# Australian honey proves to be a powerful anti-bacterial treatment

March 1 2011

DEEDI scientists working on the QAAFI medicinal honey research project, Margaret Currie and Andrew Cusack, testing the infection-fighting power of an Australian native myrtle honey.

Honey sourced from an Australian native myrtle tree has been found to have the most powerful anti-bacterial properties of any honey in the world and could be used to treat antibiotic-resistant bacterial infections that commonly occur in hospitals and nursing homes.

A Brisbane-based research group found that Australian native myrtle honey has very high levels of the anti-bacterial compound, Methylglyoxal (MGO), and outperforms all medicinal honeys currently available on the market, including Manuka honeys.

Led by the Queensland Alliance for Agriculture and Food Innovation (QAAFI), which is a partnership between The University of Queensland and the Queensland Government's Department of Employment, Economic Development and Innovation (DEEDI), the research is being carried out in conjunction with The Australian Organic Honey Company & Medi Bioactive Australia.

The project to date has involved comprehensive trials with honey harvested from a native species of myrtle (leptospermum polygalifolium), which is distributed along the Australian eastern seaboard from the south coast of NSW to Cape York.

CEO of The Australian Organic Honey Company & Medi Bioactive Australia, Carolyn MacGill, said the findings had shown anti-bacterial potency levels that could allow for the development of highly effective anti-bacterial treatments.

“We have had MGO readings in excess of 1750 mg/kg in certain batches of honey. This would make this range of honeys one of the most potent in the world,” Ms MacGill said.

Honeys investigated by the research group were effective as anti-bacterial treatments when used in the range of 500 – 1750 mg/kg MGO to prevent the growth of Methicillin-Resistant staphylococcus aureus (MRSA), a common bacterial infection in hospitals and community facilities where residents are immune challenged, such as nursing homes.

Chief researcher working on the project, QAAFI scientist Dr Yasmina Sultanbawa, said the potency of the honeys meant that only a small amount was required to fight infection.

“The sheer strength, due to high levels of active compounds in these honeys, has meant that we have been able to completely inhibit MRSA

for example in in-vitro studies with a relatively small quantity of the honey," Dr Sultanbawa said.

"This means potential products could maintain significant levels of anti-bacterial activity even in surface wounds where the honey is diluted in the bed of the infection.

"The presence of MRSA in a wound is a matter of concern and MRSA-colonised wounds are an increasingly urgent problem in hospitals and nursing homes. The continued emergence of strains with resistance to antibiotics or even antiseptics adds to the difficulties of treating these infections.

"Investigations into unconventional remedies that are non-toxic and unlikely to result in resistance to the treatment, such as the QAAFI research into bioactive honeys, is very promising."

According to Ms MacGill, the potential of the honeys could ultimately result in a range of highly sought-after products.

"Our research to date has produced overwhelming results in the quest to inhibit the very common infection MRSA at very low percentage rates of application," Ms MacGill said.

"This could provide enormous benefits for Australian and international medical fraternities and their patients."

Provided by University of Queensland