

An aerial photograph of a lush, green landscape. The foreground and middle ground are dominated by rolling hills covered in vibrant green grass, with some areas of dense forest. A large, calm blue lake is visible in the lower-left quadrant, reflecting the sky. The background shows more distant, hazy hills under a clear sky. The overall scene is bright and scenic, representing the natural beauty of Rotorua.

INDIGENOUS FOOD 2018 //
ROTORUA MARKET
OPPORTUNITY

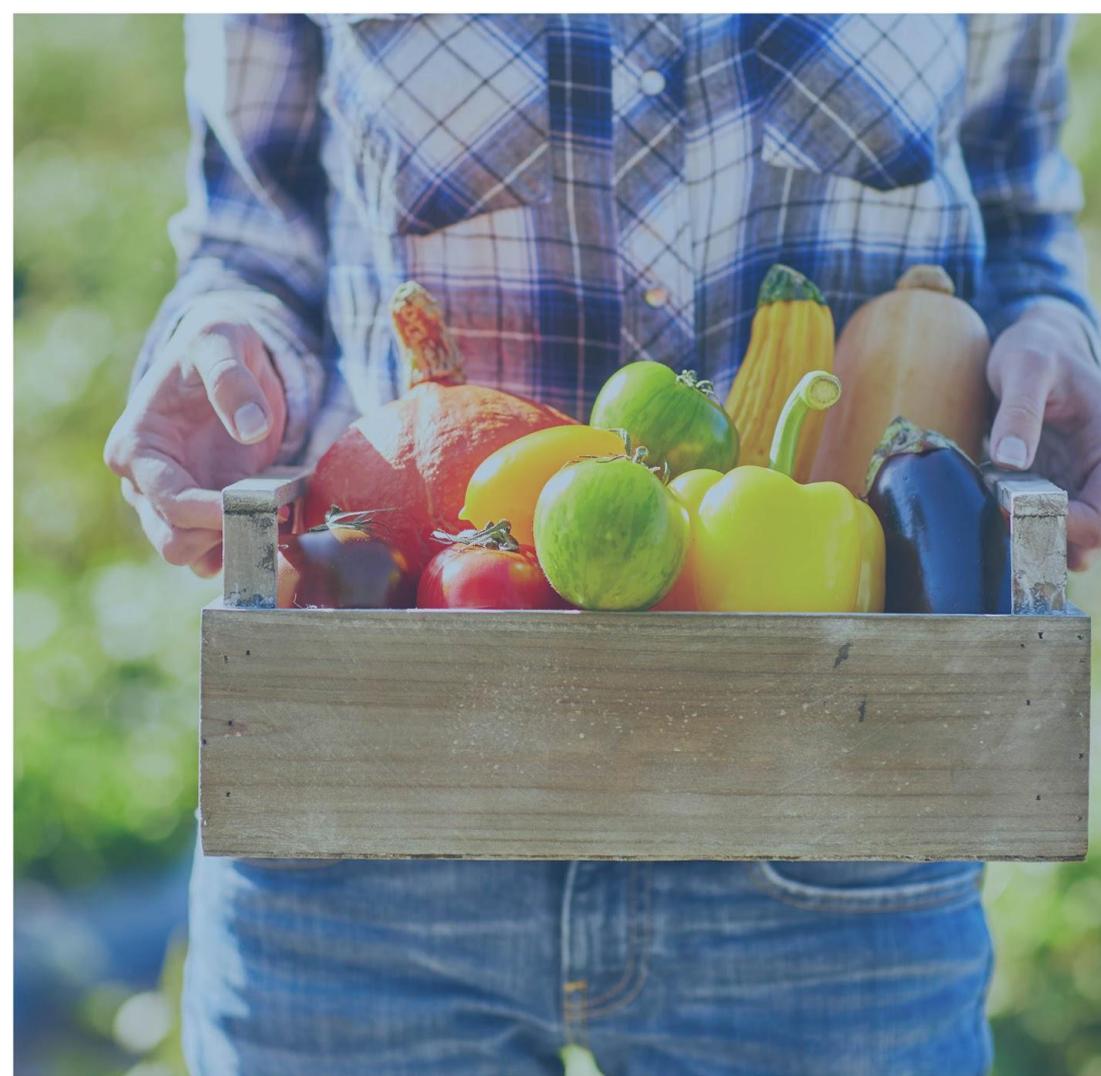
“WE’RE AT THE CUSP OF SEEING THIS EXPLODE”

There is a trend towards more authentic eating experiences, whether that be a rise in demand in farm-to-table produce; the growth in farmers markets and the organic food sector; or the global attraction towards indigenous foods.

