

Surveillance activity of Manuka honey on the UK market

Summary

1. The UK carried out a surveillance activity to understand the types of manuka honey that are sold in the UK. Local authority enforcement officers collected information about the manuka honey on the market and how it was labelled. This information will be used to work out how to better protect consumers and help them make informed choices.
2. Samples were taken as part of the [national coordinated sampling programme](#). Of the 93 samples taken, 34% were found to not meet against the parameters selected.
3. The activity has increased our understanding of how manuka honey is sold in the UK. Local authorities have discussed the results with businesses, encouraging them to take the necessary steps towards improving their labelling in order to not mislead consumers.
4. Further work is required to get a more accurate picture of what consumers understand about the marketing terms and other information on manuka product labels. This additional work will support further discussions at an EU level on whether information present on the labelling is seen as a quality statement or in fact an indirect health claim.

Background

5. Manuka honey is produced from bees foraging on the manuka plant (*Leptospermum scoparium*) which grows predominately in New Zealand (NZ). All honeys contain some form of antibacterial activity due to presence of low levels of hydrogen peroxide (known as Peroxide Activity (PA)). This PA activity is generally quite unstable and decays over time on exposure to light. Certain types of manuka honey contain an additional activity widely thought to be due to a chemical called methylglyoxal (MG). This chemical is what is believed to be special about manuka honey and is often referred to as its Non Peroxide Activity (NPA).
6. The market for manuka honey has developed significantly over the last few years mostly due to the promotion of supposed increased antibacterial activity and perceived health benefits. The wide ranging labelling claims and marketing terms in use has resulted in the potential for consumer confusion and dispute among producers as to what constitutes manuka. As a result the New Zealand's Ministry for Primary Industries (MPI) published their [interim manuka honey labelling guide](#) in July 2014, which focusses on legislative labelling requirements and outlines interim characteristics of New Zealand manuka-type honey (monofloral and multifloral).
7. The UK has welcomed the New Zealand ministry's initiative, and believed that this will help clarify some quite complex issues associated with manuka honey, particularly around labelling, activity declarations and health claims.

8. Following publication of the NZ guidance, the FSA made the sampling of manuka honey a priority for the 2014-15 sampling programme funded by FSA and undertaken by local authorities. This report summarises the findings from this sampling.

The Survey

9. Local authorities (LAs) took a total of 93 samples. These samples were final products intended for immediate consumption. This was a coordinated exercise to ensure that there is no duplication of samples and that a full range of products that were on the market were analysed.
10. The samples were submitted to Fera¹ and tested to determine whether the products met some of the characteristics set in the NZ guidance for manuka-type honey². The testing was not under the direction of the public analyst so the samples cannot be considered as official control samples. Despite this, LAs are following up issues with food businesses on an advisory basis.
11. The samples were tested for presence of MG (Methylglyoxal), DHA (Dihydroxyacetone) and HMF (Hydroxymethylfurfural; <40 mg/kg). MG and DHA are associated with manuka honey and there are specified HMF levels depending on the honey's origin set in accordance with Codex. Manuka honey should also contain manuka type pollen and whilst this cannot currently be distinguished from kanuka pollen³, pollen analysis was suggested as a broad indicator of botanical authenticity by the NZ Authorities. The local authorities also carried out a physical label check.
12. Whilst the NZ guidelines clearly state that "*Claims such as "Non-Peroxide Activity", "Total Peroxide Activity", "Peroxide Activity", "Total Activity" and "Active" should be removed from labels and advertising*" those samples for which an activity claim was made were analysed to confirm that they were true to label.

Results

13. Of the 93 samples 66% (63) were compliant and were within the parameters tested against.
14. 98% (91) of the products sampled were associated with the historic grading systems that are company specific. From discussions with the NZ Authorities we are aware that there are also variations in how each company tests their products and the parameters associated with the activity claims. This made comparisons difficult.

¹ The Food and Environment Research Agency

² All characteristics must be tested for to enable comparison against the description of Manuka-type honey

³ Kanuka (*Kunzea spp*) is a similar plant which grows very close to the manuka (*Leptospermum spp*) and can be difficult to distinguish.

15. In interpreting these results we have taken into account the measurement uncertainty for each of the analytes which were:
- MG = $\pm 22\%$
 - DHA = $\pm 21\%$
 - HMF = $\pm 22\%$
 - Total Activity and Non Peroxide Activity $\pm 2.0\%$.
16. In summary, 34% (32) samples were deemed to be non-compliant and the breakdown of these non-compliance can be seen below:
- 34% (11) samples were considered to be non-compliant due to exceeded HMF values.
 - 31% (10) samples not true to label in terms of activity
 - 31% (10) samples found to not to meet pollen criteria (as indicated in paragraph 11)
 - 4% (1) sample found to not be true to label and not meet pollen criteria
17. **HMF Value:** 11% (11) samples were found to contain HMF values above the legal limit in accordance with [Commission Directive 2001/110/EEC](#) which is 40mg/kg. The HMF value is an indicator of long storage and/or heat treatment and is not a food safety risk. Exceedance of the limit would probably warrant a withdrawal from the market, but not a recall.
18. **Characteristics:** 10 samples were found to have a pollen percentage for *Leptospermum/Kunzea* spp of less than 50%. Following discussions with NZ as well as, European Honey Regulations pollen percentages less than 50% may not represent 'wholly' or mainly for manuka monofloral honey⁴ (NZ guidance only requires presence of pollen for *Leptospermum/Kunzea* spp). However, NZ authorities note that pollen percentage levels have yet to be determined for monofloral manuka honey.
19. **Activity Claims:** 30% (28) of products made no activity claims, which again demonstrates the different perspectives that industry has on manuka honey. Some parts of the industry have historically promoted the honey based on perceived, but unsubstantiated health benefit.
20. Of the products; making an activity claim;
- 38(59%) samples make a grading reference;
 - 24 (38%) make a grading reference and active claim;

