

Research Profile

With the support of Technology New Zealand a research project was commissioned by Mamaku Blue on board with their Professor of Post Harvest Technology Julian Heyes being the primary supervisor of the project. With an in-depth understand of plant physiology and post-harvest practices, and a specialisation in fruits and vegetables for health, Julian was the ideal expert to have on board.

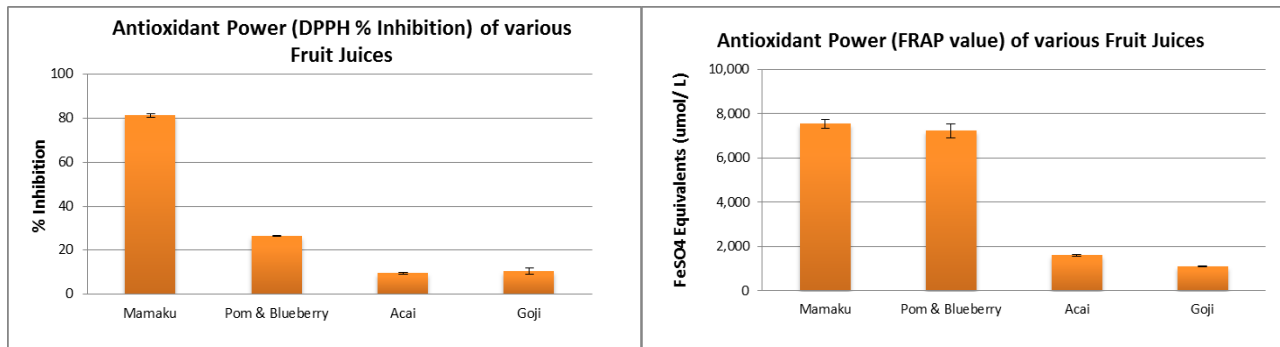


An advertisement was placed to find a suitable candidate to undertake the research as a Master's project. The scholarship was awarded to Natasha Birt (pictured left) with a prior honours degree in food technology from Massey. Her research was conducted during the follow two years (2009-2010), using the latest analytical techniques including high performance liquid chromatography. Natasha made several visits to the orchard, building a strong client/student relationship and gaining an understanding of orchard practices.

One output of the project was to provide Mamaku Blue with information which would help them understand the latest developments in blueberry research, particularly from a health perspective. Natasha explains why this was important: *"There is an extensive amount of international literature investigating the various potential health benefits of blueberries. Much of this research is complex and extensive reading is necessary to evaluate the scientific tone for each potential benefit. Right now some of the most positive research areas include consumption of blueberries for reducing the risks associated with cardiovascular disease."*

The second output was to optimise the level of phytochemicals found in Mamaku Blue's pure blueberry juice from the selection of blueberries, through to processing and storage of the juice. Within the first of these elements Natasha found distinct varietal diversity amongst the different blueberry cultivars. *"All blueberries had a wide distribution and abundance of anthocyanins, which are responsible for the blue/purple pigment of their skin however the profile was unique to each cultivar. Alongside this, very high levels of chlorogenic acid were seen."* Experiments using the Pilot Plant facilities at Massey University then allowed the production of juice from Mamaku Blue's berries using different manufacturing operations. Alongside this juice storage trials were conducted in a controlled environment. *"The experiments revealed various options for maintaining a high level of phytochemicals in the juice."*

The last output of the product was to compare Mamaku Blue's pure blueberry juice with other juices from other 'superfruits'. The juices were purchased from the supermarket and health food stores, all imported products. As can be seen below Mamaku Blue's product had one of the highest levels of antioxidants.



However, despite all the information available the scientific community still has a significant amount of research to undertake in order to unveil all the secrets of the blueberry. Mamaku Blue and the Blueberry Association of New Zealand are continuing to support local research which will contribute to this endeavour.