.96	20.7	16.3	935
17-11321-8	6050/009	6.16	11.3	15.9	611
17-11321-9	6030/010	6.17	7.80	12.6	816
17-11321-10	6030/011	6.14	5.22	13.3	793
17-11321-11	6030/012	6.06	5.21	13.8	764
17-11321-12	6050/013	6.71	10.2	16.8	635
17-11321-13	6050/016	4.46	10.1	15.7	524
17-11321-14	6070/017	9.75	12.0	21.1	877
17-11321-15	6050/018	8.43	8.40	19.7	778
17-11321-16	6070/019	8.53	23.9	15.3	928
17-11321-17	6030/020	3.54	4.58	12.2	376
17-11321-18	6050/021	6.20	9.08	14.9	602
17-11321-19	6030/022	5.95	5.15	11.8	758
17-11321-20	6085/023	7.79	32.8	10.3	1,010
17-11321-21	6085/024	6.85	44.9	8.56	1,120
17-11321-22	6070/025	7.57	36.7	10.0	1,020

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

Manuka Markers in Honey*

Laboratory ID	Sample ID	4-Hydroxyphenyllactic acid 4-HPLA	2-Methoxybenzoic acid 2-MBA	2-Methoxy acetophenone 2-MAP	3-Phenyllactic acid 3-PLA
	Units	mg/kg	mg/kg	mg/kg	mg/kg
	Reporting Limit	0.8	0.8	0.8	20

Manuka Markers in Honey* Approver:

s 9(2)(a)

Method Summary

Manuka Markers Solvent extraction, LC-MS/MS analysis.
s 9(2)(b)(ii) has interim approval from the New Zealand Ministry of Primary Industries to conduct this analysis under the Recognised Laboratory Programme (RLP).

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Certificate of Analysis

s 9(2)(b)(ii)

Lab Reference: 17-11321
Submitted by:
Date Received: 9/05/2017
Date Completed: 18/05/2017
Order Number: B2C Chem/DNA
Reference: B2C Chem/DNA

Report Comments

Samples were received by s 9(2)(b)(ii) in acceptable condition unless otherwise noted on this report.

Results Summary

Manuka Pollen DNA*

Laboratory ID	Sample ID	Manuka Pollen DNA
	Units *Reporting Limit*	Cq
17-11321-1	6030/002	34.09
17-11321-2	6050/003	[ND]
17-11321-3	6100/004	[ND]
17-11321-4	6030/005	[ND]
17-11321-5	6100/006	[ND]
17-11321-6	6085/007	[ND]
17-11321-7	6070/008	[ND]
17-11321-8	6050/009	35.65
17-11321-9	6030/010	[ND]
17-11321-10	6030/011	35.99
17-11321-11	6030/012	[ND]
17-11321-12	6050/013	35.23
17-11321-13	6050/016	34.17
17-11321-14	6070/017	[ND]
17-11321-15	6050/018	34.96
17-11321-16	6070/019	[ND]
17-11321-17	6030/020	33.85
17-11321-18	6050/021	33.86
17-11321-19	6030/022	[ND]
17-11321-20	6085/023	[ND]
17-11321-21	6085/024	[ND]
17-11321-22	6070/025	[ND]

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked *, which are not accredited.

Manuka Pollen DNA*

Laboratory ID	Sample ID	Manuka Pollen DNA
	Units *Reporting Limit*	Cq

Manuka Pollen DNA* Approver:

s 9(2)(a)

Method Summary

Manuka Pollen DNA

Samples were analysed as received by the Laboratory for Manuka Pollen DNA by pollen DNA extraction followed by qPCR.

The DNA component of the MPI Manuka Honey Definition requires a Cq value of less than 36 to qualify for either a monofloral or multifloral Manuka honey.

s 9(2)(b)(ii)

AR-17-NU-005763-01 1 2

ANALYTICAL REPORT

REPORT CODE AR-17-NU-005763-01 REPORT DATE 26/05/2017

For the attention of s 9(2)(b)(ii)

Phon
Emai

Contact for your orders : s 9(2)(a)

SAMPLE CODE 816-2017-00019290

Client reference:	6100/0006 (17-11321-5)		
Submission Reference:	Honey		
Sample reception date:	24/05/2017		
Analysis starting date:	24/05/2017	**Analysis ending date:**	26/05/2017
Date Sent	23/05/2017	**Collected By**	s 9(2)(b)(ii) false

RESULTS		CLIENT SPECIFICATIONS
◆ **NU00X** **Multiplex qPCR Quantification DNA of Leptospermum scoparium**		
Dna Extraction	ND (Cq 36.89)	-

SAMPLE CODE 816-2017-00019291

Client reference:	6050/013 (17-11321-12)		
Submission Reference:	Honey		
Sample reception date:	24/05/2017		
Analysis starting date:	24/05/2017	**Analysis ending date:**	26/05/2017
Date Sent	23/05/2017	**Collected By**	Eurofins false

RESULTS		CLIENT SPECIFICATIONS
◆ **NU00X** **Multiplex qPCR Quantification DNA of Leptospermum scoparium**		
Dna Extraction	33.95 Cq	-

SAMPLE CODE 816-2017-00019292

Client reference:	0650/016 (17-11321-13)		
Submission Reference:	Honey		
Sample reception date:	24/05/2017		
Analysis starting date:	24/05/2017	**Analysis ending date:**	26/05/2017
Date Sent	23/05/2017	**Collected By**	Eurofins false

RESULTS		CLIENT SPECIFICATIONS
◆ **NU00X** **Multiplex qPCR Quantification DNA of Leptospermum scoparium**		
Dna Extraction	33.92 Cq	-

SAMPLE CODE 816-2017-00019293

Client reference:	6070/017 (17-11321-14)		
Submission Reference:	Honey		
Sample reception date:	24/05/2017		
Analysis starting date:	24/05/2017	**Analysis ending date:**	26/05/2017
Date Sent	23/05/2017	**Collected By**	s 9(2)(b)(ii) false

RESULTS		CLIENT SPECIFICATIONS
◆ **NU00X** **Multiplex qPCR Quantification DNA of Leptospermum scoparium**		
Dna Extraction	36.25 Cq	-

s 9(2)(b)(ii)

AR-17-NU-005763-01 2 2

SAMPLE CODE	816-2017-00019294		
Client reference:	6030/022 (17-11321-19)		
Submission Reference:	Honey		
Sample reception date:	24/05/2017		
Analysis starting date:	24/05/2017	**Analysis ending date:**	26/05/2017
Date Sent	23/05/2017	**Collected By**	s 9(2)(b)(ii) false

	RESULTS		CLIENT SPECIFICATIONS
◆ **NU00X**	**Multiplex qPCR Quantification DNA of Leptospermum scoparium**		
	Dna Extraction	35.21 Cq	-

LIST OF METHODS

NU00X **Manuka Honey Pollen DNA:** MPI Method

SIGNATURE

Elaine Chiu Technical Specialist

EXPLANATORY NOTE

◆ test is not accredited
○ test is subcontracted within s 9(2) group and is accredited
● test is subcontracted within s 9(2) group and is not accredited
■ test is subcontracted outside s 9(2) group and is accredited
□ test is subcontracted outside s 9(2) group and is not accredited

N/A means Not applicable
Not Detected means not detected at or above the Limit of Quantification (LOQ)
Eurofins General Terms and Conditions apply.
This document can only be reproduced in full; it only concerns the submitted sample.
Results have been obtained and reported in accordance with our general sales conditions available on request.
The tests are identified by a five-digit code, their description is available on request.