People are prepared to pay more for premium and differentiated foods, particularly for food that comes with meaning or is connected to a story. Taking our indigenous food to the world is a largely untapped market to New Zealand, with numerous indigenous crops that we haven’t taken to market or mass produced. A key reason for this is the limitations in focused sources of supply of certain crops.

Rotorua is well positioned to take advantage of this opportunity because of existing indigenous crops; strong stories and connection to Maoridom; changes in land use in the Rotorua caldera; and proximity to both of NZ’s main ports and key markets.



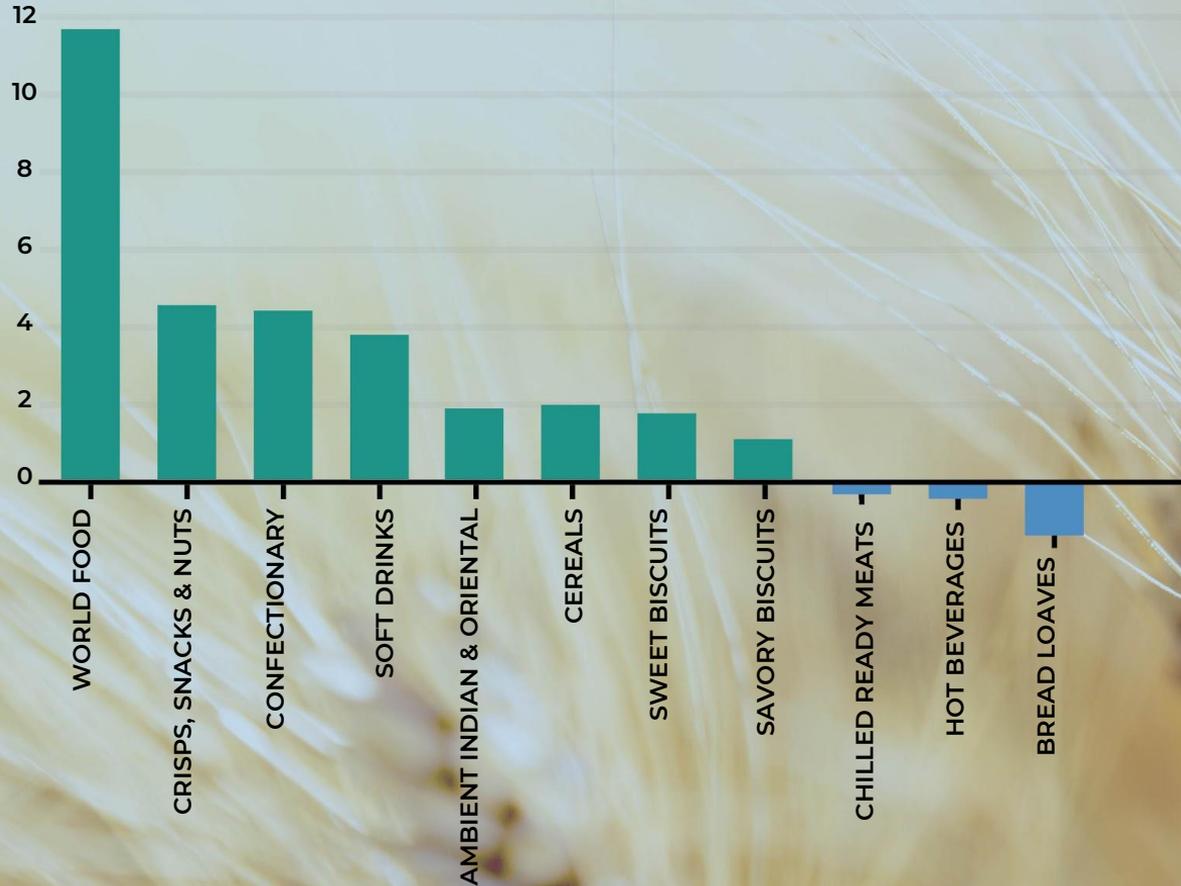


AUTHENTIC EATING

There is a global movement towards having a better connection to our food, and being more conscious about authentic eating experiences. The farm to table sector has been a food trend year after year since 2000, and is one of the main reasons why chef Dan Barber's restaurant went from 48 to 11 in America's Best 50 Restaurants. Even in New Zealand, the first farmers market opened in New Zealand in 2000 and now there are approximately 48 around the country.

