

Ngā Kai o Rongo-maraeroa

Māori Cultivated Crops



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He kai kei aku ringa

There is food at the end of my hands



Report TW24/01

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Nick Roskrige is Chairman of Tahuri Whenua the National Māori Horticultural Collective and has published several books on traditional Māori foods and plants, in particular the mātauranga aligned to these floras. Nick is a Professor in Ethnobotany (semi-retired) based in the School of Agriculture & Environment at Massey University and the Deputy Director for Māori and Pasifika with Bioprotection Aotearoa. Nick is also the chairman of Te Rōpu Kaipuka, the Māori reference group for the New Zealand Indigenous Flora Seed Bank. Currently he is also a Lead Author for the IPBES Transformative Change report.

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Figure 1: 'Karuparera' taewa (*Solanum tuberosum*, Māori potato) tubers

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Introduction

This list of cultivated Māori crops was prepared by Prof. Nick Roskrige and Aleise Puketapu alongside the Tahuri Whenua collective. The list is accompanied by this scoping statement that defines the term ‘cultivated Māori crops’ and describes the context, purpose and intended use of said list. These documents should always be used in conjunction to avoid misuse or misinterpretation.

For further clarification please seek advice from the authors or appropriate Māori authority.



Figure 2: Kamokamo (*Cucurbita pepo*) fruit

Statement of intent, purpose and recommended use

The cultivated Māori crops list and accompanying statement were prepared for the purposes of aiding stakeholder discussions with Government departments such as the Ministry for Primary Industries (MPI) and the Environmental Protection Authority (EPA) when conducting their assessments and decision-making processes across this space.

Cultivated Māori crops definition:

The term ‘cultivated Māori crops’ can be defined as a collection of plant species, either native to Aotearoa New Zealand, or introduced to the country by Māori or subsequent migratory events and peoples across time (circa 1200s to 1800s) that:

- were purposefully grown by Māori for the purposes of consumption or trade. These crops consequently served as important food sources for early Māori and other migratory populations;
- featured heavily across Māori social, economic, environmental and cultural constructs and practices;
- are considered taonga by Māori and therefore remain under Māori rangatiratanga or authority as guaranteed by article two of Te Tiriti o Waitangi 1840 (Treaty of Waitangi 1840), and this relationship is further recognised through the Wai262 claim.

Note, that plants grown or cropped for other utility such as medicines (rongoā) or arts (Toi Māori) are not included in this report.

The plant species recognised (and included in the accompanying list) as ‘cultivated Māori crops’ were, and for some continue to be, farmed by Māori and were integral to the early Māori diet alongside foods derived from other subsistence activities such as hunting, gathering and foraging (Roskrug 2014 and 2015). These cultivated species are either, native to Aotearoa or were introduced directly by Māori or other migrating peoples across a period of at ~600 years, stretching back to the first Māori migratory events in the 1200s through to the 1800’s.

Those species native to Aotearoa (pūhā and kōkihi) and those introduced by Māori (kūmara, taro, hue, uwhi) are considered traditional food sources. These traditional foods are intrinsically linked to te ao Māori through whakapapa (genealogy), kōrero tuku iho (traditions) and pūrākau (ancient legends), and hence are considered taonga (of cultural significance and value). Each species possesses a distinct lineage and history that can be traced back to ngā atua Māori (the Māori deities). Rongo-maraeroa (syn. Rongo-mā-Tāne, Rongo-hīrea, Rongo-marea-roa-a-Rangi) and Haumia-tiketike (syn. Haumia, Haumia-Tikitiki and Haumia-roa), are the Māori deities of cultivated and uncultivated or wild foods respectively (Roskrug 2014 and 2015). Both deities are offspring of Papatūānuku (Earth Mother) and Ranginui (atua of the sky), from whom all living things originate including humans. These traditional foods cannot be considered in isolation of these intrinsic elements.



Figure 3: Hue (*Lagenaria siceraria*) fruit

Those plant species introduced during and post-European contact, namely kamokamo, taewa, watercress and kānga were adopted by Māori largely for their improved performance and yields, with some eventually displacing traditional farmed or subsistence foods such as aruhe or fernroot (*Pteridium esculentum*) (Roskrug 2014). In the same vein, pre-European kūmara varieties have all but been displaced by more recent (some 200 plus years ago) introductions (Roskrug 2014). Nonetheless these crop species remain as important taonga for Māori and reside in the realm of Rongo-maraeroa.

These species will always maintain their status as taonga for/by Māori and this also applies to the mātauranga (cultural knowledge), history and whakapapa associated with these species. Many of these cultivated Māori crops continue to be grown and maintained by Māori, and heritage crop growers and enthusiasts. They are also becoming increasingly sought after by these audiences for use in home and marae gardens, or Māori-led commercial ventures.

