

TREES FOR BEES CORNER

NAATI BEEZ PLANTING TREES FOR BEES FOR EAST COAST MĀNUKA SUPPORT



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In keeping with these values, we designed a research project to assess local sources of native pollen and nectar by identifying pollen brought back to the hive. This information would then enable us to create plantations using local native plants to boost bee nutrition to support mānuka honey harvesting.

Our Naati Beez–Trees for Bees Pilot Project was funded by the Ministry of Primary Industries' Sustainable Farming Fund for one year starting in July 2015. The project was generously sponsored by Te Runanganui o Ngati Porou, Eastland Community Trust, GNS Science and the Native Garden Nursery in Gisborne. The Naati Beez team included Willie Kaa, Rangi Raroa, Rapata Kaa, and Maia Taaremaia, who assisted with the field work and research strategy.

We set to work collecting pollen loads (pellets) from hive traps and honey from uncapped honey cells. We extracted samples



Above: Lana Hope and Willie Kaa at the Native Garden Nursery in Gisborne with locally sourced native plants donated to the Naati Beez plantation in Rangitukia.

Below: Ian Raine inspecting the pollen traps with Maia Taaremaia at the Rangitukia Naati Beez apiary site.



from August to May fortnightly or monthly, depending on the season. We also collected plant vouchers for a pollen reference set.

The pollen in bee loads and honey was identified and a flowering calendar constructed by palynologists Ian Raine and Xun Li from GNS Science. Our botanist, Linda Newstrom-Lloyd, evaluated the plant list to prioritise the best pollen and nectar sources. Angus McPherson, our farm planting advisor, then assessed the candidate sites and designed new planting plans. We are grateful to Lana Hope from the Native Garden Nursery in Gisborne, who donated 395 locally sourced native plants to support the project.

The first stage of planting was completed on 24 May this year. We installed the four best shrub and four best tree species: *Hoheria populnea* (lacebark), *H. sexstylosa*, *Hebe stricta* (koromiko), *Vitex lucens* (puriri), *Pseudopanax arboreum* (five-finger), *P. lessonii* (coastal five-finger), *Coprosma robusta* (karamu) and *Pittosporum eugenioides* (tarata). See Page 5 in the new Trees for Bees booklet *A guide to planting for bees* for information on the flowering calendar (McPherson, et al., 2016). (E-mail newstrom.lloyd@gmail.com if you did not get a copy of this guide at the Apiculture New Zealand conference this June.)



Later in June we shared our methods and results in a workshop for local landowners at O Hine Waiapu Marae in Rangitukia. The research was fully successful in identifying good native bee forage plants, including some surprises such as nikau palm. Second- and third-stage plantings of different species are planned so that we can increase plant diversity to improve bee nutrition.

This is a first step toward building bee plantations with 100% native plants to support mānuka honey harvesting. We still have a few questions to be resolved for both spring build-up and autumn bee feed (e.g., the importance of gorse and

other weed species, and the low diversity of native autumn-flowering species). We will report further as our methods are perfected and more results come to hand. Installing native plants for spring and autumn forage is a much-needed solution that can help to reduce overcrowding and competition for wintering sites due to the expansion of the mānuka industry.

Reference

McPherson, A., Newstrom-Lloyd, L., Gonzalez, M., & Roper, T. (2016). *A guide to planting for bees*. [Booklet]. Trees for Bees NZ, June 2016.

Rangi Raroa and Angus McPherson examining *Coprosma robusta* (karamu) hedge with plastic sleeves for protection from rabbits and hares at the apiary site in Rangitukia. Photos: Linda Newstrom-Lloyd.