END OF REPORT s 9(2)(b)(ii)

SERVICES LIMITED IS A MINISTRY OF PRIMARY INDUSTRIES RECOGNISED LABORATORY UNDER SECTION 101 OF THE ANIMAL PRODUCTS ACT:1999.

Reference Units PQL Method	Description	Sample Description	Sample Date	Sample No.	Replicate	QC Type
17-04089	4in1	Batch 1 (M/F)		1	0	Regular
17-04089	4in1	Batch 2		2	0	Regular
17-04089	4in1	Batch 3		3	0	Regular
17-04089	4in1	Batch 4		4	0	Regular
17-04089	4in1	Batch 5		5	0	Regular
17-04089	4in1	Batch 6		6	0	Regular
17-04089	4in1	Batch 7		7	0	Regular
17-04089	4in1	Batch 8		8	0	Regular
17-04089	4in1	Batch 9		9	0	Regular
17-04089	4in1	Batch 10		10	0	Regular
17-04089	4in1	Batch 11		11	0	Regular
17-04089	4in1	Batch 12		12	0	Regular
17-04089	4in1	Batch 13		13	0	Regular
17-04089	4in1	Batch 14 (M/F)		14	0	Regular
17-04089	4in1	Batch 15 (M/F)		15	0	Regular
17-04089	4in1	Batch 16		16	0	Regular
17-04089	4in1	Batch 17		17	0	Regular
17-04089	4in1	Batch 18		18	0	Regular
17-04089	4in1	Batch 19		19	0	Regular
17-04089	4in1	Batch 20		20	0	Regular
17-04089	4in1	Batch 21		21	0	Regular
17-04089	4in1	Batch 22		22	0	Regular
17-04089	4in1	Batch 23		23	0	Regular
17-04089	4in1	Batch 24		24	0	Regular
17-04089	4in1	Batch 25		25	0	Regular

Transitional Sample Location	MPI Biosecurity Containment	Condition on Arrival
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable
	Normal	Acceptable

Submitted Sample Type	Client Batch Number	Expected Honey Grade	Quantity of Honey in Batch
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			
Honey			

Dihydroxyacetone	Methylglyoxal	Non-peroxide Activity	Hydroxymethylfurfural	Leptosperin
DHA	MG	NPA*	HMF	
mg/kg	mg/kg	%w/v phenol eq.	mg/kg	mg/kg
10	4	0.8	1	20
3in1	3in1	NPA	3in1	Leptosperin
61	37	3.1	13	48
749	362	12.1	14	469
1660	692	17.9	15	809
2230	1140	24.3	22	304
1830	783	19.3	16	818
2250	1220	25.2	24	251
2020	1080	23.4	23	413
1800	872	20.6	21	710
1360	626	16.9	20	560
811	451	13.9	19	497
727	413	13.1	18	507
731	425	13.4	19	511
1390	641	17.1	20	609
66	32	2.8	6	47
152	70	4.5	12	95
1280	590	16.3	20	504
1750	806	19.7	19	825
1620	704	18.1	17	770
1800	875	20.7	21	636
816	357	12	22	399
1390	600	16.5	17	597
791	420	13.3	18	505
1840	975	22.1	24	496
1960	1050	23.1	25	390
1950	1010	22.5	23	497

s 9(2)(b)(ii) - *Manuka Honey Forecast (Model version 2.0)*

		Initial Results			
Lab Sample ID	Client Sample ID	Original Lab ID	Date Tested	DHA mg/kg	MG mg/kg
17-04091-1	Batch 2	17-04089-2	28-Feb-2017	749	362
17-04091-2	Batch 3	17-04089-3	28-Feb-2017	1664	692
17-04091-3	Batch 4	17-04089-4	28-Feb-2017	2230	1143
17-04091-4	Batch 5	17-04089-5	28-Feb-2017	1835	783
17-04091-5	Batch 6	17-04089-6	28-Feb-2017	2253	1219
17-04091-6	Batch 7	17-04089-7	28-Feb-2017	2018	1075
17-04091-7	Batch 8	17-04089-8	28-Feb-2017	1800	872
17-04091-8	Batch 9	17-04089-9	28-Feb-2017	1364	626
17-04091-9	Batch 10	17-04089-10	28-Feb-2017	811	451
17-04091-10	Batch 11	17-04089-11	28-Feb-2017	727	413
17-04091-11	Batch 12	17-04089-12	28-Feb-2017	731	425
17-04091-12	Batch 13	17-04089-13	28-Feb-2017	1386	641
17-04091-13	Batch 16	17-04089-16	28-Feb-2017	1279	590
17-04091-14	Batch 17	17-04089-17	28-Feb-2017	1755	806
17-04091-15	Batch 18	17-04089-18	28-Feb-2017	1622	704
17-04091-16	Batch 19	17-04089-19	28-Feb-2017	1799	875
17-04091-17	Batch 20	17-04089-20	28-Feb-2017	816	357
17-04091-18	Batch 21	17-04089-21	28-Feb-2017	1393	600
17-04091-19	Batch 22	17-04089-22	28-Feb-2017	791	420
17-04091-20	Batch 23	17-04089-23	28-Feb-2017	1837	975
17-04091-21	Batch 24	17-04089-24	28-Feb-2017	1957	1050
17-04091-22	Batch 25	17-04089-25	28-Feb-2017	1947	1011

