UNRAVELLING THE MYSTERIES OF MĀNUKA HONEY

Detailed research into the unique make-up of NEW ZEALAND'S POPULAR MĀNUKA HONEY is marching into a new chapter.

In March 1839, after six long months at sea, a British missionary called Mary Bumby arrived in Hokianga, New Zealand carrying two beehives — a decision that would have a lasting legacy. The bees contained within would soon pollinate the pink-white flowers of the native Mānuka tree, creating the world's first Mānuka honey.

Since then, the appeal of this honey with its distinct flavour has grown. "Mānuka is unlike any other honey. It is an incredibly complex product containing more than 2,000 different natural compounds," says Jackie Evans, chief science officer at Comvita in New Zealand, the world's leading Mānuka honey brand. "An average pasture honey, such as clover, only contains around 100 different compounds."

Mānuka honey was first described in the scientific literature nearly 40 years ago. Today, it is the world's most researched type, but only a handful of its compounds have ever been studied in detail, including the properties of methylglyoxal, which can help heal wounds[1] and burns[2], as well as kill antibiotic-resistant bacteria[3]. "The bioactive properties of many of the compounds are still to be fully determined," says Evans.

▲ **Jackie Evans, Comvita's chief science officer, is taking samples from New Zealand's Mānuka flower.**

PIONEERING RESEARCH

Comvita, widely acknowledged as the pioneer of the industry headquartered in Paengaroa, New Zealand, is looking to change this. Founded in 1974, the company is the global leader and a leading investor in the science of Mānuka honey. It has a robust research and development programme which it says is aimed at "unlocking its full potential".

"Comvita is currently at the forefront of research," says Margaret Brimble, a chemist at the University of Auckland, in New Zealand, one of Comvita's research partners.

A key part of Comvita's R&D programme is focused on a patent-protected Mānuka honey and digestive health. A two-year, NZ$1.3-million (US$ 785,000) clinical trial was launched in 2022 and is recruiting people with functional dyspepsia, a common gastrointestinal disorder that affects up to 30% of adults worldwide. The trial will study how Comvita Lepteridine® — a patented compound found only in Mānuka honey and discovered by Comvita in collaboration with teams of Brimble and Kerry Loomes, a biologist at the University of Auckland — affects gut inflammation, microbiota and immunity.

Comvita and its partners are also studying the effects of Mānuka honey on atopic dermatitis — the most common type of eczema — and antimicrobial resistant lung infections in people with cystic fibrosis. The company is also part of a government-supported intervention study exploring the effects of a whole diet, including Mānuka honey, on cardiometabolic health and type 2 diabetes.

PURE AND AUTHENTIC

Another key aspect of Comvita's R&D programme revolves around its rigorous, "hive-to-home" testing for authenticity, purity, and potency. This ensures Comvita exceeds the country's strict standards for exporting honey under the Mānuka name.

"Since honey that is not produced solely from the nectar of Mānuka tree will not have the same bioactive profile, it is important there is a way to verify that honey is actually monofloral Mānuka honey from the tree *Leptospermum scoparium*," says Brimble. The unique Mānuka honey compounds Brimble and Loomes' groups have discovered with Comvita could enable further development of authenticity detection methods.

"At Comvita, quality and science are the foundations of our success." says Evans. Comvita is the only Mānuka honey company with an International Accreditation New Zealand-approved and Ministry of Primary Industries-recognized laboratory, and each batch of its honey undergoes more than 34 different tests to verify its quality and potency.

"Our long-term investment in science and innovation has given us a deep understanding of the composition and health benefits of Mānuka honey. We will continue to invest more and pioneer the research into this extraordinary honey." ■

REFERENCES

1. Johnston M. *et al. AIMS Microbiol.* **4**(4): 655-664 (2018).
2. Cooper R. A. *et al. J. Burn Care Res.* **23**, Issue 6, 366–370 (2002).
3. Blair, S.E. *et al. Eur J Clin Microbiol Infect Dis.* **28**, 1199–1208 (2009).