



Crop & Food Research Institute Ltd

&

Tāhuri Whenua Inc. Soc.

Research and development report

Prepared by:
Simon Ngarangi Walsh
For Crop and Food Research Ltd

CONTENTS

Executive summary	2
Pepeha	3
Objective	4
Methodology	4
Description of Tahuri Whenua	6
Forward	6
Governing Body	8
Function	8
Summary of Strategic Plan	9
Other plans	11
Growing profile	11
Description of Members	12
Number of Members	12
Description of growers	13
Location	13
Markets	13
Returns	14
Current Research	15
Summary of Current Research	15
Commercialisation of traditional cultivars of kumara	15
The Pu Hao Rangī Trust & Crop and Food Research description	15
The Riddet Centre project – Taewa product development	16
Future Research	17
Questioner	17
Importance of research	17
Relevance of CRI's	17
Relationship with CFR	17
Research wanted from CFR	18
Research Opportunities	19
Reasons behind research opportunities	19
Beneficial	20
Information transfer	20
Summary	21
Appendices	22
Appendix 1: Covering letter sent with questionnaire	22
Appendix 2: Committees Responses	23
Appendix 3: Examples of taewa prices	32
Appendix 4: Meeting notes - Leach/Walsh	33

EXECUTIVE SUMMARY

The Objective of this report is to assess how Crop and Food Research can assist Tahuri Whenua achieve their objectives through research and development

This will be achieved by understanding the role of Tahuri Whenua within the NZ horticulture sector, understanding the current capacity of members, understanding the members needs, understanding current research and identifying future research opportunities. Background information regarding Tahuri Whenua Inc Soc was obtained from various reports produced or prepared by the collective and interviews with members. Background information regarding the research and development relevant to this report was obtained from published material and internet sources.

Tahuri Whenua Incorporated Society is a national Maori vegetable growers collective representing Maori interests in the horticulture sector. Tahuri Whenua's strategic vision is: to represent Maori interests nationally in the vegetable sector of the New Zealand horticulture industry from crop production through to marketing and including training and education. They plan to achieve their strategic vision through key objectives including: to promote a collaborative Maori participation within the wider horticulture industry, to improve crop production systems, to build relationships with the horticulture and related industries, to facilitate Maori participation in research and development in the horticulture sector, and to acknowledge matauranga Maori.

A questionnaire was sent to the committee members of the collective in order to gain their view in regards to Tahuri Whenua's future in regards to research and development. All but one member responded to the questionnaire with varied opinions given from each question. Non-committee members were also informally questioned on the R&D questions, as this was the only way to get a response from many of them.

It has been identified that the Tahuri Whenua has an interest in Research and Development. The governing body has expressed a view that R&D is vital to the future of the collective. The growers have also expressed similar views that they want whatever edge they can get in order to compete within the horticulture sector. The area of indigenous crops and the markets that they are involved in has been identified as an untapped market, with demand outweighing supply. This has opened the door for CRI's to do research in the name of Maori development using these crops. However Maori are looking for a partnership rather than outsourcing research. They want to be in the loop rather than being told what it is they want. It is in the best interest of the CRI's to look to genuinely develop better relationships with the Maori communities before they start to consider R&D on behalf of Maori

Tahuri Whenua has proven to be a professional well establish collective that no doubt will be a recognisable player with in the industry. They have identified that they wish to be taken seriously and targeted for genuine professional reasons, not simply chasing the Maori R&D dollar. Further virus elimination of taewa varieties and improved production systems for specific crops would be the two most predominant research initiatives.

The committee members of Tahuri Whenua recognise the opportunity given to them to participate in this report and expressed their hope for a long term relationship between Maori horticulturists and CFR as a leading research entity in their industry.

PEPEHA

Tena Koutou Katoa

Ko Simon Ngarangi Walsh taku ingoa
No Pamutana ahau
Ko Tainui te waka
Ko Tararua te maunga
Ko Waikawa te awa
Ko Ngati Raukawa raua ko Ngarauru nga iwi
Ko Ngati Wehiwehi te hapu
Ko Ngati Wehiwehi te marae

I am a graduate with a Bachelor of Business Studies majoring in human resource management. This report is a result of a summer scholarship through Crop and Food Research Ltd during the 2005-2006 period.

No reira tena koutou, tena koutou
Kia ora tatou katoa

OBJECTIVE

The Objective of this report is to assess how Crop and Food Research can assist Tahuri Whenua achieve their objectives through research and development

This will be achieved by:

- a) Understanding the role of Tahuri Whenua within the NZ horticulture sector
- b) Understanding the current capacity of members
- c) Understanding the members needs
- d) Understanding current research
- e) Identifying future research opportunities

METHODOLOGY

1: Background information

- Background information regarding Tahuri Whenua Inc Soc was obtained from various reports produced or prepared by the collective and interviews with members
- Background information regarding the research and development relevant to this report was obtained from published material and internet sources.