		Maximum MG				12 Months		
NPA	HMF mg/kg	Weeks to Max	MG mg/kg	NPA	HMF mg/kg	MG mg/kg	NPA	HMF mg/kg
12.1	13.6	82	395	12.8	21	392	12.7	18
17.9	15.2	102	803	19.6	24	780	19.3	20
24.3	21.9	74	1223	25.3	29	1217	25.2	27
19.3	15.8	99	899	21.0	25	877	20.7	21
25.2	23.6	65	1283	26.0	30	1281	26.0	28
23.4	23.5	67	1137	24.2	30	1134	24.2	28
20.6	21.0	81	951	21.7	28	942	21.6	26
16.9	20.0	89	697	18.0	28	686	17.8	25
13.9	18.8	61	471	14.2	24	471	14.2	24
13.1	17.9	56	429	13.5	23	429	13.5	23
13.4	19.2	53	439	13.6	24	439	13.6	24
17.1	19.7	89	712	18.2	28	702	18.1	24
16.3	19.9	89	656	17.4	28	646	17.2	25
19.7	19.0	89	897	21.0	27	884	20.8	24
18.1	16.9	97	802	19.6	26	784	19.3	22
20.7	21.0	81	953	21.8	28	944	21.6	26
12.0	22.5	96	405	13.0	31	397	12.8	27
16.5	16.9	98	686	17.8	26	670	17.6	22
13.3	18.1	68	445	13.7	24	444	13.7	23
22.1	24.5	68	1032	22.8	31	1029	22.8	29
23.1	24.6	66	1108	23.8	31	1106	23.8	29
22.5	23.2	71	1078	23.4	30	1074	23.4	28

Storage at 18 °C

24 Months			36 Months			48 Months			
MG mg/kg	NPA	HMF mg/kg	MG mg/kg	NPA	HMF mg/kg	MG mg/kg	NPA	HMF mg/kg	MG mg/kg
393	12.8	23	378	12.5	28	352	11.9	33	321
803	19.6	25	783	19.3	29	737	18.6	34	677
1212	25.2	31	1158	24.5	36	1074	23.4	41	975
899	21.0	25	874	20.6	30	821	19.9	35	753
1266	25.8	33	1202	25.0	38	1111	23.9	43	1006
1123	24.0	33	1068	23.3	38	988	22.2	43	896
947	21.7	31	909	21.1	35	847	20.3	40	771
695	18.0	30	671	17.6	34	628	16.9	39	573
463	14.1	28	439	13.6	33	405	13.0	38	366
421	13.3	27	398	12.8	32	366	12.2	37	331
429	13.4	29	405	13.0	34	372	12.3	38	336
710	18.2	29	685	17.8	34	640	17.1	39	584
654	17.3	29	631	17.0	34	590	16.3	39	539
895	20.9	28	864	20.5	33	808	19.7	38	738
801	19.6	26	778	19.2	31	730	18.5	36	669
948	21.7	31	910	21.2	35	847	20.3	40	772
405	13.0	32	393	12.8	37	369	12.3	42	338
686	17.8	26	666	17.5	31	626	16.9	36	573
440	13.6	28	418	13.2	32	387	12.6	37	351
1020	22.7	34	970	22.0	39	898	21.0	44	814
1094	23.6	34	1039	22.9	39	961	21.9	44	871
1067	23.3	33	1018	22.6	37	943	21.6	42	856

60 Months	
NPA	**HMF mg/kg**
11.3	37
17.7	39
22.1	46
18.9	40
22.5	47
21.0	47
19.1	45
16.0	44
12.2	43
11.5	42
11.6	43
16.2	43
15.4	44
18.6	43
17.6	41
19.2	45
11.6	46
16.0	41
11.9	42
19.8	48
20.6	48
20.4	47

Proposed General Export Requirements for Bee Products

For all exporters of bee products from New Zealand

SUBMISSION FORM

Consultation document 2017

The Ministry for Primary Industries (MPI) proposes to consolidate, clarify, and introduce export requirements for all bee products intended for export.

You are invited to have your say on the proposed changes, which are explained in the discussion document and specified in the draft Animal Products Notice: General Export Requirement for Bee Products notice.

Consultation closes on **23 May 2017.**

How to have your say

Have your say by answering the questions in the discussion document, or commenting on any part of the proposals outlined in the draft Animal Products Notice: General Export Requirements for Bee Products. This submission form provides a template for you to enter your answers to the questions in the discussion document and email your submission back to MPI.

Please include the following information in your submission:

☐ the title of the discussion document 'Proposed General Export Requirements for Bee Products';

☐ your name and title;

☐ your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it; and

☐ your contact details (such as phone number, address, and email).

MPI encourages you to make your submission electronically if possible. Please email your submission to: manuka.honey@mpi.govt.nz

If you wish to make your submission in writing, these should be posted to the following address:

General Export Requirements for Bee Products Submission
MPI Food Assurance Team
PO Box 2526
Wellington 6140

The following points may be of assistance in preparing comments:

☐ where possible, comments should be specific to a particular section in the document. All major sections are numbered and these numbers should be used to link comments to the document;

☐ where possible, reasons and/or data to support comments should be provided;

☐ the use of examples to illustrate particular points is encouraged; and

☐ as a number of copies may be made of your comments, please use a legible font and quality print, or make sure hand-written comments are clear in black or blue ink.

Submissions are public information

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If you are submitting on this discussion document, you may wish to indicate any grounds for withholding information contained in your submission. Reasons for withholding information could include that information is commercially sensitive, or that the submitters wish personal information such as names or contact details to be withheld. MPI will consider such grounds when deciding whether or not to release information.

Any decision to withhold information requested under the Official Information Act 1982 may be reviewed by the Ombudsman.

For more information please visit http://www.ombudsman.parliament.nz/resources-and-publications/guides/official-information-legislation-guides

Your details

Your name and title:	s 9(2)(a)
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	s 9(2)(a)
Your contact details (such as phone number, address, and email): Refer nce: https://prod.ceidg.gov.pl/ceidg/ceidg.publ c.ui/SearchDetails.aspx?Id=e0571a51-1716-41fb-b3b0-2a42d545f042	s 9(2)(a) s 9(2)(a) s 9(2)(a) s 9(2)(a)

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☐ beekeeper

   ☐ extractor

   ☐ processor

   ☐ packer

   ☐ exporter

   ☒ retailer of bee products

   ☒ other – please specify- Importer of the Manuka products – wholesale and retail sale

2. How long have you been involved in the apiculture industry:

   ☒ 0-5 years

   ☐ 5-10 years

   ☐ 10 + years

   ☐ not applicable

3. Do you operate under:

   ☐ an RMP under the Animal Products Act 1999

   ☐ the Food Act 2014 (Food Control Plan or National Programme)

   ☒ the Food Hygiene Regulations

   ☐ none of these

   ☐ not applicable

4. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☐ 51 – 500 N/A

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☐ More than 3000

5. What region of New Zealand do you operate in?

N/A

6. If you export bee products please tell us a little about your business. How many people do you currently employ?

☐ 0

☒ 1 – 5

☐ 6 – 19

☐ 20 or more

What are the roles of your employees and how many are:

☐ beekeepers

☐ processors

☐ packers

☒ other – please specify :Sales Agents

Impact of compliance costs for beekeepers, processors and exporters

7. Table 4.1.1 of the Discussion Document provides a summary of the estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

N/A

8. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

N/A

9. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

As an Importing Unit we are treated the very same way and responsibility level as the Producer of Manuka honey, as same as we were the Selling Dept. in Poland.