Similarly, My Food Bag reached \$100m annual revenue in the first three years, and its US equivalent, Blue Apron, has been valued at \$2bn. These companies work directly and exclusively with farmers who plant items in the ground just for them, allowing access to specialty ingredients that aren't otherwise commercially available.

Even the organic food and beverage market segment is growing between 8% - 20% annually. In New Zealand Organic grocery sales through supermarkets have increased by 127% since 2012 and two out of three New Zealanders are buying organics at least some of the time.



INDIGENOUS FOODS

In the UK, the World Foods category is one of the fastest growing: worth over £520m and expected to reach £1bn by 2019, with a year-on-year growth of 11.6% (with the next category ranging at ~4.5%).

The category is only one of four shown to over index in growth compared to Total Grocery.

The big trends for 2018 are Japanese, Korean, Vietnamese - that is, all specialised, local indigenous foods.

The opportunity is there for New Zealand to showcase our indigenous food if we craft our story right.

A misty landscape with a body of water and distant hills. The scene is captured in a cool, blue-toned palette. The foreground shows a dark, silhouetted shoreline. The middle ground is dominated by a large body of water, likely a bay or fjord, with a thick layer of white mist or fog rising from the water and clinging to the hillsides. In the background, rolling hills and mountains are visible, their details softened by the mist. The sky is a pale, hazy blue, suggesting an early morning or late evening setting. The overall mood is serene and atmospheric.

“IT’S CRUCIAL THAT A NATIONAL
CONVERSATION NEEDS TO TAKE PLACE
TO HELP SELL NEW ZEALAND AS A
FOOD DESTINATION.”

- WELLINGTON CULINARY EVENTS
TRUST CHIEF EXECUTIVE SARAH MEIKLE

MĀORI FOODS

We're already starting to see the early stages of chefs wanting to utilise Māori foods, with internationally-renowned New Zealand chef Peter Gordon promoting kawakawa leaves being blitzed into mayonnaise, and Michelin chef Monique Fiso coming home to showcase Maori ingredients in a contemporary way to international chefs.

Karena and Kasey Bird are hosting evenings pitched as a multi-sensory mix of Maori legend, food, culture and wine, and at \$320 a head to get a seat this ranks higher than Sidart at \$280, French Cafe at \$305, and Roots at \$315 a head.

And it's not just in food and beverage, even the Nutraceuticals product category is expected to reach USD 578bn by 2025, and Maori have traditionally 200 or so plants used by the Maori for ritual or herbal purposes.

NZ already has the nutraceutical firm Forest Herbs Research Ltd but we traditionally lag international trends by 8 - 12 years, so we expect to see bigger growth in this sector alone.



"THAT'S ONE OF THE PROBLEMS [OF USING MĀORI INGREDIENTS], IS THAT THERE ARE FEW COMMERCIAL SUPPLIERS, IF ANY. IF I HAD OPENED THIS RESTAURANT TWO YEARS AGO, I'D HAVE IMMEDIATELY RUN INTO PROBLEMS BECAUSE ASIDE FROM KAWAKAWA AND HOROPITO, EVERYTHING ELSE WAS A PAIN TO GET."

- MICHELIN CHEF MONIQUE FISO.



MĀORIDOM & LAKE QUALITY

There are reasons why Rotorua is the right place to be growing our indigenous crops. Aside from the obvious connection to Māoridom and Māori stories, there is a big drive to improve the quality of the lakes in the district.

The Rotorua Te Arawa Lakes Programme is a partnership with Rotorua Lakes Council, Te Arawa Lakes Trust, and Bay of Plenty Regional Council with funding from the Ministry for the Environment.

The partner organisations work together to protect and restore water quality in 12 Rotorua lakes, for the enjoyment and use of present and future generations.

