

Is Manuka honey worth the money?

Manuka honey has become increasingly popular in recent years, and can be very expensive. It tends to be sold as having health benefits - but what is the evidence for these?



Manuka honey originated in New Zealand, and it is made from nectar collected by bees that forage on the wild manuka tree, which give it a distinctive flavour. But what about its supposed health benefits?

Most honey is believed to have some bacteria killing properties because it contains chemicals that produce hydrogen peroxide. However, in 1991 a study from the Honey Research Unit in New Zealand showed that when you remove the

hydrogen peroxide from a range of honeys, manuka was the only type that kept its ability to kill bacteria. This is due to the presence of a unique ingredient, now identified as methylglyoxal, which has specific antimicrobial properties.

In response to this discovery, jars of manuka honey began to be marketed bearing a UMF number – "Unique Manuka Factor" – relating to how many bacteria the honey could kill once the hydrogen peroxide had been removed.

The labelling on jars has, however, caused some confusion. As well as the UMF rating, some jars display MGO, (methylglyoxal) which equates to the same sort of measurement, while others show NPA or TA. The NPA (non-peroxide activity) rating is similarly founded on the level of methylglyoxal the honey contains once the hydrogen peroxide has been removed. TA is instead the total activity, so this includes the hydrogen peroxide, which is present in normal honey. At the same time, some jars can be found with 'Activity' or 'Active' next to numbers, while some just have numbers alone with no explanation as to their justification.

The Ministry of Primary Industries (MPI) in New Zealand has released **its own voluntary labelling guidelines**.

What about its medical properties?

In terms of honey being used as a medicine, 'medical grade honey' is licensed around the world for wound care treatment. There have been many recent research developments stemming from Cardiff University which have shown honeys in general, and particularly manuka honey, as effective with chronic wounds and MRSA (antibiotic-resistant infection).

However, it is very important to note that any honey used in this capacity will be medical-grade honey with the impurities removed: you should not apply any honey to your wounds at home.

Instead, many people buy it thinking that it might help with sore throats, gut problems or even allergies. So what is the evidence for these benefits?

There is not enough evidence that methylglyoxal survives being eaten, nor that it does any good inside the body. This is not an area in which a lot of independently-funded research has been done, but although there is a small bit of evidence that in general honey can soothe a sore throat, there is not yet conclusive evidence to suggest that eating shop-bought manuka honey will be

any more effective at this than a cheaper alternative. Similarly, there hasn't been robust conclusive evidence to show it can be used to ease indigestion.

So, although some people will swear by its properties, this has not been backed up by clinical trials.

Useful links

- [Honey as an Effective Antimicrobial Treatment for Chronic Wounds](http://www.dovepress.com) (www.dovepress.com)
- [Manuka Honey may help fight superbugs](http://www.nhs.uk) (www.nhs.uk)
- [Recent primary school double blind controlled trial into manuka honey](http://www.gillespie.islington.sch.uk) (www.gillespie.islington.sch.uk)

Mānuka honey is a [monofloral honey](#) produced from the nectar of the [mānuka](#) tree, *Leptospermum scoparium*. The honey is commonly sold as an [alternative medicine](#). There is no conclusive evidence of medicinal or dietary value in using mānuka honey other than as a [sweetener](#). The word *mānuka* is the [Māori](#) name of the tree; the spelling *manuka* (without a macron) is common in English.



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Identification^[edit]

Mānuka honey is produced by [European honey bees \(*Apis mellifera*\)](#) foraging on the mānuka (*Leptospermum scoparium*), which evidence suggests originated in [Australia](#) before the onset of the [Miocene aridity](#).^[1] It grows uncultivated throughout both southeastern [Australia](#) and [New Zealand](#).^{[1][2][3]}

Mānuka honey is markedly [viscous](#). This property is due to the presence of a protein or colloid and is its main visually defining character, along with its typical dark cream to dark brown colour.^{[4][5]}

Mānuka honey for export from New Zealand must be independently tested and pass the Mānuka Honey Science Definition test as specified by the [Ministry for Primary Industries](#) (MPI), The test comprises five attributes. Four (4) are chemical and one (1) is DNA of *Leptospermum scoparium*.^[2] The honey must pass all five tests to be labeled as mānuka. This testing came into effect on 5 January 2018.^[6]

The MPI does not have a definition for mānuka sold in the New Zealand domestic market. The MPI Five attributes test is the only standard recognised by New Zealand legislation.

The Australian Manuka Honey Association (AMHA), has established a set of standards for authentic Australian Manuka honey. Honey that carries the AMHA's Mark of Authenticity must be pure, natural Manuka honey, produced entirely in Australia, and be tested by an independent,

approved laboratory to ensure it meets minimum standards of naturally occurring [methylglyoxal](#) (MGO), [dihydroxyacetone](#) (DHA), and leptosperin.^[7]

The mānuka tree flowers at the same time as *Kunzea ericoides*, another Myrtaceae species also called kānuka, which often shares the same growing areas. Some [apiarists](#) cannot readily differentiate these species, as both flowers have similar morphology and pollen differentiation between the two species is difficult. Therefore, [melissopalynology](#) as identification for the type of honey is valid only in association with other identification tests. In particular, *L. scoparium* honey is dark, whereas *K. ericoides* honey is pale yellow and clear, with a "delicate, sweet, slightly aromatic" aroma and a "sweet, slightly aromatic" flavour, and is not viscous.