After Custom procedures our duty is to make all the Characteristic -physical-chemical-testing in accredited EU Lab.

More tests will increase the costs and raise the affordable barrier especially for the small freights.

No additional substances to be present in New Zealand honey

10. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☒ I agree because:

Much better quality of honey.

☐ I disagree because:

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

N/A

Go to next question

11. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☐ I agree because:

N/A
Go to next question

☐ I disagree because:

N/A
Go to next question

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

N/A
Go to next question

Processors of bee products to operate under a risk based measure

12. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☒ I agree because:

All Imported cosmetic products like Manuka oil has to be produced under GMP – in accordance to the EU Regulation.
It is a big assurance if honey as a food has the GMP or HACCP Certification.

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

13. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

Each supply chain Element should be registered.

☐ I disagree because:

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

Pre-processing traceability requirements

14. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal?

☒ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

15. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

N/A
Go to next question

Traceability from beekeepers to operators – harvest declarations

16. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

17. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☐ I agree because:

N/A
Go to next question

☐ I disagree because:

N/A
Go to next question

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

18. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☒ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

Labelling of monofloral and multifloral mānuka honey

19. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☒ I agree because:

It is necessary BUT:

☒ I disagree because:

GREX is only clarifies the varietal honey definition. Currently if honey has over 70% of pollen should be called Manuka honey already. GREX is not taking the basic subjects characterising Manuka as genuine varietal honey. There are Quality issues with Manuka exported overseas, that does not meet the CODEX Standards for the honey.

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

Manuka should become the true honey first. Not the industrial honey like it is now! If you claim that Manuka is a honey product, according to the CODEX it should meet the Standards with all lab tests, and it fails now in most cases! GREX should ensure overseas Quality Departments with the full Physical-chemical Characteristics that we were looking forward to. It means that MPI should define and set this with CODEX ALIMENTARIUS that Manuka honey has very unstable Diastase-that is Amylase and Invertase enzyme levels, being affected by the DHA influence and further Methylglyoxal, the higher it is the lower enzymatic activity goes- under the International requirements bringing the honey to the industrial level that is worthless. ALTERNATIVE: Claim and do everything to cancel Diastase and Invertase testing for Manuka honey from the CODEX ALIMENTARIUS and all International Honey Requirements lists, leaving only HMF testing as the most stabile testing element in Tamperature treatment category.

20. MPI considers there are likely to be options available to businesses to support compliance with the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☐ I agree because:

N/A Go to next question

☐ I disagree because:

N/A Go to next question

☐ I have concerns because:

N/A Go to next question

21. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☐ I agree because:

N/A
Go to next question

☐ I disagree because:

N/A
Go to next question

22. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☐ I agree because:

☒ I disagree because:

If you are standing behind the NEW ZEALAND Manuka honey as one, there should be one Grading System to all NZ Manuka. There is a whole marketing build on misleading information drilling customers minds that MGO 550+ = UMF 20+, and a whole also overdue data claiming that UMF is much worse than MGO. This has a huge sales negative impact overseas.

23. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

No impact

24. Do you have any comments on the summary science report?

This report is not taking Manuka for its whole characteristics aspects as it should. First it should define the whole –full Product Characteristic with ALL Telsts from the CODEX list to have confidence that the exported Manuka honey is sterling. Additional testing can be done in second line, but now any Producer I have asked for diastase testing, turned back to stay away from this basic subject. Some of Them did not even heard of Diastase testing.

Countries like Singapore, or China may not need this kind if testing, but European Union is much more restricted for the Quality, and many ROCH honeys has a bad opinion for this reason.

25. Do you have any further comments regarding the definition of mānuka honey?

As an Importer, my deepest hope is to clarify the Manuka honey basic quality requirements to have confidence with business stability, and investment in New Zealands Taonga.
The closest and most precise description including lab test results was published by **Doctor rerum naturalium -Julia Atrott** from Dresden University, where She describes over 30% fall of Diastase enzyme after DHA impact. (For reference go to question No. 30) (Please see chapters 3.3.2.1-3.3.2.3) I attaché PDF of whole Manuka dissertation in original lang.
Without the basic Testing Requirements (like conductivity – is not applicable- so should be Diastase and Invertase), the competition will use them gaps to block Manuka honey Industry from growth, bringing the bad name for the Manuka honey, that is very hard to rebuild in the future.
In second stage MPI can go for modern these days DNA tests to go for monofloral Manuka honey.
If monofloral Manuka will increase its price, People will turn back, as they do now for the last price increases.

Laboratory Tests

26. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☒ I agree because:

Only at one condition: Before making the expensive DNA Tests for monofloral Manuka honey, there should be the basic set of tests done randomly on the Batch, to insure that this is a sterling 100% honey, worth its price for Importers and further Clients and Customers. If you will leave Diastase and Invertase as it is, then be sure that is sound for the Int. Regulations, as every issue can cause the inter EU Alert between the Quality and Food Safety Unit, making the case bad for Manuka good reputation that has been build for years.

☐ I disagree because:

27. The costs associated with these proposals are likely to vary depending on the size and volume of samples being tested. What impact do you consider these proposals will have on your business?

N/A
Go to next question

Do you have any suggestions for minimising any impacts?

Transitional provisions

28. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

☒ I agree because:

☐ I disagree and propose an alternative timeframe:

29. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

As an Importer and wholesaler we know that some – less popular Manuka honey (ex. With less activity) can stay longer on the retailers' shelves. There is also a seasonal aspect, where some honey sales better and worse (ex. During summer).
12 months after the date of commencement would be a better solution.

Any other feedback

30. Are there any other parts of this discussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).

Give us the confidence that Manuka is honey first. Calling it honey there has to be basics kept first including Diastase levels. Give us assurance that exported Manuka is genuine honey, or please cancel this Diastase, Invertase testing requirement from the CODEX ALIMENTARIUS HONEY Testing List.

For Reference:
The Dissertation of Manuka honey by Julia Atrott link:
http://www.qucosa.de/fileadmin/data/qucosa/documents/15007/Dissertation_Julia_Atrott_NEU.pdf

Three Premium – biggest NZ honey Producers – Test results made in different EU Labs, failing the diastase tests in all cases.
All details are described closer in my e-mail text.
The tests are attached along with the PDF of J. Atrott Dissertation, in my e-mail attachement.

If the shelf life of the Manuka honey is as long as it is now, it should meet the requirements throughout the shelflife.
Taking the whole responsibility for the product we want to be sure that our place in supply link counts a bit, and the honey parameters have some reserves to stay fit for its lifetime, not being stretched to the max performance at the Producers end line, as the honey ends in customers stomach, not in Producers pocket.