One of the ways that the Programme aims to improve future water quality is by restricting Nitrogen runoff to Lake Rotorua, from farms and surrounding areas. This is via the Lake Rotorua Nutrient Rules, and will require many farm holders to have a Nutrient Management Plan and demonstrate how they will meet their Nitrogen Discharge Allowance by 2032.





EFFECT ON LANDOWNERS

This process will force many farmers to change the activities on their farm from dairying or dry stock, to another form of agriculture or horticulture with lower nitrogen loss.

Much research is being invested in limiting nitrogen runoff from animals, however, although lower nitrogen loss can be achieved this may not be enough to satisfy the Nutrient Rules.

The Incentives Scheme forms an integral part of a wider framework aimed at cleaning up Lake Rotorua. The \$40 million fund has been set up to “buy” nitrogen off landowners who want to permanently lower their nitrogen discharge, with the aim of buying 100 tonnes of nitrogen by 2022.

All landowners in the Lake Rotorua catchment with nitrogen to sell can now apply for a share of the \$40 million on offer as part of the Rotorua Lakes Incentives Scheme.

ROTORUA SOIL ORDERS

PODZOLS (red area)

- Used for dry stock grazing and some dairying, forestry, and some cropping

PUMICE SOILS (green)

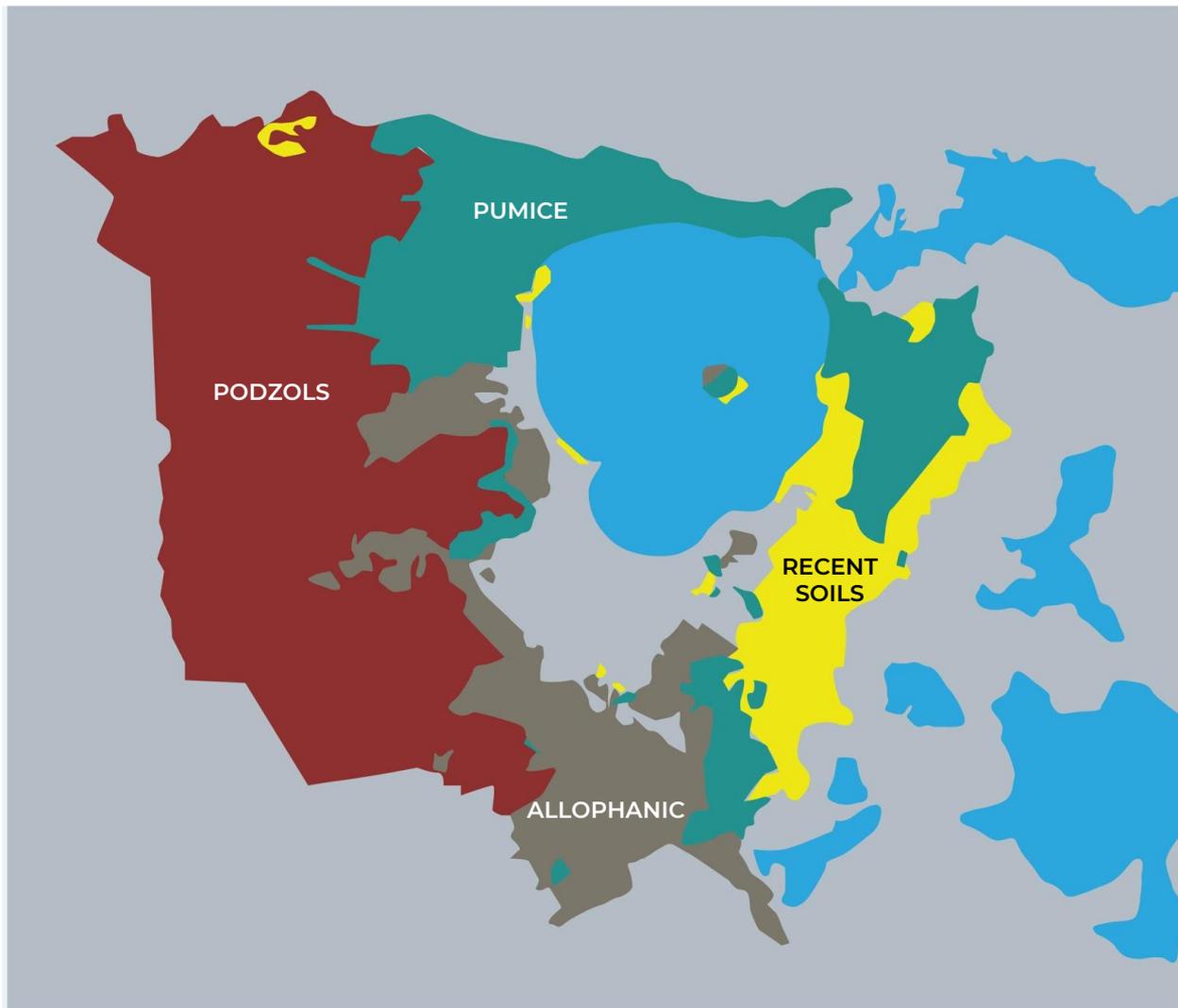
- Soil strength is weak or very weak

RECENT SOILS (yellow)

- Mostly dry stock or forestry, with many areas being in indigenous forest. Among the most versatile soils

ALLOPHANIC SOILS (brown)

- Deep-rooting subtropical plants (eg. kiwifruit), pasture (eg. dairying, dry stock), cropping (eg. maize)



ALTERNATIVE LAND USE



HORTICULTURE

- UNIQUE GROWING CONDITIONS IN ROTORUA
- SMALL ORGANIC FARMS
- SEASONAL VEGETABLES

INDIGENOUS CROPS

- NICHE PLANTS
- PRE-EUROPEAN CONTACT FOOD CROPS
- FARM TO TABLE OPPORTUNITIES

FORESTRY

- STABLE RETURNS
- CAN BE PARTNERED WITH KOURA OR WILD GINSENG FARMING

GLASSHOUSE

- GEOTHERMALLY HEATED
- CAN GROW ANYTHING FROM TROPICAL FLOWERS TO NICHE VEGETABLES



INDIGENOUS CROPS

Recent years have seen a resurgence in the interest and prominence of indigenous Māori food. It has become a routine part of gourmet farmers markets, and is now being lifted from a nutrient rich food source to fine-dining.

Charles Royal based in Rotorua introduced these foods to a modern market, and now Monique Fiso, of Hiakai in Wellington, is further elevating Māori food to international fine-dining level.