Above all, the relationship and hononga (or connection) that Māori share with these plant species (and many others) cements their status as taonga irrespective of their provenance (introduced or native). Māori rangatiratanga or authority, over these plant species is enacted through their role as kaitiaki and the responsibilities and actions of kaitiakitanga (stewardship or guardianship). Hence, Māori should always be consulted regarding all external interests in these taonga or cultivated Māori crops.

In the same vein it is also important to acknowledge growing interests in several traditional Māori wild foods like karaka (*Corynocarpus laevigatus*) and kawakawa (*Piper excelsum*) berries and the likes of Tī Kōuka (*Cordyline australis*) as alternative food sources. This may, in the future, see these wild plant species entering cultivated or semi-cultivated spaces. These taonga species reside in the domain of Haumia-tiketike, and all external interests in these must explicitly be explored with and include Māori.



Figure 4: Kānga (*Zea mays*) cobs of various colours

Summary and final recommendations

The cultivated Māori crops list consists of several native and introduced plant species that were farmed by early Māori for food, some of which are still grown and maintained by Māori and non-Māori enthusiasts. These crops are considered taonga by Māori and will always be considered as such.

It is recommended that the cultivated Māori crops list and scoping statement are always used in conjunction and never in isolation, this ensures that the user gains a full appreciation of the value and significance these crops hold for Māori. These resources are intended to support the user in making informed decisions.

However, it is also recommended that irrespective of the existence of this list and scoping statement, Māori should always be engaged and included in decision-making spaces and processes regarding all cultivated Māori crops. This is largely the only way to avoid misuse and misinterpretation of these documents. This also negates concerns regarding cultural appropriation and potential misuse of Māori cultural values and practice, mātauranga, te reo Māori, Māori intellectual property and data. The right, for Māori, to participate in such conversations and situations is guaranteed by the Crown under the conventions of Te Tiriti o Waitangi 1840 and the Wai262 claim (amongst others).

These recommendations ensure that all parties navigate this space safely and in an equitable fashion, avoiding misuse, misinterpretation, and cultural appropriation.



Table 1: Māori (indigenous peoples of Aotearoa, New Zealand) cultivated food crops, their nomenclature, uses and distinguishing features.

Native or Introduced	Māori name	Latin name	Other names	Distinguishing features*	Uses	Notes	Reference
Native Species	Pūhā	<i>Sonchus spp.</i>	Sow thistle, tiotio, rauroroa, taratara, kautara, wekeweke, taw(h)eke, pororua, rauriki, hare's lettuce		Usually boiled or sauteed/sweated in a hot pan. Included as a kinaki (garnish, complement) in many familiar Māori dishes such as 'boil-up' and toroī, a fermented mussel and pūhā dish. Pūhā also has several applications as rongoā (traditional Māori healing and medicine). Juice was dried and chewed like a gum.	Although the pūhā species of old was native to Aotearoa and whilst other endemic pūhā species exist here (e.g. Chatham Island sow thistle, <i>Embergeria grandifolia</i> syn. <i>Sonchus grandifolius</i> Kirk), species that are consumed by Māori in more modern times were introduced to the country at some point in time and are now classified as naturalised.	Roskruge 2015, Te Ara 2024,
	Kōkihi	<i>Tetragonia tetragonioides</i>	New Zealand Spinach, rengamutu, rengarenga, tūtae-ikamoana, paraihia, panamata, beach or sea lettuce	Although being afforded the name spinach, kōkihi is not related to true spinach and hence is morphologically and physiologically very different from the latter. Kōkihi is a prostrate growing or trailing perennial with thick fleshy leaves and stems.	Prepared and eaten as other leafy green vegetables such as pūha or modern spinach. Ground cover ornamental plant.	Kōkihi is native to Aotearoa, Japan and temperate regions of South America. Kōkihi is a perennial species.	New Zealand Plant Conservation Network 2024, Roskruge 2015 and 2021, Awatea Organics 2015, MWLC 2024
Introduced species	Wātakirihi	<i>Nasturtium officinale</i> (also <i>Rorripa nasturtium aquaticum</i>)	Watercress, kōwhitiwhiti, wāata kirihi, kirihi wāta, poniu		Prepared and cooked in the same fashion as pūhā and kōkihi.	Typically found growing in or near waterways. Considered a delicacy and highly prized food by Māori. Caution must be applied when harvesting from roadsides and farmland as many local or Regional Councils and landowners spray herbicides to keep ditches, roadsides and drains clear of weeds. Concerns have been raised regarding human health and harvesting from contaminated and polluted waterways. Classified as an environmental weed in parts of Australasia, North America and South Africa.	CABI 2024, Roskruge 2015
	Hue	<i>Lagenaria siceraria</i>	Gourd, calabash, bottle gourd		Immature fruit can be eaten fresh or cooked. Dried fruit has many uses including as: bowls, containers, water canisters, floatation devices, musical instruments (drums and woodwind instruments). Young leaves were eaten as were the tips or wenewene; prepared in the same way as pūhā and kōkihi.	Many different hue varieties were/are grown by Māori, each possessing their own shape and use characteristics. Hue in this instance should be used as an umbrella term to describe all gourds grown by Māori. Hue is said to be the first plant and crop to be cultivated by seed in Aotearoa following introductions by Māori. Hue's significance to Māori extends well past the crops utility; hue represent peace and fertility, and the deity associated with the plant, Hine-pū-te-hue, occupies a pivotal role in Māori creation stories or pūrākau.	Burtenshaw 2003, PVR Regulations 2022, Roskruge 2015, Furey 2006
	Kamokamo	<i>Curcubita pepo</i> ssp. <i>pepo</i>	Kami kami, kumikumi, kūkama, raurau	Deeply ribbed in comparison to other squash species.	Fruit eaten whole or mashed, boiled or roasted. Mashed kamokamo can be included in baby food known as penupenu. Immature fruit, tips (wenewene) and young leaves can be cooked and eaten.	Round or elongated, deeply ribbed summer squash. Light green, white to yellow stripes when immature changing to dark green when mature on the vine. Seed fruit turn orange during storage. Round and oval growth forms.	Roskruge 2015