Also three things at the margin less importent:
The cold processing would be a great improvement for whole industry of Manuka as a Food Product.
If product is pasteurised, there should be an info at the label, and for whole EU there has to be a weight size bigger than 4mm (ex. 250g, 500g).
Around EU area most people know honey as a RAW product – not being pasteurised.

We are looking forward to not lose our hopes.
THANK YOU FOR HEARING

Ministry for Primary Industries
Manatū Ahu Matua

Proposed General Export Requirements for Bee Products

For all exporters of bee products from New Zealand

SUBMISSION FORM

Consultation document 2017

The Ministry for Primary Industries (MPI) proposes to consolidate, clarify, and introduce export requirements for all bee products intended for export.

You are invited to have your say on the proposed changes, which are explained in the discussion document and specified in the draft Animal Products Notice: General Export Requirement for Bee Products notice.

Consultation closes on **23 May 2017.**

How to have your say

Have your say by answering the questions in the discussion document, or commenting on any part of the proposals outlined in the draft Animal Products Notice: General Export Requirements for Bee Products. This submission form provides a template for you to enter your answers to the questions in the discussion document and email your submission back to MPI.

Please include the following information in your submission:

☐ the title of the discussion document 'Proposed General Export Requirements for Bee Products';

☐ your name and title;

☐ your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it; and

☐ your contact details (such as phone number, address, and email).

MPI encourages you to make your submission electronically if possible. Please email your submission to: manuka.honey@mpi.govt.nz

If you wish to make your submission in writing, these should be posted to the following address:

General Export Requirements for Bee Products Submission
MPI Food Assurance Team
PO Box 2526
Wellington 6140

The following points may be of assistance in preparing comments:

☐ where possible, comments should be specific to a particular section in the document. All major sections are numbered and these numbers should be used to link comments to the document;

☐ where possible, reasons and/or data to support comments should be provided;

☐ the use of examples to illustrate particular points is encouraged; and

☐ as a number of copies may be made of your comments, please use a legible font and quality print, or make sure hand-written comments are clear in black or blue ink.

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Your details

Your name and title:	s 9(2)(a)
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	s 9(2)(a)
Your contact details (such as phone number, address, and email):	s 9(2)(a)

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☒ beekeeper

   ☒ extractor

   ☒ processor

   ☒ packer

   ☒ exporter

   ☒ retailer of bee products

   ☐ other – please specify

2. How long have you been involved in the apiculture industry:

   ☐ 0-5 years

   ☐ 5-10 years

   ☒ 10 + years

   ☐ not applicable

3. Do you operate under:

   ☒ an RMP under the Animal Products Act 1999

   ☒ the Food Act 2014 (Food Control Plan or National Programme)

   ☐ the Food Hygiene Regulations

   ☐ none of these

   ☐ not applicable

4. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☒ 51 – 500

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☐ More than 3000

5. What region of New Zealand do you operate in?

Nelson and Tasman Districts

6. If you export bee products please tell us a little about your business. How many people do you currently employ?

☒ 0

☐ 1 – 5

☐ 6 – 19

☐ 20 or more

What are the roles of your employees and how many are:

☐ beekeepers

☐ processors

☐ packers

☐ other – please specify

Impact of compliance costs for beekeepers, processors and exporters

7. Table 4.1.1 of the Discussion Document provides a summary of the estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

1) Estimation of costs
    a. Table 4.1 .1 – (only comment on those applicable)

        i. Row one - There are limited opportunities to negotiate verification costs unless you are of a large size and or live in an area with multiple verifiers. **This assumption is not supported by any data and is not correct.** It understates the true additional costs of this measure.

        ii. Row two – The fee is per beekeeper or supplier, we source from 5 – 6 smaller beekeepers ALL of whom have to be registered. **That additional cost is VERY high for a small supplier with multiple small providers.**

        iii. Row seven – The additional cost per sample is a LARGE increase in the current cost. **As noted below the current cost of a pollen count is $80 and the leap to $200 – $300 per sample is an up to 275 % increase in costs**. A colleague noted that they had 8 samples tested and it cost $2600 this is a massive cost increase.

8. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

See above

9. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

Other costs:

a. Laboratory administrative fees are the same irrespective of size and thus are more of an impact on smaller processors.
b. Loss of small suppliers due to being priced out of the supply chain by Government compliance overheads –tens of thousands of dollars in lost export earnings (which you guys want to maximize) and hundreds of hours sourcing new supply agreements because its no longer worth it for small producers with only 1 or two drums of honey to participate.
c. Time taken to amend processes may amount to thousands of dollars in opportunity cost.

No additional substances to be present in New Zealand honey

10. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

We **agree with the intent of this proposal to stop sugar feeding during honey collection**. Its just good beekeeping. There is the real risk, however, of robbing, where a hive that needs feeding is robbed by stronger hives, resulting in potential contamination. For example, are younger (smaller)

and weaker hives to be left and robbed out? **We fear this proposal would be unenforceable and pointless additional paperwork, and education about good beekeeping practices would be a better approach to take**.
pointless and education is better.

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

Education and better analysis of the incentives (such as pollination of kiwifruit issues) that might drive extra feeding up to and possibly during the honey flow)

11. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

We **agree with the intent to** reduce contamination at a conceptual level **but disagree with the method proposed.** This regulation will be unenforceable and will reduce the **quantity** of honey entering the supply chain as producers often take perfectly good honey from the brood boxes for extraction. The moving around of frames within a hive can be a beneficial practice for the hive – both supportive of its health and success. We suggest that education and limitations of the use of some varoacides is a more useful approach than this blunt tool.

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

We suggest that education on the limitations and the correct use of some varoacides is a more useful approach than this blunt tool.

Processors of bee products to operate under a risk based measure

12. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☒ I agree because:

We agree with this proposal. As new producers we are required to operate under and RMP and the cost structure and confidence of the industry requires we ALL process under this standard. one

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

13. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☐ I agree because:

☒ I disagree because:

We disagree strongly and suggest an alternative because:

a. We understand the need for an authoritative and up to date list of known persons in the industry for the purposes of tracking and tracing (as well as other reasons such as AFB and exotic diseases management). We have done professional work with NAIT and understand the drivers for tracing and tracking.
b. **We strongly object to the annual fee.** While it is probably the direct cost to providing the service by MPI, (Scott has done cost recovery calculations for Government). Our biggest concern is that you have not demonstrated to a reasonable standard that the list is required to be maintained by MPI, nor collected in this fashion.
c. This fee will effectively remove beekeepers with less than 10 hives from the

industry as they cannot carry that annual cost when only selling 100 – 200 kg of honey. This is the same cost to a producer producing 100s of tonnes of honey. **Its is manifestly contrary to natural justice.**

d. The National American Foulbrood Management Agency ALREADY collects this information (save for declaration of past convictions) and we ALREADY pay for them to administer that database. It is both wasteful and arrogant, to assume that the two data bases cannot do the same job. Particularly when the two agencies are only physically located 600 metres apart and data sharing is a goal of the Government.