Monique and those like her have to establish nationwide networks of foragers to source some of these wild foods that are no longer cultivated, or not done so by traditional means.

HOROPITO, KAWAKAWA AND HARAKEKE

A number of varieties of Horopito are in commercial production aiming at different market segments, whether it be for use as a spice or natural health product. Biggest returns are seen in the natural health area, with growers focusing on exclusive use of certain varieties.

Kawakawa is currently not being grown on a commercial scale, but given its historical use as food and medicine, it warrants research and consideration.

Harakeke is grown widely across New Zealand but limited commercial growers exist. However, there are a number of documented studies underway into this product, and its many uses as a fibre, a medicine, and oil source.



HARAKEKE

TAEWA

Taewa or the Māori potato was a staple of the Māori diet after European introduction. There are a number of varieties of this potato, but generally either have coloured skin or flesh, the purple is one of the most distinctive and well recognised. These potatoes are high in antioxidants and are seen as a great alternative to normal potatoes.

Grown only by home gardeners for much of the 20th century, a lot of the seed crops were riddled with diseases and yields had dropped substantially.

In the last 20 years numerous studies, investigations and trials have been focused on lifting the yields, the price per tonne and also to clean the parent seeds of viruses.





TAEWA

Current Taewa on the market tend to be organic, and aimed directly at supplying to Marae, family and restaurants. There are a limited number that sell direct on the internet.

Research still seems to suggest that yields are lower than normal potatoes, although returns are higher, growers may struggle if this is their only food crop.

PUHA, KAMOKAMO AND HUE

Commonly found in the wild, there are a number of market gardeners who cultivate Puha as well as other wild greens.

The seasonal kamokamo, similar looking to a courgette is actually a type of Māori squash, which may be grown with other seasonal greens. It is growing in popularity and can occasionally be found in mainstream supermarkets.

Hue or gourd has also not been grown in recent years; however, possibilities for this plant exist both as a food source and for crafts or even as a form of bio-degradable packaging.