⁴ 'wholly or mainly', Article 2, point 2(b) of the Honey Directive 2001/110/EC states that except in the case of filtered honey and baker's honey, the names referred to in Annex I may be supplemented by information referring to '**floral or vegetable origin**, if the product comes **wholly or mainly from the indicated source and possesses the organoleptic, physico-chemical and microscopic characteristics of the source**'.

- 2 (3%) make grading reference and total activity claim

Conclusions

21. This survey has demonstrated the complexity of situation and the variety of different approaches taken by industry to how they represent their product.
22. In the UK some businesses marketing manuka honey, use the term 'activity' to represent only the Non-Peroxide Activity (MG content), i.e. similar to UMFs previous grading criteria, while others use terms such as 'Total Activity' to represent both the peroxide and non peroxide content.
23. In some cases the NPA or MG content, which may be the compound that consumers are buying manuka honey for may only be present in low amounts. It is unlikely that consumers understands the subtle differences and we currently have no information on whether the consumer is buying manuka for its taste, the perceived additional activity due to MG or just for its general increased activity.
24. The NZ guidance makes it clear that use of 'activity' or 'non-peroxide activity', or similar, is not allowed under New Zealand law as they could constitute health claims. The New Zealand guidance does allow the use of grading systems (such as 10+, 20+, and 30+) so long as the parameter is associated with something that is meaningful to manuka honey, verifiable and explained on the label to the consumer.
25. The NZ guidelines state that claims such as 'non-peroxide activity' and 'activity' should be removed on the basis that they constitute therapeutic health claims. However, such a conclusion under European law (EC Regulation 1924/2006 on nutrition and health claims made on food) is not so straightforward. Consideration of whether activity claims constitute a health claim, needs to be on a case-by-case basis to assess whether the purported 'claims' are true to label in the first instance and ensuring that consumers aren't being misled.
26. Currently from a UK enforcement perspective as long at the activity level in the honey is true to the label this could be considered satisfactory. Department of Health lead on this matter and have considered whether terms relating to peroxide and activity levels on manuka honey labelling may constitute health claims. Their initial view is that inconsistent market terminology may lead to consumer misunderstanding and thus could support an argument that the terminology used constitutes an indirect health claim. However, this is far from certain and would probably need to be tested in Court to arrive at a clear or definitive position.

27. The UK sought views from other European Member States on the potential grading systems proposed by NZ such as 5+ or 10+ that relate to the level of methylglyoxal. This highlighted that there is no current consensus amongst Member States. Some consider the grading systems to be a quality measure, or a measure of antibacterial activity or other health effect, with the higher the number the more active the honey. Such a grading system would not be in line with Regulation (EC) No. 1924/2006 on nutrition and health claims on foods. Other Member States agree that the position of the grading system is dependent upon what the consumer understands by the grading system. If a consumer understands it to relate to quality or organoleptic characteristics then this would not be in the scope of the Nutrition and health Claims Regulation. However, if the grading system was understood by consumers to relate to a health benefit, then authorities would have to act to remove such grading from manuka honey.

Enforcement

28. The FSA has been working with NZ Government to better understand the results of this survey and the NZ government are continuing to work with the NZ industry towards increased compliance. The NZ Government are also looking at non-compliant products and if products do not have the correct accreditation and verification they will not be permitted to be exported.

29. If a food does not satisfy legal requirements, enforcement authorities have the power to seize and detain in accordance with the Food Safety Act (1990) (in Northern Ireland the Food Safety (Northern Ireland) Order 1991) and then take the necessary action to protect the food chain.

30. As previously highlighted these samples were submitted to Fera and are not official control samples. These samples were taken as part of a surveillance activity and were the first part of a programme of activity to improve the UK's understanding of manuka honey on sale in the UK. Following the results of these samples we have encouraged LAs to discuss results with business against the NZ guidance and encourage them in taking the necessary steps towards compliance.

Further work

31. As highlighted in this report there is uncertainty around consumer perception. As this is one of the factors that must be considered under European law relating to health claims, we currently have a gap in our understanding in this regard. We are therefore, working a to address this and are planning to conduct some further research on what consumers understand by 5+ or methlygloxal levels etc. This will enable the UK to provide further

information to the EU Working Group to enable us to gain a formal opinion on whether grading system are quality or indirect health claims.

32. The results of this survey have been shared with NZ and we are aware that the Ministry for Primary Industries manuka honey science programme expects to provide a robust definition by end of 2016. We will continue to work with NZ and support UK enforcement.