We recommend that urgent

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

We recommend that urgent discussions be held with the peak body, the management agency and MPI to see if there is a cheaper faster and easier way to use modern tools to reduce the cost and administrative steps required to meet MPIs needs

Pre-processing traceability requirements

14. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

2) **We agree with the intent of pre-processing traceability, particularly apiary-based tracing but are opposed to mandatory individual hive tracing.**
   a. We recommend that amendments to the tracing and or harvest declarations must **allow for electronic tracking and submission**.
   b. Apiary not HIVE tracking are important. **We oppose this proposal.** Tracking individual hives and/or boxes is redundant and unhelpful because:
      a. Environmental issues impacting entire apiaries are much more likely to impact the entire apiary than a single hive
      b. Any honey or bee product contamination issues are apiary based
      c. Disease of a single hive or a single box is unlikely to be relevant
      d. Beekeeper may dry out wet supers in different places mixing up supers
      e. The frames are never placed back into the same boxes at extraction
   c. What we want to know is where that batch of honey came from, not which hive

and where the box and frames are now The AFB Management Agency already needs to know where apiaries are, and this proposal with MPI tacking apiaries will cause double the work. It's pointless having TWO databases with TWO separate intents. It is false economy.

d. The AFB Management Agency already needs to know where apiaries are, and this proposal with MPI tacking apiaries will cause double the work. It's pointless having TWO databases with TWO separate intents. It is false economy.

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

We recommend: .

a. MPI work Urgently with the AFB management agency to synchronize apiary database and tracking. Do it once do it right and COOPERATE.

15. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

We already trace and track our honey and bee products coming from specific apiaries and specific beekeepers. We think that additional costs of any required tracing and tracking will exceed the value gained because:

a. Cost remains important and therefore approved identifying tags for apiaries will need to cost cents not dollars, this may not be feasible. During the transition to NAIT, a major issue with the RIF technology were the readers that caused the biggest issue with small producers unable to afford the $300-400 RIF readers. Bar code scanners have the same issues with cost.
b. Any approved Tags MUST stand up to Paraffin wax dipping at 160- 180 degrees Celsius as this is how beekeepers sterilize and at times clean their honey and brood boxes. Anything that reduces sterilization encourages AFB. They cannot be traded off.
c. Working beekeepers are generally covered in propolis and honey and any traceability technology has to cope with that.

Traceability from beekeepers to operators – harvest declarations

16. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☐ I agree because:

☒ I disagree because:

See above

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

NO but strongly recommend that coordination between NAIT, MPI and NAFB be a priority.

17. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☐ I agree because:

☒ I disagree because:

We submit that the costs of the registration and tracing are not onerous for large or medium sized vertically integrated companies, but for smaller bespoke organisations the total cost is disproportionate to the gain, particularly when viewed against the total return. Further, this question is not able to be answered until the specific mechanism for tracing is decided

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

18. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☒ I agree because:

This proposal seems **reasonable and we agree**

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

Labelling of monofloral and multifloral mānuka honey

19. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☐ I agree because:

☒ I disagree because:

We **ag ee wit the need for a standard** but only for honey being marketed or sold as Manuka and only when the new tests are producing verifiable robust results.

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

20. MPI considers there are likely to be options available to businesses to support compliance with the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☐ I agree because:

☒ I disagree because:

We have some concerns about the ability to mitigate, as it assumes a certain size of operation. Where companies are vertically integrated and have control over extraction and blending (for example) there are no issues but smaller operations that rely on contract extraction do not have as many options to mitigate the challenges imposed by the changes.

☐ I have concerns because:

21. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☒ I agree because:

We agree with the assessment in respect of IP as the term Manuka is now a generic descriptor like honey and should be prohibited from being trademarked. The NZIPO should urgently review all t ademarks using these terms.

☐ I disagree because:

22. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☐ I agree because:

☒ I disagree because:

It's too early to say how this will impact grading and marketing of Manuka and possibly other varieties. As noted there may still be testing required for other market access and this only seems to replace one test, i.e. pollen count

23. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

See above

24. Do you have any comments on the summary science report?

Comments on the science: a. Can only assume the science is sound and trust the MPI team have done a good job establishing the standard as per their brief. I have no idea of any other tests, or processes that might be better, in science we trust. b. Accuracy and precision of the proposed testing appears uncertain and must be both published and maximized. This matter was not discussed during our Nelson consultation meeting, but information presented by Hector Urquat suggested that these can have CVs that are quite large. We want to see both the accuracy and precision presented and debated. This is critical to establishing and supporting the standard and demonstrating clarity and cohesion within the industry to our international markets. The scientific boundaries of the standard must overlap as little as possible as there is big money at stake

25. Do you have any further comments regarding the definition of mānuka honey?

The interview with the DG on the RNZ suggested that the test needs bedding in to produce reliable results. This is madness and the international market is very upset at apparent chaos in New Zealand regarding this standard. It needs to be tested and tested and bedded in BEFORE it is introduced and people pay for it.

Laboratory Tests

26. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☐ I agree because:

We have no useful opinion as only time will tell.

☐ I disagree because:

27. The costs associated with these proposals are likely to vary depending on the size and volume of samples being tested. What impact do you consider these proposals will have on your business?

We have some concerns about the ability to mitigate as it assumes a certain size of operation. Where companies are vertically integrated and have control over extraction and blending (for example) there are no issue but smaller operations that rely on contract extraction do not have as many options to mitigate the changes.

Do you have any suggestions for minimising any impacts?

Transitional provisions

28. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree and propose an alternative timeframe:

We strongly disagree with the 6 week implementation time table.

a. MPI has had many years staring at this problem and we think the administrative issues with the named person and apiary tracing raised will require at least 6 -12 months to address
b. This calls in to question the validity of the consulation process and natural justice, and causes risks to the whole standards process. Do some reading on consulting with an open mind.
c. The Manuka standard is not producing reliable repeatable results and needs much more work.

29. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

We have no opinion

Any other feedback

30. Are there any other parts of this d scussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).

a. **We recommend a properly qualified economist undertake an Impact or Cost-Benefit Analysis of the proposed standard.**
b. **MPI should also investigate a support package (research, market etc) for the losers in this standard, those whose Kanuka Honey is now excluded from exclusive Manuka Honey markets**.
c. Manuka Standard – we're sure our production will fail to meet the new manuka standard, and thus there are broader costs that will fall on us, beekeepers like ourselves and marketers of ours and others honey. These are:
    i. Reduced honey prices. Based on our discussion with buyers, prices may fall by at least 40% per kilo. Indications from our prices and sales, is that the price reduction between mono and multifloral manuka will be at least 25% and kanuka (depending on it being multi or monofloral) many see an up to 25% drop below that.
    ii. Development separate branding and marketing costs for kanuka floral honey, this alone could run to hundreds of thousands of dollars for the industry and is unlikely to be able to be borne by a single

entity.