KUMARA

Currently all kumara is grown in the Dargaville area, with all infrastructure for the curing and storage located there. All kumara is bought by specialist wholesalers located in that area. Although this means there are barriers to entry there are also opportunities. With the country's crops all in one location problems occur in extreme weather, as was seen in 2017; when crops could not be machine harvested due to flooding, supplies of kumara dropped and prices sky-rocketed.

2018 has seen this occur again, with kumara left to rot in sodden soil due to a lack of labour to harvest. Supermarket prices are tipped to go over \$10 a kilo this year, due to increasing demand and limited supply. 97% of New Zealand's Kumara are grown in Northland.



// IN 1835 WILLIAM COLENSO, A CHRISTIAN MISSIONARY, DESCRIBED SEEING: "...ON VISITING THE ROTORUA LAKES IN 1835, A LARGE KUMARA PLANTATION (THAT NEIGHBOURHOOD BEING A PRINCIPAL AND NOTED ONE OF ALL NEW ZEALAND, FOR ITS FINE AND PROLIFIC KUMARA CROP)..."

KUMARA

There are no indigenous kumara still available today, however there are some traditional kumara that date back at least 200 years - of which three strains remain: Hutihuti, Rekamaroa and Taputini. None of these are regularly available on supermarket shelves.

Recent studies have looked at growing traditional kumara via traditional methods, and even in drought years the yields have been promising.

In 2017 community groups set about growing kumara in Rotorua, to experiment with conditions, varieties and methods.