* The distinguishing features notes are intended to differentiate Māori crops from European crops with the same Latin name (e.g. potatoes vs Taewa (Māori potato), which are both *Solanum tuberosum*).

Table 1 (cont.): Māori (indigenous peoples of Aotearoa, New Zealand) cultivated food crops, their nomenclature, uses and distinguishing features.

Native or Introduced	Māori name	Latin name	Other names	Distinguishing features*	Uses	Notes	Reference	
Introduced species	Kānga (syn. kaanga)	<i>Zea mays</i>	Corn/maize, paratē, kōpakipaki, Māori corn, Indian corn		As kānga is more like maize than sweetcorn, the window to eat kānga fresh is very short. Mature cobs were steeped in flowing water for several months to yield traditional fermented dishes such as; kānga wai, kānga pirau, kānga waru, and kānga pungarehu. Fermentation extended the food opportunity associated with kānga. An old variety called kānga pakaru was cooked over a heat source to yield 'popcorn'. Captain Cook introduced Māori to the practice of making flour from kānga.	Kānga is a maize-type corn similar to other heritage corn varieties. Māori grow several coloured variants of this heritage corn including red, white and black kānga.	Roskruge 2014 and 2021	
	Kūmara	<i>Ipomoea batatas</i> L.	Sweetpotato	The roots of the older varieties tend to be longer and thinner than those yielded from modern varieties.	Steamed in hāngī, boiled or roasted, peeled or skinned. Kūmara kao were prepared by cooking kūmara first in a hāngi then dried in the sun; usually smaller roots were cooked in this fashion. Kūmara kao is said to be a sweet treat enjoyed by all.	The pre-European kūmara varieties brought to Aotearoa by Māori were quite different in colour, size and shape from modern varieties; with the roots being smaller, longer and thinner than those that are familiar now. Unfortunately, these varieties have all but been lost, replaced by newer varieties some 200 plus years ago. These later introductions remain taonga and significant to Māori.	PVR Regulations 2022, Roskruge 2006 and 2014, Furey 2006	
	Taewa	<i>Solanum tuberosum</i> ssp. <i>tuberosum</i> and ssp. <i>andigena</i>	Māori potato, parareka, peruperu, riwai, mahetau	Derived from early potato introductions to Aotearoa before and after European contact; taewa possess many characteristics of these heritage varieties such as their unique colour, shape, earthy taste and growing characteristics (typically long season). Some taewa varieties have highly coloured skin ranging from cream to pink or red to various purples (e.g. karuparera, moemoe), this may or may not be coupled with coloured flesh (e.g. tutaekuri or karupoti). Many are irregularly shaped with numerous deep eyes, and some even form secondary nodules. By comparison modern potato cultivars are very regularly shaped with a smooth surface and shallow eyes.	Included in hāngī, boiled or roasted. In more modern times sometimes chipped or fried. 'Tutaekuri', the well-known deep purple skinned and fleshed variety is now seen in restaurants and commonly used by chefs in Aotearoa.	The words 'taewa', 'riwai', 'parareka', 'mahetau' and 'peruperu' are umbrella terms and describe the body of heritage or 'old' potato varieties considered as Māori potatoes. Numerous taewa varieties were grown by Māori, some authors have reported over 50. Single varieties may have several names dependent on who (whānau, hapū, iwi) and where said variety was grown. It is also important to recognise that some Māori tribes believe that certain taewa varieties originate from Aotearoa, and these narratives are maintained in their oral and ancient histories.	Biggs 1987 in Harris and Niha 1999, Roskruge 1999, 2006, 2014,	
	Taro	<i>Colocasia esculenta</i> (syn. <i>Arum colocasia</i> and <i>Arum esculentum</i>)	New Zealand Taro			All plant parts were eaten. The corm and roots can be steamed, boiled or roasted. The latter needed to be cooked sufficiently to remove the toxins from the plant material. Leaves and stems were also eaten.	New Zealand taro is an umbrella term that represents numerous taro varieties brought to Aotearoa by Māori. New Zealand taro is rarely seen cultivated or maintained in home or marae gardens; however, it may be spotted in the wild growing near streams or wet areas.	PVR Regulations 2022, Roskruge 2014 and 2015, Furey 2006
	Uwhi	<i>Dioscorea</i>	Yam, Whikaho	A true yam rather than the 'yam' that is presently marketed in New Zealand which is in fact Oca (<i>Oxalis tuberosa</i>).			No longer grown in Aotearoa due to the cooler climate and the shift to potato as the preferred carbohydrate.	PVR Regulations 2022, Roskruge 2014, Furey 2006