Proposed General Export Requirements for Bee Products

For all exporters of bee products from New Zealand

SUBMISSION FORM

Consultation document 2017

The Ministry for Primary Industries (MPI) proposes to consolidate, clarify, and introduce export requirements for all bee products intended for export.

You are invited to have your say on the proposed changes, which are explained in the discussion document and specified in the draft Animal Products Notice: General Export Requirement for Bee Products notice.

Consultation closes on **23 May 2017.**

How to have your say

Have your say by answering the questions in the discussion document, or commenting on any part of the proposals outlined in the draft Animal Products Notice: General Export Requirements for Bee Products. This submission form provides a template for you to enter your answers to the questions in the discussion document and email your submission back to MPI.

Please include the following information in your submission:

☐ the title of the discussion document 'Proposed General Export Requirements for Bee Products';

☐ your name and title;

☐ your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it; and

☐ your contact details (such as phone number, address, and email).

MPI encourages you to make your submission electronically if possible. Please email your submission to: manuka.honey@mpi.govt.nz

If you wish to make your submission in writing, these should be posted to the following address:

General Export Requirements for Bee Products Submission
MPI Food Assurance Team
PO Box 2526
Wellington 6140

The following points may be of assistance in preparing comments:

☐ where possible, comments should be specific to a particular section in the document. All major sections are numbered and these numbers should be used to link comments to the document;

☐ where possible, reasons and/or data to support comments should be provided;

☐ the use of examples to illustrate particular points is encouraged; and

☐ as a number of copies may be made of your comments, please use a legible font and quality print, or make sure hand-written comments are clear in black or blue ink.

Submissions are public information

Everyone has the right to request information held by government organisations, known as "official information". Under the Official Information Act 1982, information is to be made available to requesters unless there are good or conclusive grounds under the Official Information Act for withholding it.

If you are submitting on this discussion document, you may wish to indicate any grounds for withholding information contained in your submission. Reasons for withholding information could include that information is commercially sensitive, or that the submitters wish personal information such as names or contact details to be withheld. MPI will consider such grounds when deciding whether or not to release information.

Any decision to withhold information requested under the Official Information Act 1982 may be reviewed by the Ombudsman.

For more information please visit http://www.ombudsman.parliament.nz/resources-and-publications/guides/official-information-legislation-guides

Your details

Your name and title:	s 9(2)(a)
Your organisation's name (if you are submitting on behalf of an organisation), and whether your submission represents the whole organisation or a section of it:	
Your contact details (such as phone number, address, and email):	s 9(2)(a)

General questions: getting to know you

1. What part of the supply chain do you operate in:

   ☒ beekeeper

   ☐ extractor

   ☐ processor

   ☐ packer

   ☐ exporter

   ☐ retailer of bee products

   ☐ other – please specify

2. How long have you been involved in the apiculture industry:

   ☐ 0-5 years

   ☐ 5-10 years

   ☒ 10 + years

   ☐ not applicable

3. Do you operate under:

   ☐ an RMP under the Animal Products Act 1999

   ☐ the Food Act 2014 (Food Control Plan or National Programme)

   ☐ the Food Hygiene Regulations

   ☐ none of these

   ☒ not applicable

4. If you are a beekeeper, how many hives do you currently have:

   ☐ 0 – 5

   ☐ 6 – 50

   ☒ 51 – 500

   ☐ 501 – 1000

   ☐ 1001 to 3000

   ☐ More than 3000

5. What region of New Zealand do you operate in?

Marlborough

6. If you export bee products please tell us a little about your business. How many people do you currently employ?

☐ 0

☒ 1 – 5

☐ 6 – 19

☐ 20 or more

What are the roles of your employees and how many are:

☒ beekeepers

☐ processors

☐ packers

☐ other – please specify

Impact of compliance costs for beekeepers, processors and exporters

7. Table 4.1.1 of the Discussion Document provides a summary of the estimated costs of the proposals. What do you think the overall impact of the new proposals will be on your business?

8. In order to estimate the total cost to industry of the proposals contained in the draft GREX, it would be useful for MPI to understand how many beekeepers, operators and exports of bee products will be affected by the proposals. Please specify which of the proposals listed in the table at 4.1.1 will affect you and how.

9. Do you foresee any other costs that will arise from the proposals contained in the draft GREX which are not contained in the table at 4.1.1? If so, how significant do you think these will be (e.g. administration costs such as time to fill in forms, and time to learn about the new requirements)?

No additional substances to be present in New Zealand honey

10. To ensure additional substances are not present in New Zealand honey, MPI proposes to prohibit the feeding of bees when honey supers are present on hives for the purpose of collecting honey, with an exception if it is necessary for the survival of the bees. Do you agree or disagree with this proposal?

☒ I agree because:

☐ I disagree because:

Please suggest any alternatives to this approach that would ensure additional sugars and synthetic chemicals are not present in the honey:

11. To prevent the contamination of honey with varroacide residues, MPI proposes honey is only harvested from honey supers that do not contain honeycomb previously part of a brood nest. Do you agree or disagree with this proposal?

☐ I agree because:

Question. *Have dangerous levels of miticides been found in honey?*
In my operation and it is essential that I can move frames from the brood nest back into the honey boxes. During the autumn winter(sometimes) the bees cram the brood b ox with honey; so to give the queen room to layt the clogged frmes are relaced with clean comb. If

☒ I disagree because:

Question. *Have dangerous levels of miticides been found in honey?*
In my operation and it is essential that I can move frames from the brood nest back into the honey boxes. During the autumn winter (sometimes) the bees cram the brood b ox with honey; so to give the queen room to lay the clogged frames are replaced with clean comb. If this practice is banned it would cost me a considerable amount.
As a general rule on half my sites I need to replace up to 6 combs a box; so what can I do with frames if I can't extract them? The cost over 100 hives affected would be about 750KG of honey which is worth on average s 9(2)(b)(ii)
We are expanding the business to s 9(2) hives from the present s 9(2) so the cost would then be s 9(2)(b)(ii) What do we do with the frames if they cannot be extracted?
I run single brood boxes as if I run double brood boxes I invariably end up with at least a full super of honey in the top box.
This suggested imposition should be abandoned

Please suggest any alternatives to this approach that would ensure varroacide residues are not present in the honey.

Just leave it as it is.

Processors of bee products to operate under a risk based measure

12. MPI proposes that processors of bee products for export under the Food Hygiene Regulations must move to a risk-based measure (either an RMP under the Animal Products Act 1999, or Food Control Plan or National Programme under the Food Act 2014). Do you agree or disagree with this proposal?