**HUTIHUTI, REKAMAROA
AND TAPUTINI.**

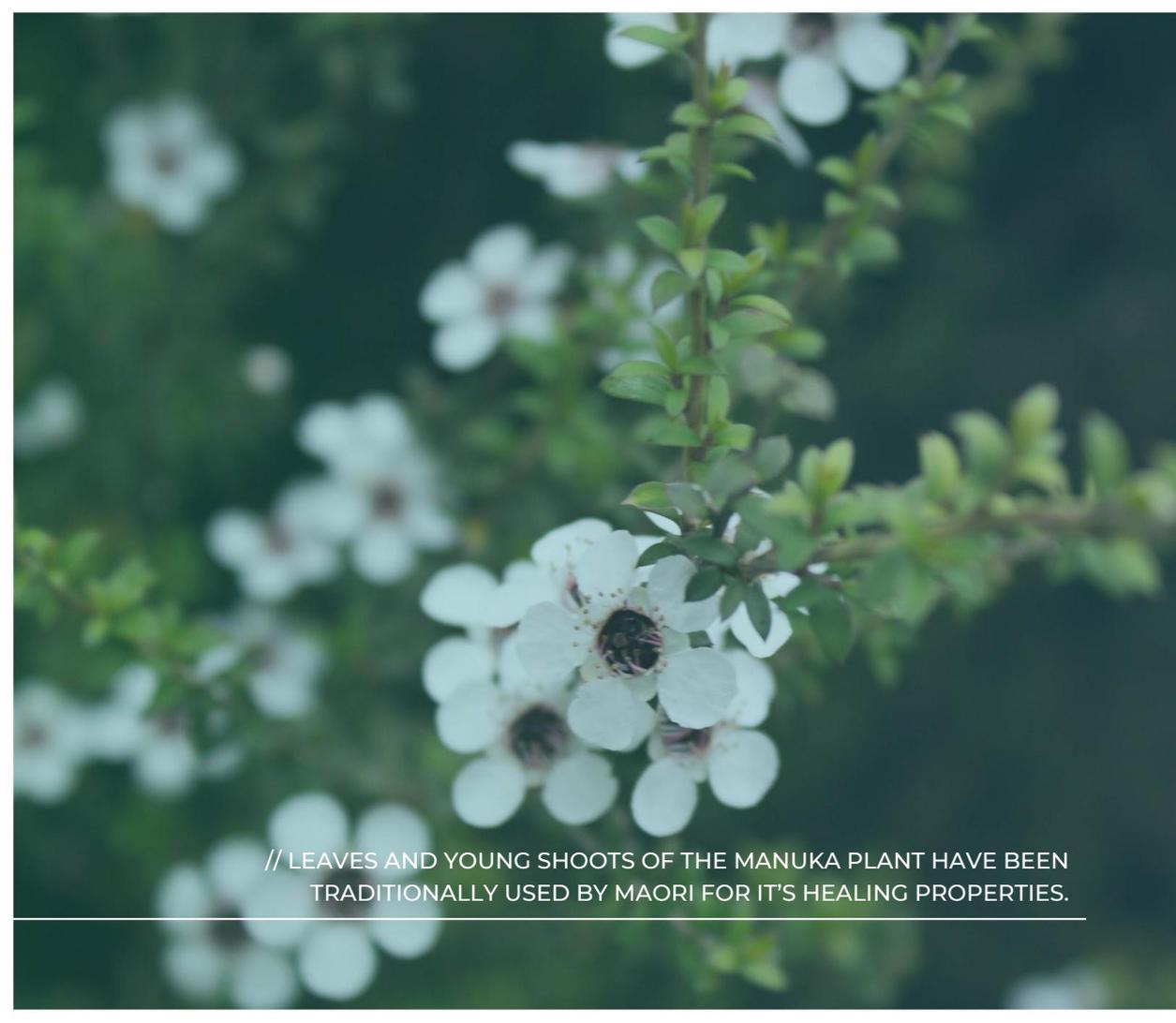
KOURA AND WILD GINSENG

Forestry enables complementary farming practices.

Koura (freshwater Crayfish): Keewai and Ministry of Primary Industries have produced a detailed report on farming koura in forestry fire protection ponds, which enables use of a resource which would otherwise be marginally utilised.

Ginseng: is suitable for co-planting as it needs a wild setting and works well in forestry blocks as under planting. 2016 research suggests a global undersupply of wild ginseng.



A close-up photograph of a Manuka plant branch. The branch is covered in small, bright green leaves and clusters of small, white, five-petaled flowers with prominent dark centers. The background is a soft, out-of-focus green, suggesting a natural outdoor setting.

HEALTH AND WELLNESS

Indigenous crops are not solely limited to food crops - and within New Zealand the number of growers, suppliers and wholesalers of natural remedies continues to grow.

This market segment builds on the uniquely New Zealand image, and local flora can be used to make everything from pain relief, oils, and biodegradable packaging options.

New Zealand honey is exported to 48 countries around the world. In 2016, 6,924 tonnes were exported at a FOB value of NZ\$258 million, giving a price per tonne of NZ\$37,271. Mānuka honey figures are not separated out in Statistics NZ figures, although it was estimated that 1700 tonnes of mānuka honey were produced in 2016.

// LEAVES AND YOUNG SHOOTS OF THE MANUKA PLANT HAVE BEEN TRADITIONALLY USED BY MAORI FOR IT'S HEALING PROPERTIES.

INDIGENOUS CROPS

This revival of indigenous foods has many drivers including health and wellness, and driving a uniquely New Zealand experience and view of the world. It is not simply about growing these crops with modern day methods, but looking to support traditional methods, as has been done in many corners of the globe (for instance Wagyu beef from Japan, Champagne from France).

This further elevates the unique nature of food, opening the pathway to elite restaurants, and to tourism ventures.