* The distinguishing features notes are intended to differentiate Māori crops from European crops with the same Latin name (e.g. potatoes vs Taewa (Māori potato), which are both *Solanum tuberosum*).

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Glossary of Māori terms

Kupu/word/term	Definition (Te Aka Māori Dictionary 2024: Te Aka Māori Dictionary (maoridictionary.co.nz))
Aruhe	Edible rhizome of bracken-fern (<i>Pteridium esculentum</i>), fern root - a staple food in pre-European times.
Atua	Ancestor with continuing influence, god, demon, supernatural being, deity.
Hāngī	earth oven to cook food with steam and heat from heated stones.
Haumia-tiketike	Syn. Haumia-tikitiki, Haumia-roa, Haumia.
Hononga	Union, connection, relationship, bond.
Hue	Calabash, gourd, gourd plant, <i>Lagenaria siceraria</i> , a cultivated plant.
Kaitiaki	Trustee, minder, guard, custodian, guardian, caregiver, keeper, steward.
Kaitikaitanga	Guardianship, stewardship, trusteeship, trustee.
Kamokamo	Squash, when mature, has a deeply ribbed and extremely hard yellowish skin. This is a favoured Māori food eaten young and immature.
Kānga	Corn, maize, sweetcorn.
Karuparera	Māori potato cultivar, <i>Solanum tuberosum</i> - a waxy potato with purple skin and very clearly defined bright yellow patches around the eyes. Best for boiling and microwaving.
Karupōti	Māori potato cultivar, <i>Solanum tuberosum</i> - a potato which has deep-set eyes.
Kōkihi	Beach spinach, New Zealand spinach, <i>Tetragonia tetragonioides</i> .
Kūmara	Sweetpotato, kūmara, <i>Ipomoea batatas</i> .
Māori	Māori, indigenous New Zealander, indigenous person of Aotearoa/New Zealand.
Mātauranga (Māori)	The body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.
Moemoe	A variety of Māori potato with a purple skin and reddish-yellow mottled flesh.
Papatūānuku	Earth, Earth mother and wife of Rangi-nui - all living things originate from them.
Penupenu	Mashed food.
Pūhā	Perennial sowthistle, small leafy plants with thistle-like leaves and milky juice. They are boiled and eaten as a green vegetable. <i>Sonchus kirkii</i> is the only one native to Aotearoa/New Zealand
Pūrākau	Myth, ancient legend, story.
Ranginui	Atua of the sky and husband of Papa-tū-ā-nuku, from which union originate all living things.
Rongo-maraeroa	Syn. Rongo-mā-Tāne, Rongo-hirea, Rongo-marae-roa-a-Rangi
Taewa	Māori potato, <i>Solanum tuberosum</i> ssp. <i>tuberosum</i> and ssp. <i>Andigena</i>
Tahuri Whenua	Tahuri Whenua Inc. Soc., National Māori Vegetable Growers Collective.
Taonga	Treasure, anything prized by Māori.
Taonga tuku iho	Heirloom, something handed down, cultural property, heritage.
Taro	A plant with edible, starchy corms and large, edible, fleshy leaves.
Te Ao Māori	The Māori World.
Tī Kōuka	Cabbage tree, <i>Cordyline australis</i> - a palm-like tree with strong, long, narrow leaves; the young inner leaves are eaten both raw and cooked.
Tutaekuri	A Māori potato cultivar, <i>Solanum tuberosum</i> - has elongated tubers with purple skin and flesh, hence the name. Best for baking and roasting.
Uwhi	Yam, <i>Dioscorea alata</i> .
Wenewene	Hue or kamokamo vine tips.
Whakapapa	Genealogy, genealogical table, lineage, descent

