It is generally accepted by scholars, that potatoes (*Solanum tuberosum*) were first introduced to New Zealand in the late 18th century by Captain James Cook and the French explorer Marion du Fresne (Harris and Niha 1999:11-14). Further introductions of potatoes from a variety of sources, including possible direct introductions from South America, followed into the 19th century. Māori were quick to recognise the advantages that these new introductions had over their traditional food crops including *kūmara* (*Ipomoea batatas*) and taro (*Colocasia esculenta*), both of which they brought to Aotearoa from East Polynesia some 700 years before (Harris 2002:303). Referring to the introduction of the potato, Yen (1961:4) considered that agriculturally the impact of the plant must have been spectacular. Potatoes soon became a staple item in the Māori diet and an important trade commodity; by the mid-19th century they were growing thousands of hectares of potatoes for that purpose (Hargreaves 1959:5).

While it is generally recognised that potatoes were introduced to New Zealand by Europeans, some Māori maintain that they were introduced to New Zealand by their ancestors along with the *kūmara*. Although there is no firm evidence that this was so, Rhoades (2001:143) noted, “the potato is at the centre of an ongoing debate over contact among the peoples of the Pacific long before arrival of European ships”.

This paper examines reports that Māori possessed potatoes before the arrival of Europeans in New Zealand and presents evidence that this was unlikely. It also considers the likelihood that Māori developed a range of unique potato cultivars that they selected and developed from variants of potatoes introduced by Europeans.

*Reports of Pre-European Potatoes*

It was just over a hundred years ago that a paper published in the *Journal of the Polynesian Society* (Hammond 1894:237–38) considered the possibility that Māori might have been growing potatoes before Europeans arrived in New Zealand. Hammond recorded that Māori on the Pātea coast said they had several varieties before the arrival of Europeans and referred to an ancestor, *Tē Reke Tatairongo*, who obtained a tuber from the “hidden world” that he cultivated and distributed among his people. Hammond noted that the *Tatairongo* potato was still cultivated (1894) at Pātea and Waitōtara. He also listed 15 named varieties which Māori claimed were cultivated before the introduction of European varieties. In a footnote to Hammond’s paper, the editors noted that they had been told by Te Karehana Whakataki (living at
Porirua) and by Rangipito (living in the Hutt Valley) that Māori possessed potatoes before the arrival of Europeans. Both men gave the names of several varieties of pre-European potatoes grown by Māori. The editors, however, noted:

In giving this information, these old men intended to imply that the Maoris possessed these varieties before the times of Captains Cook and de Surville, but it seems to us questionable if they are not varieties produced from those brought here by those two navigators.

Best (1925:284) recorded:

In the Bay of Plenty district it is a popular belief that the araro and rokoroko varieties of the potato (*Solanum*) were cultivated there prior to the arrival of Europeans, but old Tutakangahau of Maungāpohatu stated that they were obtained during the early years of intercourse with Europeans.

In *Song of Waitaha*, a collection of the teachings of Iharaira Te Heihana, Brailsford (1994) recorded several references to the Waitaha people’s claim to have introduced the potato to New Zealand/Aotearoa from Waitangi ki Roto, their ancestral homeland. Along with the kūmara and other introduced plants, he refers to “... peruperu, the potato which went happily to new soils” (p.136) and recorded descriptions of several varieties (p.143):

In the fine soils below makomako we planted the small black potato, the old one named peruperu that needs less water than the others. Its neighbour was the little yellow potato, the taewa that gave great energy to those doing heavy work. On the middle slopes were the small kumara and the big red potato called parete.

This work of Brailsford’s appears not have been taken seriously by many academics including King (2000:29-32), who referred to the book as “a serious misrepresentation of tangata whenua culture that is not being promoted by professional historians” and that “people such as [Atholl] Anderson, Te Maire Tau and Tipene O’Regan have already demolished it”. Anderson (1998:8) described the book as “a daft cryptohistory”, while Tau (1995:6) in “Song of Waitaha—A Descendant’s Point of View”, was highly critical of the book and noted, “The writer could find little that could qualify as authentic tradition.”