2: Direct Contacts

Direct contact was made with members of Tahuri Whenua who had the potential to provide relevant assistance. They were:

- **Nick Roskrige** Tahuri Whenua Chairman/ Institute of Natural Resources Massey University/ Paiwhenua Consultants
- **Moana Puha** Tahuri Whenua Dep. Chairperson/ Technician Agresearch
- **Marie Russell** Tahuri Whenua Treasurer/ Kaitautoko Maori, Massey University
- **Mataroa Frew** Tahuri Whenua Committee member/ Maniapoto
- **Richard Hunter** Tahuri Whenua Committee member/ Consultant/ HortResearch
- **Simon Lambert** Tahuri Whenua Committee member/ Te Tapuae o Rehua/ Canterbury University
- **Carl Munro** Tahuri Whenua Committee member/ Taewa grower/ Kahungunu
- **Hemi Cunningham** Kaumaatua/ Taewa, Kamokamo grower/ Taranaki whanaui
- **Pita Richardson** Kaumaatua/ Taewa, Kamokamo grower/ Ngati Raukawa
- **Norm Dewes** Member/ CEO Nga Hau e Wha Marae Christchurch
- **Don Brash** Crop and Food (Post harvest) researcher
- **Huub Kerckhoffs** Member/ Crop and Food CRI researcher
- **Lily Grey** Member/ Kumara grower/ Ngati Porou

3: Hui attended

- 15/12/2005 Nga Hau e Wha marae - Christchurch
- 16/12/2005 Rolleston prison – Canterbury
- 16/12/2005 Bio CoRE/ Lincoln University
- 16/12/2005 Nga Tapuae o Rehua – Christchurch
- 20/12/2005 Meeting Leach, Walsh, Roskrige & Brash –Palmerston North
- 16/01/2006 Meeting Leach & Walsh – Palmerston North
- 19/01/2006 Ngati Raukawa kaumaatua – Palmerston North
- 18/02/2006 Tahuri Whenua Hui a mahi - Parewahawaha marae – Bulls
- 09/03/2006 East Coast Organic Producers hui – Tolaga Bay
- 22/03/2006 Hui-a-hauhaki, Massey University

4: Limitations

The information obtain was limited due to Tahuri Whenua being a voluntary collective. All information obtained was given freely by individuals in their own time. This cause some difficulty with response times as every respondent perceived the importance of the research at different levels. Others tended to want more of an informal discussion about their gardens rather than a formal discussion about where they considered research to be important.

Also, in some cases the growers do not justify their reasoning for some statements making it nigh impossible to say exactly why they have positioned themselves as they have.

DESCRIPTION OF TAHURI WHENUA INC. SOC

Foreword

(Provided by Nick Roskrug, Chairman, Tahuri Whenua, 2005)

The New Zealand horticulture industry is worth in excess of \$2.1 billion annually¹. Within the wider horticulture industry there are a number of sectors, which exist independently whilst contributing to the industry as a whole. The key sectors are: fruit production, cut-flower production, nursery production, amenity horticulture, organic production and vegetable production. Maori contribute to all sectors to some extent however it is the vegetable sector estimated to be worth over \$520million annually².

Maori are horticulturists. We know this through our whakapapa which identifies the fact right at the very origins of our people; the sons of Papatuanuku and Ranginui included Rongo-ma-Tane and Haumie-tiketike, manifestations and guardians of the cultivated and uncultivated crops respectively. Our history recalls the importance of key crops during the periods of migration to Aotearoa; taro, aute, uwhi, hue and kumara. Prior to the arrival of Europeans, Maori were subsistence horticulturists' dependant on the success of these crops for matters of survival, hospitality and health. Subsequent to the colonisation of Aotearoa, Maori became key players in the production and marketing of horticultural crops – primarily vegetables but not exclusively – to the new settlements. In the mid-Nineteenth Century we – Maori – were the key suppliers of fresh produce to burgeoning settlements such as Auckland and Nelson. We had the skills and resources to manage this but since that time our presence in horticulture/vegetable production within Aotearoa/New Zealand has diminished to the point where vegetable production on a commercial scale is somewhat rare for Maori.

Maori now have a quite different relationship with land than they ever had before. Legislation controls how Maori align to the land resource and how Maori manage it for any productive system. New technology in the horticulture industry has meant the ability to participate has become more skilled and expensive. Horticulture is no longer the labour intensive industry it once was. It is now highly managed to gain the optimum outputs from a limited resource but this comes at a price. The cost of participation is continually increasing and those who are visionary have the opportunity to move out of commodity production and into high-value, niche production. This requires a continued development of skills and knowledge relative to the specific land use on any horticulture block. No longer is the generic knowledge of the resource and crop sufficient to guarantee an income. The industry has become global rather than national or local; a major change from the productive times of the 19th and 20th Centuries and one which will continue to move in that direction.