Heather (*Calluna vulgaris*) honey is also viscous, but the plant flowers in late summer and its mountain distribution in north temperate Europe and central Asia does not correspond with that of *Leptospermum scoparium*. Therefore, its harvest cannot be mistaken for that of manuka honey.^[clarification needed]

Food^[edit]

Mānuka honey has a strong flavour,^[4] characterised as "earthy, oily, herbaceous",^[8] and "florid, rich and complex".^[9] It is described by the New Zealand honey industry as having a "damp earth, heather, aromatic" aroma and a "mineral, slightly bitter" flavour.

Research^[edit]

[Methylglyoxal](#), a component of mānuka honey, is under study for its potential activity against *E. coli* and *S. aureus*.^[10] Mānuka honey does not reduce the risk of infection following treatment for [ingrown toenails](#).^[11]

Adulteration^[edit]

As a result of the high premium paid for mānuka honey, an increasing number of products now labelled as such worldwide are [counterfeit](#) or [adulterated](#). According to research by UMFHA, the main trade association of New Zealand mānuka honey producers, whereas 1,700 tons of mānuka honey are made there annually representing almost all the world's production, some 10,000 tons of produce is being sold internationally as mānuka honey, including 1,800 tons in the UK.^[12] In governmental agency tests in the UK between 2011 and 2013, a majority of mānuka-labelled honeys sampled lacked the non-peroxide anti-microbial activity of mānuka honey. Likewise, of 73 samples tested by UMFHA in Britain, China and Singapore in 2012-13, 43 tested negative. Separate UMFHA tests in Hong Kong found that 14 out of 56 mānuka honeys sampled had been adulterated with syrup. In 2013, the UK Food Standards Agency asked trading standards authorities to alert mānuka honey vendors to the need for legal compliance.^[12] There is a confusing range of systems for rating the strength of mānuka honeys. In one UK chain in 2013, two products were labelled "12+ active" and "30+ total activity" respectively for "naturally occurring peroxide activity" and another "active 12+" in strength for "total phenol activity", yet none of the three were labelled for the strength of the non-peroxide antimicrobial activity specific to mānuka honey.^[12]

There have been increasing turf disputes between producers operating close to large mānuka tree clumps, and also cases reported of many hives being variously sabotaged, poisoned, or stolen.^{[13][14]}

See also^[edit]

- [Apitherapy](#)
- [Beekeeping in New Zealand](#)

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Irish heather honey buzzing

with health

benefits comparable with

Manuka honey

A research team from Dublin City University and Trinity College Dublin has found that Irish heather honey is quite literally buzzing with health benefits.

The findings showed that there was a similar overall presence of powerful antioxidants called phenolic compounds in Irish heather honey as in Manuka honey. These antioxidant compounds help to prevent damage occurring in the cells of the body and are important for health and well-being.

Researchers also found that multi-floral honeys produced by urban bees had a greater level of antioxidant phenolic compounds than their rural counterparts - a finding possibly attributed to the flower diversity and abundance surrounding hives.

The findings are published in the prestigious journal, *Food Chemistry*.

The research was led by PhD student Saorla Kavanagh (pictured above; School of Chemical Sciences and DCU Water Institute) and supervised by senior academics Dr Blánaid White (School of Chemical Sciences,

DCU) and Prof Jane Stout (School of Natural Sciences, Trinity College Dublin). Funding was provided by the Irish Research Council and honey samples were donated by beekeepers across Ireland.

The research focused on honey produced in Ireland and examined the phenolic content and physicochemical parameters (moisture, total sugar, colour) of different types of Irish honey and compared these with international brands.

It was also the first ever comparison of Irish single-origin honeys; heather, ivy and oilseed rape and multi-floral honeys and, in addition, compared honey from urban and rural hives.

Key Findings:

- 131 Irish honey samples were collected directly from beekeepers between 2013-2015 from 78 locations across Ireland. The majority (124) were multi-floral honeys (55 from urban, 69 from rural locations); three were heather honeys; two were ivy honeys and two were oilseed rape honeys.
- Research focused on honey produced in Ireland and the majority of samples came from small private producers.
- Honeys with a dark colour typically have a higher TPC (Total Phenolic Content) and thus a higher antioxidant capacity.
- Urban multi-floral honeys had a higher TPC than rural multi-floral honeys.
- Irish heather honey had the highest TPC of all Irish single origin honeys and had a higher TPC than Manuka honey.
- Honey colour correlates with electrical conductivity and with TPC, although ivy honey was an exception to this.
- Ivy honey was the darkest Irish honey analysed and its TPC was less than that of heather and Manuka honeys.
- Honeys were classified according to landscape context or honey floral source.
- The differences in the total phenolic content in the study could be linked to landscape context, specifically the principal land use surrounding sampled hives. There was significantly less TPC in rural vs urban areas.
- Difference in the TPC of honey types depended on their floral origin. For Irish single origin honey, heather honey had the highest mean TPC.

Dr Blánaid White, Dublin City University said:

“Being able to quantify that Irish honeys have a high phenolic content, and particularly that the content in Irish heather honey is comparable to Manuka honey, is very exciting for us.

Our research shows that Irish honey is a high-quality product and something that we should really value. Interest in beekeeping and honey production is growing in Ireland, and we are delighted to be able to support it.”

Prof Jane Stout, Trinity College, Dublin said:

“Because bees can forage up to several kilometres from their hives, the availability of food sources, i.e. flowers, in the wider landscape influences what the bees collect and incorporate into their honey. Finding a difference in honey composition between urban and rural hives probably reflects the difference in flower availability in urban and rural areas in Ireland.”

The research carried out aligns with the Department of Agriculture, Food and the Marine’s strategic vision detailed in Food Wise 2025, highlighting the high-quality honeys produced in Ireland and helping to ensure the viability of local beekeepers and honey producers. Honey is one of the most popular food

products internationally, providing many benefits for overall health with its antioxidant, antibacterial, antidiabetic and anti-inflammatory properties.