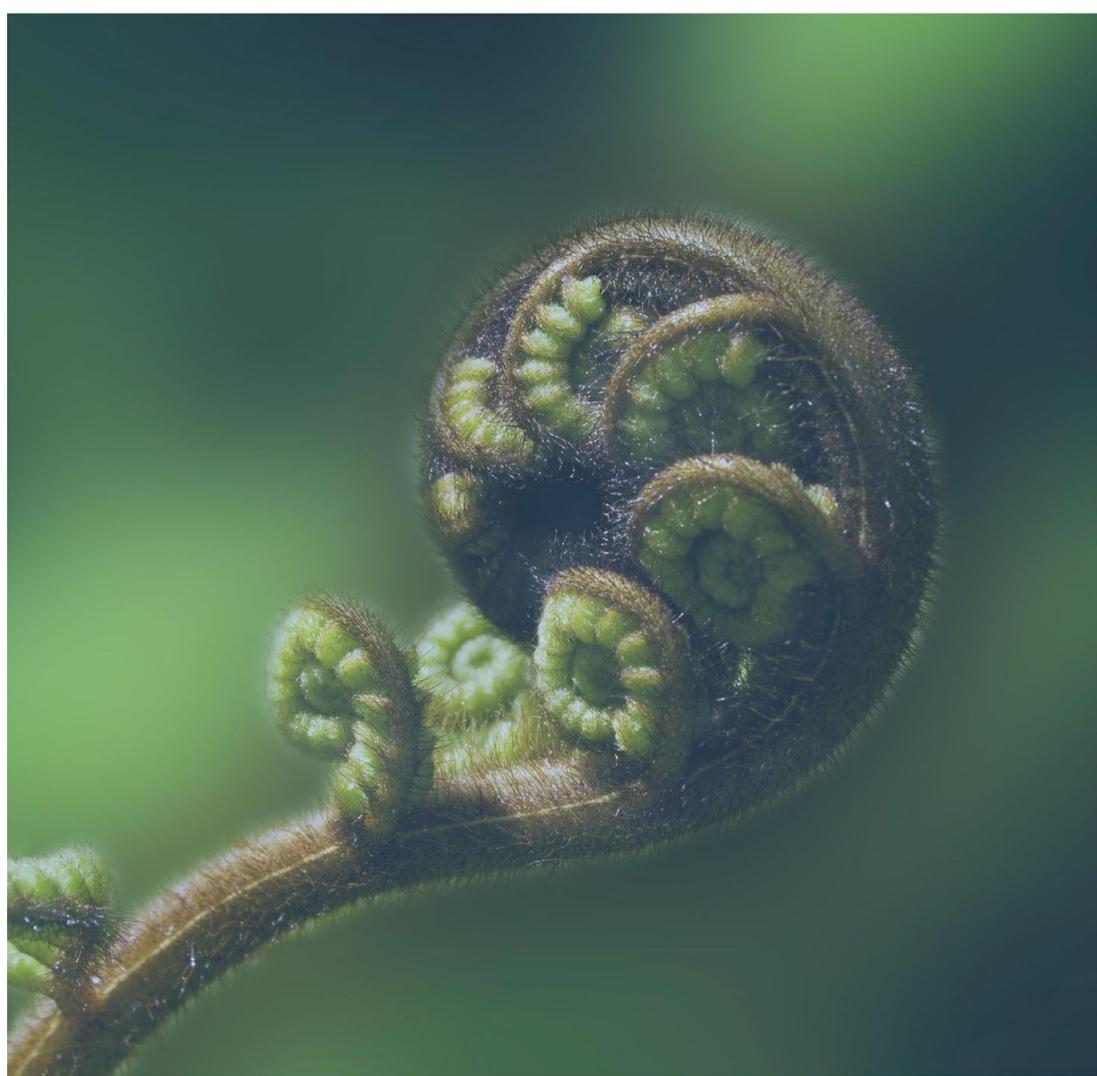


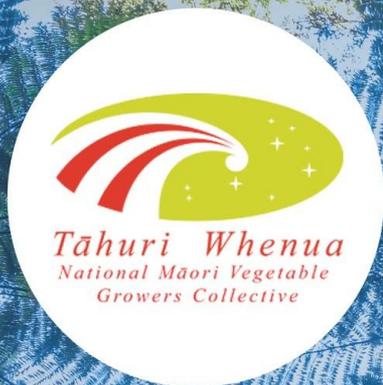
THE OPPORTUNITY

There is huge growth in world foods globally, and New Zealand is sitting on an opportunity to present what our indigenous food is. There are some well-known chefs wanting an increased supply of indigenous crops. Some of these crops are already-known for their health benefits, and there are up to 200 others that could be utilised for nutraceuticals, food, or medicine.

As summarised in the Terry Stevens report of Rotorua, the key is to derive produce and stories from a location. There is no need to overhaul the restaurants, just create better pathways to get our indigenous food into the restaurants.

Rotorua has the connection to Maoridom and stories, as well as the land and incentives for a change in use that will assist people looking to leverage this space.





SUPPORT NETWORKS

Tāhuri Whenua – National Māori Vegetable growers collective represents Māori interests in the horticultural sector, but also people interested in Māori crops. There are a range of members both Māori and non- Māori.

Natural Health Products New Zealand - The collective voice of the natural health products industry of New Zealand.

In 2017 the Bay of Plenty Regional Council produced the Rotorua Land Use Directory to assist land users and prospective buyers to evaluate other land use options, including climate conditions and comparisons to other New Zealand areas.

FOR MORE INFORMATION

Rebecca Wright
Executive Manager –
Investment, Growth & Intelligence
rebecca@rotoruanz.com
+64 7 351 7101

