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**196. © Sweet roots: a trial using honey as a rooting hormone.** Whalley, L.  
International Plant Propagators' Society, combined proceedings, 2009, 59:74-77. 2010.

## Sweet Roots: A Trial Using Honey as a Rooting Hormone®

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**The following trial was completed by me, Liza Whalley, as the recipient of this year's New Zealand IPPS Propagators Scholarship. I have been employed as assistant propagator at Taupo Native Plant Nursery for 2 years and it has been the first propagating position I have been employed in. Some help was provided by Taupo Native Plant Nursery to complete this trial.**

### **TAUPO NATIVE PLANT NURSERY**

Taupo Native Plant Nursery is a revegetation-based nursery situated in the Central North Island of New Zealand. The nursery was established in 1961 as part of the Department of Conservation, to grow and supply native plants for the first hydrodam being built on the Waikato River, at Aratiatia (Taupo). The nursery has been in private ownership since 1993, and the main focus of the business is still revegetation.

Today Taupo Native Plant Nursery produces up to 2 million seedlings annually, and over a million larger grade plants. The majority of the propagation is from seed which is collected by the nursery from all over New Zealand. Two hundred and fifty thousand cuttings are also produced annually.

### **WHY THE TRIALS WERE DONE**

The main rooting hormone we were using in the form of a powder went off the market, so the propagation department started thinking about alternatives. It is well known that honey can be used as a rooting hormone, but I wanted to find out which honey was best. It was suggested through an IPPS member that Unique Manuka Factor (UMF)-rated manuka honey worked well on some New Zealand native plant species, so it was decided to compare a cheap, supermarket brand honey to the more expensive UMF-rated honey.

Honey creates an osmotic effect due to it being a saturated sugar solution, which means it forms strong sugar to water interactions. This lack of available water stops the growth of bacteria. Naturally honey contains about 80% sugar, with a moisture content of up to 21%. The high concentrations of sugar make honey a highly viscous solution which helps the formation of a protective layer against microorganisms.

### **WHAT IS UNIQUE MANUKA FACTOR?**

All unheated manuka honey has a degree of antibacterial properties, although this is undetermined until it is tested. This results in its UMF rating. The UMF ratings scale starts at 1, being the lowest, and can reach potencies of up to 70 or more.

The UMF ratings are tested by using a Petrie dish of agar, inoculated by a specified bacterium. A solution of the unheated honey is placed onto the dish and the measurement is taken from the solution as to the area of bacteria it has killed. The measurement then relates to a point system, which results in the UMF rating.