Best (1925:284) doubted that Māori possessed potatoes before the arrival of Europeans and observed,

If the potatoes planted in Queen Charlotte Sound by Cook in 1773 were perpetuated, then the tribes of Cook Strait must have cultivated them for nearly fifty years before the coming of whalers and traders. Little wonder they claim a pre-European potato.

Biggs (2000) also doubted the presence of potatoes in New Zealand before those introduced by Europeans and wrote:
There is a persistent belief that potatoes (Solanum) were present in New Zealand prior to 1769 but I do not know of any traditional references that would support this. The belief that Solanum was here before contact may have its origin in the transfer of indigenous names for other root-crops to varieties of potato.

A recent headline published on the website of the New Zealand Foundation for Research, Science & Technology announced, “Research Project Refines Indigenous Gourmet Potato”, and the article went on to state that “the indigenous Maori potato Tawea [sic] could be a hot new item on menus in New Zealand and overseas thanks to research trials at seven sites around the country”. This wording is unfortunate as it gives credibility to the unsubstantiated and unlikely concept of an indigenous New Zealand potato. Davidson (2005 pers. comm.) noted that even the kūmara and taro which were known to have been brought here by Māori could not be accurately described as “indigenous”.

Peruvian Origins

Peruperu is a generic name for the potato commonly used by Māori in the North. Some have suggested that this name provides evidence that Māori obtained potatoes directly from Peru before European contact. It is important to note, therefore, that the name of the country of Peru is not from the indigenous Quechua or Aymara languages, but is a derivation of the name of a local chief Biru, who collaborated with the Spanish conquerors. The indigenous people refused to use the name as it was imposed on them (in the mid 16th century) by the Spanish colonists. An alternative explanation was provided by a kūia from Taitokerau (E. Tipene, 1996 pers. comm.), who noted that the name peruperu for the potato came from the name of the white feathers at the throat of the tui (Williams 1971:279).

While the potato did in fact originate in the Andean regions of Peru and Colombia (Hawkes 1990:11, Salaman 1987), it arrived in New Zealand after a period of evolution and development in Europe and the United Kingdom. Of the evolution of the potato, Mackay (1997:563) states,

Over time, by unconscious and conscious selection for higher yield, the short-day tubering forms of Solanum tuberosum subsp. andigena that were originally introduced to Europe from South America, were gradually developed into the day-neutral, high yielding European Solanum tuberosum subsp. tuberosum.

The Cultivar ‘Urenika’

The cultivar ‘Urenika’, which has elongated tubers with a purple skin and flesh, is one of the so-called Māori potatoes described by Harris (2001a:88-99). It forms tubers late in autumn and has deep-set eyes; the leaflets are set widely apart and the tubers develop on long stolons up to a metre away from the centre of the plant. Thompson (1988:182) described it as “a cultivar that shows what are probably ancestral characters of the potato”. Harris noted that ‘Urenika’ exhibits almost identical morphological
features to the UK cultivar ‘Congo’. The only difference he observed was that ‘Congo’ consistently produced larger tubers. ‘Congo’ is grown throughout Europe where it is known by a variety of names including ‘Bla Potatis’ in Sweden and ‘Vitelotte Negresse’ in France. Genet (1996 pers. comm.) also considered that ‘Urenika’ was likely to be synonymous with ‘Congo’.

Because of its relatively undeveloped characteristics and its similarity to native Andean potatoes such as the cultivar ‘Cjachi Chuccan’ (Harris 2001a:15), some suggest that ‘Urenika’ is possibly one of the cultivars brought to New Zealand by Māori. What is more likely, however, is that it was brought here directly from South America in ships’ stores. Yen (1961:2) wrote,

…as ships’ stores, potatoes could have been brought from North, South and Central America since Callao in Peru and Acapulco in Mexico were provisioning ports for whaling vessels, many of whose home bases were in the eastern USA.

Factors Precluding a Pre-European Potato

While claims and references to indigenous and pre-European potatoes persist, there are a numbers of factors which indicate that Māori were unlikely to have cultivated potatoes before their introduction from Europe.

