

Study a first test of Australian honey's medicinal potential

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Bees at work on white manuka flowers. Picture courtesy Comvita Ltd

Manuka honey from New Zealand is already established as a valuable antibacterial agent, particularly for treating slow-healing wounds. Now scientists will test the potential of honey derived from related trees in Australia to meet the increasing worldwide demand for medical honey.

"Antibiotic resistance is an urgent world health problem," said project leader Professor Liz Harry from UTS's iThree institute. "In the face of the declining power of antibiotics, honey is increasingly being used as a gel or dressing to treat chronic (slow-healing) wounds.

"Honey has several properties that make it ideal as a treatment for chronic wounds: it has potent [antibacterial activity](#) and bacteria don't

appear to become resistant to it. This makes sense since honey has evolved for millions of years to resist spoiling – it is the only food that can't be spoiled.

"Manuka honey is a known potent antibacterial honey that is commonly used in these products, but there are legitimate concerns that the demand for manuka honey may outweigh its supply.

"This is the first comprehensive, Australia-wide survey of manuka (Leptospermum) honey to identify all possible sources and provide as much [medicinal honey](#) as possible. New Zealand has two types of Leptospermum tree, Australia has more than 80."

The research is being jointly funded by the Rural Industries Research and Development Corporation (RIRDC), Horticultural Australia Limited, Capilano Honey Ltd and Comvita Ltd.

Conducted by Professor Harry with co-investigators from the University of Sydney and the University of the Sunshine Coast, the project will systematically identify which species make the most therapeutically active honey and where they are located in Australia.



Credit: Comvita Ltd

"One of the main antibacterial components of manuka honey is a compound known as methylglyoxal or MGO," Professor Harry said. "We will correlate the chemical make-up of the Australian honeys with their [antibacterial](#) activity, measuring the MGO and other chemicals known to be important components.

"We will use a range of bacteria in these tests, including multi-antibiotic resistant superbugs such as MRSA and Pseudomonas aeruginosa, also measuring the ability of the bacteria to become resistant.

"Additionally we will look at the interplay of Australian honey with drugs commonly used to treat skin and wound infections. Previous research has shown honey can re-sensitise bacteria to drugs they have become resistant to, an effect also seen with fungal infections. We will test whether Australian honeys can do this as well."

For Australian beekeepers the research could open the door to an international market with the potential to increase the industry's profits by as much as 50 per cent a year.

"We need to look after bees – they are essential to producing a third of the world's food supply aside from the [honey](#) we get from them," Professor Harry said. "They save our lives in more ways than one!"

More information: For more information on the project, visit the RIRDC website: www.rirdc.gov.au/research-project10_HBE/PRJ-009186

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