

CODEX ALIMENTARIUS COMMISSION



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Organization

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PROPOSAL TO EXCLUDE MĀNUKA HONEY FROM THE RECOMMENDATION TO ENDORSE AOAC 998.12 AS A TYPE II METHOD FOR THE DETERMINATION OF SUGARS ADDED TO HONEY (AUTHENTICITY)

(Submitted by New Zealand)

New Zealand proposes an update to CXS 12-1981 to exclude mānuka honey from the provision relating to sugars added (authenticity) using AOAC 998.12. This requirement should be reflected by a footnote in CXS 234-1999 if CCMAS45 agrees to endorse AOAC 998.12 as a Type II method for the determination of sugars added to honey (authenticity).

C4 sugar analysis of honey using AOAC 998.12 is a way of testing whether the honey has been adulterated with other sugars.

Between 2010 and 2012, over \$6 million NZD of New Zealand honey exports failed the C4 test (Rogers 2014). Further investigation found that mānuka honey, which had not been adulterated, was susceptible to failing the test. While honey usually fails the test because there is a positive shift in the δ 13C honey (due to addition of C4 sugar), mānuka honey fails due to a negative shift in the δ 13C protein. The honeys were stated to be genuine by the producers which led scientists to suggest that the AOAC 998.12 sugar adulteration test method was not appropriate for testing mānuka honey.

Mānuka honey produced from the nectar of mānuka (*Leptospermum scoparium*) is highly valued due the presence of the compound methyl-glyoxal (MGO) and can retail for a high price.

New Zealand's Ministry for Primary Industries supported a scientific literature review with a focus on the analysis of mānuka honey by AOAC 998.12, due to mānuka honey with high concentrations of MGO showing false-positive results.

This review observed that over the past decade, work has been undertaken to investigate the cause of these failures (Grainger 2022), but despite a large amount of money, time and resources dedicated to understanding why high grade mānuka honey fails the test, there is still no agreed upon cause.

It is plausible that there are multiple factors contributing to the false-positive results of mānuka honey, hence, it may not be suitable method due to a number of limitations in the design of the method. Recommendations to address limitations of AOAC 998.12 include further research to determine the cause of the δ 13C protein shift in mānuka honey if the AOAC 998.12 method is to be retained and modified. This work is ongoing.