First, the introduction of the potato from Europe in the late 18th century had an immediate and profound effect on Māori society. Māori recognised the advantages of the introduced potatoes over the kūmara. They were easier to grow, yielded more heavily and were easier to store. Anderson (1998:72-74) noted that potatoes were particularly welcome in the southern regions of the South Island where kūmara would not grow. He wrote:

The food yield and value of potatoes especially in relation to labour expenditure, greatly exceeded that available from fern root and cabbage tree, so there was a substantial increase in the productivity of vegetable foods. Since these had been the limiting factor in prehistoric diets, especially in the south, nutritional status and population growth probably both increased during the early nineteenth century in southern New Zealand.

Second, there is no scientific evidence to date (such as pollen records or the discovery of remnants of early carbonised potato tubers) to indicate pre-European potatoes (B. F. Leach, 2000 pers. comm.)

Third, early European explorers, whose expeditions included competent botanists who kept detailed records, found no evidence of pre-European potatoes. Richards (1993:30) noted that it would be unlikely that the presence of potatoes would have evaded the close investigations of Māori gardens made by the competent botanists in Cook’s crew.

Fourth, there are no old waiata (songs), pēpeha or whakatauaki (proverbs or sayings) that make reference to potatoes. Roskruge (1999 pers. comm.) said, “Another key fact which supports the later introduction of taewa to this country is the lack of
old waiata which make any reference to them. So we can be pretty sure they did not arrive during the period of the migrations here…” Mead and Grove (2001:60, 272) detailed 37 traditional pëpeha that referred to the kūmara while they listed only two that refer to the potato (taewa)—one credited to a Ngāti Kahungunu chief and the other to Te Whiti o Rongomai, both of the 19th century.

Fifth, other plants introduced by Māori, including kūmara (Ipomoea batatas), taro (Colocasia esculenta), yam (Dioscorea alata), hue/gourd (Lagenaria siceraria) and aute/hibiscus (Broussonetia papyrifera) were from the warm, humid tropics (Leach 1984:53). The potato however, although of equatorial origin, was a high altitude plant which would not have grown successfully in the warm humid conditions of a tropical East Polynesian homeland from where, it is generally agreed, Māori migrated to New Zealand some 700 to 900 years ago (Davidson 2000:24, Irwin 1992:6). P.M. Matthews (1999 pers. comm.) noted that the potato has never been recorded archaeologically in tropical Polynesia or in the accounts of early European explorers there.

There are several factors which would have precluded successful prehistoric potato production in the lowland tropical conditions that are found in the islands of East Polynesia. It is only relatively recently, through work undertaken by organisations such as CIP (International Potato Centre) and Cornell University, that it is becoming possible to grow potatoes at all under tropical conditions. In 1926 Salaman (1987:130) wrote, “No variety of the potato flourishes under tropical conditions. In its native Andean home, although within the tropic zone, the great altitudes at which it is found renders the climate quite temperate.”

Midmore and Rhoades (1987:103) wrote, “The introduction of the potato to the warm tropics is a recent innovation that has been gaining acceptance over the last decade” and Williams et al. (1991:139) noted that, despite recent work to develop the potato for production in the lowland tropics, it remains essentially a crop of temperate or sub-tropical regions and high-elevation sites (1000-3000m) in the tropics.

Māori Developed Cultivars

What is more likely than Māori-introduced potatoes is that Māori developed several new potato cultivars by sowing true seed of the potatoes that were available to them and making selections from the seedlings. This was reported by Colenso (1880:14) who noted,

The northern tribes, especially the Ngāpuhi, had more than forty years ago, obtained several new varieties of potatoes by sowing its seed; to which, however, they were first led by accident, having noticed some young plants which had sprung from self-sown seeds of the ripe potato berries and from them they had obtained several good and prized sorts.

