

Home-made honey could fight superbugs

June 13 2011



Cardiff University researchers and the National Botanic Garden of Wales are appealing for help in building up a DNA profile of the nation's honey. They hope to use the information to identify plants which could fight antibiotic-resistant bacteria such as the 'superbug' MRSA. The honey project could also help fight the diseases currently attacking Britain's bees.

Honeys have long been known to have anti-bacterial properties and are used in wound dressings today. Different honeys act against different microbes depending on the chemicals in the plants visited by bees.

Now the Welsh School of Pharmacy and the National Botanic Garden of Wales with support from the Society for Applied Microbiology is asking honey-makers across the country to send them samples, along with a list of plants near their beehives. A screening test developed at Cardiff will test for activity against two of the most common hospital acquired

infections antibiotic-resistant bacteria MRSA and Clostridium difficile.

The National Botanic Garden of Wales will identify the plants which contributed to the most powerful honeys, using a DNA profiling process being developed as an application of their Barcode Wales project, that has DNA barcoded the flowering plants of Wales. The team will then investigate the plants found in [honey](#) for the potential to develop new drugs. The Botanic Garden has 14 beehives and an inhouse bee keeper, Lynda Christie, who will provide key expertise in support of this project.

The joint University and Garden team will also be looking for honeys which help bees resist pests and bugs. In particular, they will test for resistance to the Varroa mite, which has caused a rapid decline in the UK bee population, and the bacterium Paenibacillus larvae, responsible for American Foulbrood, which is one of the most destructive of all bee diseases. Bee pollination is worth an estimated £100m to British agriculture every year, and it is vital to halt the fall in bee numbers.

Professor Les Baillie of the Welsh School of Pharmacy said: "A lot of drug development involves expensive laboratory screening of a huge variety of plant products, often without success. We're hoping to cut out the middle man and let the bees do a lot of the hard work, guiding to us those plants which work. We're hoping the public can provide us with as much home-made honey as possible – they could supply the vital breakthrough in fighting these bacteria."

Dr Natasha de Vere, National [Botanic Garden](#) of Wales, said: "We have nearly completed our Barcode Wales project to DNA barcode each of the 1143 flowering plants in Wales and are excited to be developing our first applications that use this fantastic resource. We can see which honeys have the best results against infectious diseases that affect humans and bees and use DNA barcoding to identify the [plants](#) making the honey.

Provided by Cardiff University

Citation: Home-made honey could fight superbugs (2011, June 13) retrieved 29 April 2024 from <https://phys.org/news/2011-06-home-made-honey-superbugs.html>

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