☐ I agree because:

☐ I disagree because:

Please suggest any alternatives to this approach that would provide MPI with oversight of these processors:

Bee products to be sourced from listed beekeepers

13. MPI proposes to extend listing requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that would address this gap in the traceability chain?

Pre-processing traceability requirements

14. MPI proposes beekeepers keep additional records. Do you agree or disagree with this proposal?

☐ I agree because:

☒ I disagree because:

To trace a pot of honey back to its source cannot go further back than the extraction plant.
To me it is a simple fact that a litre of milk cannot be traced back to an individual cow due to the mixing of the milk in the farmer's bulk tank. The same applies to honey, once the honey is extracted it is immediately mixed with any other honey present in the extraction plant so to propose to have beekeepers keep record about the location of every box is nonsense.

Can you think of any alternatives to this approach that would address gaps in the traceability chain?

15. The costs for businesses associated with implementing the proposed traceability requirements are likely to vary depending on their existing systems and processes. What impact do you think these proposals are likely to have on your business?

Traceability from beekeepers to operators – harvest declarations

16. MPI proposes to introduce harvest statement requirements to all beekeepers providing bee products for export. Do you agree or disagree?

☒ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

17. MPI considers, for most businesses, the costs associated with these proposals are unlikely to be onerous. Do you agree or disagree and why?

☐ I agree because:

☐ I disagree because:

Traceability between operators – transfer documentation in AP E-Cert and reconciliation

18. MPI proposes to introduce transfer documentation requirements to all bee products intended for export. Do you agree or disagree?

☐ I agree because:

☐ I disagree because:

Can you think of any alternatives to this approach that ensure full traceability through the bee product supply chain?

Labelling of monofloral and multifloral mānuka honey

19. MPI proposes to implement the mānuka honey definition for export using the GREX. Do you agree or disagree?

☒ I agree because:

It gives us credibility

☐ I disagree because:

Can you think of any alternatives to this approach that ensures mānuka honey is true to label?

20. MPI considers there are likely to be options available to businesses to support compliance w th the proposed definition (e.g. relabelling, changes to blending practices etc.). Do you agree with this assessment or do you have concerns about ability of some businesses to comply?

☐ I agree because:

☐ I disagree because:

☐ I have concerns because:

21. MPI's proposal may have an impact on existing rights associated with using the word "mānuka" on labels, including registered trademarks. Do you agree with MPI's assessment of the impact on existing rights?

☐ I agree because:

☐ I disagree because:

22. MPI does not propose to make changes to the current use of grading systems. Do you agree or disagree with this position?

☐ I agree because:

☐ I disagree because:

23. What do you think the impact of the mānuka honey definition will be on the current use of grading systems?

24. Do you have any comments on the summary science report?

25. Do you have any further comments regarding the definition of mānuka honey?

Laboratory Tests

26. Do you support the proposed requirements for sampling and testing mānuka honey set out in Part 6 of the draft GREX?

☐ I agree because:

☐ I disagree because:

27. The costs associated with these proposals are likely to vary depending on the size and volume o samples being tested. What impact do you consider these proposals will have on your business?

Do you have any suggestions for minimising any impacts?

Transitional provisions

28. MPI proposes a lead in time of **six weeks** between when the GREX is notified and when it comes into effect. Do you agree or disagree with this proposal?

    ☐ I agree because:

    ☐ I disagree and propose an alternative timeframe:

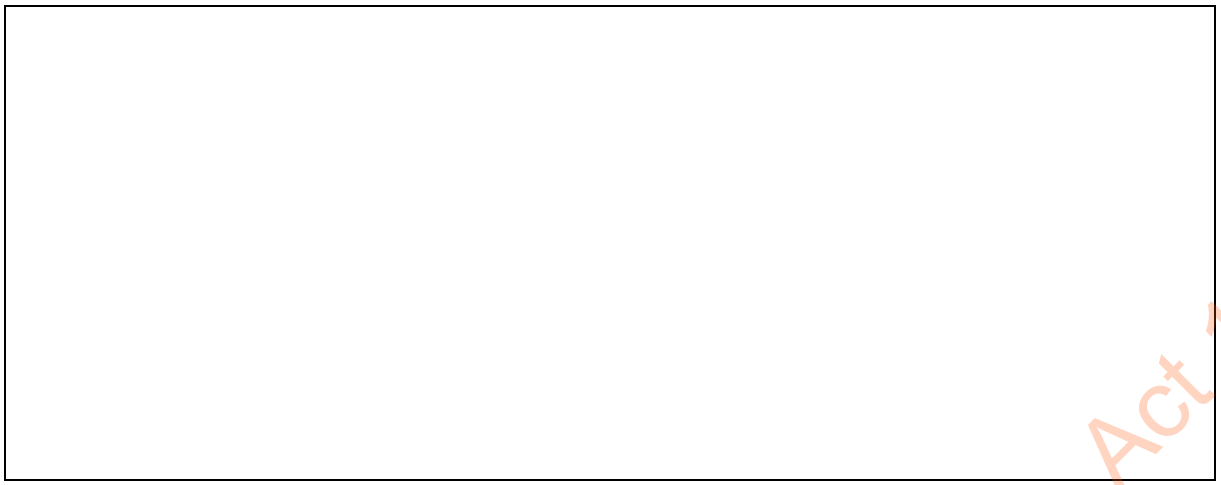
29. MPI proposes stock in trade provisions for honey exported between the date of commencement until six months after the date of commencement. Do you agree or disagree with this proposal?

    ☐ I agree because:

    ☐ I disagree because:

Any other feedback

30. Are there any other parts of this discussion document or the draft GREX that you would like to provide feedback on? (Please indicate which part of the discussion document or draft GREX you are providing feedback on).



PROPOSED GENERAL REQUIREMENTS FOR BEE PRODUCTS

SUBMISSION BY

s 9(2)(a)

s 9(2)(a)

MPI'S MĀNUKA HONEY SCIENCE DEFINITION

Multifloral mānuka

Our concern is about the wording of the definitions***-monofloral and multifloral manuka honey.***

We feel the words ***multifloral manuka honey*** implies that the honey has several floral sources.

The codex states that "*any monofloral honey should be 'wholly or mainly' from a defined floral source".* One dominant plant, in this case manuka.

We have honey pollen analysis which shows this year's manuka honey to be between 70% and 96% manuka pollen. These honeys meet the DNA level under the new manuka standards, but fail to meet the phenyllactic acid standard. (Between 250 and 300 mg/kg)

Under the new MPI's Manuka Honey science definition these honeys are called multifloral manuka.

Calling our honey multifloral is not true to label, and we feel it is misleading to the consumer.

We feel that the new standards are going against the CODEX standard which will then cause confusion for all other honey.

Instead of the names monofloral and multifloral, a more accurate name would be *"Active manuka"* and "*manuka"*?

In this was the case, our honey would not be active enough to be called an Active Manuka, but differently should be called Manuka.