Yen (1988:39) also referred to the Māori development of cultivars. He noted that while the many potato varieties grown by Māori are regarded as simply relicts of direct and early European introduction, a Mrs Henare spoke of “potato apples with seed” in reference to her plantings of potatoes at Motatau in Northland. He suggested that, through Māori selection, these potato seedlings produced the Māori varieties. He
described this as “a redomestication”. Salaman (1987:159) noted that this practice by native cultivators of intentionally raising new potato varieties by sowing true seeds from the potato berry has been undertaken for many years, and referred to Colombian native people who collect potato berries from the Andes mountains “selecting from the seedlings the better types and the heavier yields”.

Raising potato plants by true seed also appears to have been a practice undertaken by Taranaki iwi, as Roskruge (1999 pers. comm.) refers to taakuru as the name for true potato seed and to monemone, the name for plants raised by sowing true seed, as names used by Māori in that district.

While it is possible that some of the potato varieties perpetuated by Māori resulted from intentional seedling selection, Yen’s apparent claim that all or most of these varieties were produced by this method is unlikely; there are no records of the practice being widespread (it has been recorded as having been undertaken only by northern iwi and in Taranaki) and few seed-bearing varieties would have been available growing. Growing conditions have to be optimum for seed-propagated potato plants to produce storable tubers in a growing season and this would also have limited the practice. The fact that crosses between *Solanum tuberosum* varieties yield about one useful variety for every 10,000 seedlings raised (Howard 1970:92) adds weight to this argument. Yen later advised me (2000 pers. comm.) that he had not meant to imply that all Māori varieties arose from seedling selection.

The Cultivar Kowiniwini

One existing cultivar that is very likely to have been selected and perpetuated by Māori is ‘Kowiniwini’, a potato that has a purple skin with very clearly defined bright yellow patches around the eyes, giving rise to the name, which means ‘many windows’. A Northland kuia (E. Tipene, 1996 pers. comm.) said that ‘Kowiniwini’ was one that was that was selected by Māori for its very striking appearance and that “it arose from another variety”, which suggests it may have arisen from a somatic mutation or “sport” rather than from seedling selection.

* * *

There is no doubt that Maori adopted, adapted and perpetuated potato cultivars that were brought to New Zealand from a variety of sources by explorers, traders, whalers and settlers in the late 18th and early 19th centuries. These old potatoes which have become known collectively as “Māori Potatoes” are still grown by Māori to the present day, and their preservation by generations of Māori people has made a valuable contribution to biological diversity (Harris 2001b:211).

While there is ongoing debate about a pre-European potato in New Zealand, available evidence suggests it unlikely. However, it is almost certain that Maori did develop a range of new cultivars by selection from seedlings and from somatic mutations of introduced potato cultivars.

Scientific and academic institutions have a responsibility to be objective and should be cautious in the use of terminology in describing these potatoes, or any other introduced crop or plants, as “indigenous”.
During the mid 1990s I undertook an extensive study of the production and perpetuation of old potato cultivars by Māori communities and individuals. These are the so-called “Māori potatoes” referred to by Māori by a variety of names including riwai, taewa, mahetau and parareka. I would like to acknowledge the many Māori people who entrusted me with information and allowed it to be published. Many of these people have now passed away. I would like to acknowledge in particular, the late Nanny Ema Tipene from Motatau in Taitokerau and also Poai Pakeha (Sonny) Niha who first interested me in this project.

I would also like to acknowledge contributions made by Janet Davidson, Foss Leach, Doug Yen, Peter Matthews, Russell Genet and Nick Roskruge, whose personal communications have been quoted in this article.

Finally thanks are due to my colleague Mike Burtenshaw who can be relied on to provide objective and constructive criticism.

ACKNOWLEDGEMENTS

NOTES

1. <www.frst.govt.nz/publications/tech-reports>
2. Correct spelling is taewa. Taewa is the name commonly used by Taranaki iwi for the potato.
4. Cultivar (cultivated variety). In this paper, the International Code of Nomenclature for Cultivated Plants (Brickell 1980) is followed, in enclosing cultivar names, including those with Māori names, in single quotation marks and leading upper case letter.
5. “True” potato seed refers to the seeds contained within the berries that develop on the stems of the potato plants. “Seed” is often used to refer to the “seed tubers” that are planted to establish a potato crop.

REFERENCES