So where do Maori fit into horticulture in the 21st Century? Horticulture remains an economic option for Maori and Maori landowners but the rules have changed. Success requires producers to be highly skilled managers targeting both economic and sustainable land use and also has become more and more reliant on technology.

¹Hortresearch, 2003: NZ Horticulture Facts & Figures, 2002

² ibid.

Investment in research and development is often the key to both creating and implementing technology in the horticulture sector. For the best part, Maori are yet to be highly visible in the modern high-value horticulture sector in this country. This does not mean they are not there, just that Maori are a minority within the industry.

The taewa³ project based at Massey University was a catalyst for the formation of Tahuri Whenua Inc. Soc. As this project grew and took on a life of its own, more and more Maori groups wanted to grow taewa and other 'indigenous' vegetable crops. Today the project has grown to also include kaanga – the old varieties of corn – hue and kamokamo as key crops. The interest and support from the wider Maori community (and pakeha community) and media continues to be amazing and very positive.

Putting aside the actual production of crops, we came to realise that as a collective of Maori vegetable growers from Kaitaia to Bluff, Maori did not have a structure to participate at a national level in the production sector nor to facilitate interaction between growers, often isolated from other growers throughout the country. Subsequently, in 2001/2002 we started to hold regular hui to bring Maori vegetable growers together and to look to the future with these crops and others. Representatives of the education, horticulture and vegetable sectors were invited to speak to these hui and to date we have had over 12 hui throughout the country focusing on the original project and the future of Maori in the vegetable industry. These hui also included workshops concerning various crops and showcasing visits to Maori production units.

The reality that Maori needed a national identity as vegetable producers became apparent for a number of reasons including:

- The need for a Maori presence in existing sector interests such as Vegfed, MAF and training & research institutions – there is a need to participate in, rather than compete with, such structures
- The need for a structure which could participate in the sector and also provide for tikanga, matauranga Maori and other components of the modern Te Ao Maori
- The desire for a forum to bring Maori with common interests in whenua and vegetable production together to both support and learn from each other
- The desire to facilitate the return of our future generations to a relationship with the whenua through vegetable and crop production
- The need for a national entity which could purchase and disseminate research and development for, and on behalf of, Maori.
- The need for a strategy which ensures better mechanisms for Maori investment in the vegetable sector and, investment in Maori in the same sector.

During 2004 a core collective of Maori vegetable producers have taken the needs in hand and established a representative body which has recently been approved by the Inland Revenue Department and registered as an incorporated society. The new body is as Tahuri Whenua Inc. Soc. – in simple terms, returning to the land, Tahuri Whenua. While it has been established to represent the Maori interest in the vegetable sector, it is also broad enough to consider related matters such as traditional and non-traditional production systems, markets, indigenous branding and research

³ Also known as parareka (Te Tai Rawhiti), peruperu (Te Tai Tokerau), mahetau (Te Waipounamu) & riwai

needs. Thus far there has been total support from the growers involved and nothing but positive inputs to each of the hui that has been held.

The process of establishment of a national Maori body is usually fraught with difficulties, not least the external politics which affect our lives. We have been very fortunate in being able to focus on the needs of Maori in a single sector and develop a mechanism based in tikanga which will work for Maori. We have also been very fortunate at this point in having a positive response from the existing entities in the sector to Maori development and future relationships. The key has been the passion and clear vision by all the growers involved and the best use of government and private or industry processes to assist this vision. Perhaps in the near future other sectors in the horticulture industry will follow this model.

Governing Body

- **Nick Roskrige** Tahuri Whenua Chairman/ Institute of Natural Resources Massey University/ Paiwhenua Consultants
- **Moana Puha** Tahuri Whenua Dep. Chairperson/ Agresearch
- **Marie Russell** Tahuri Whenua Treasurer/ Kaitautoko Maori Massey University
- **Mataroa Frew** Tahuri Whenua Committee member - Maniapoto
- **Richard Hunter** Tahuri Whenua Committee member/ Consultant/ Hortresearch
- **Simon Lambert** Tahuri Whenua Committee member/ Te Tapuae o Rehua/ Canterbury University
- **Carl Munro** Tahuri Whenua Committee member/ Taewa grower

Plus a kaumaatua body (4 members) representing Nga Hau e Wha and, administrator – Mrs Hineorangi Ahern (Turakina)

Function

Tahuri Whenua Incorporated Society is a national Maori vegetable growers collective representing Maori interests in the horticulture sector.

Tahuri Whenua's strategic vision is:

To represent Maori interests nationally in the vegetable sector of the New Zealand horticulture industry from crop production through to marketing and including training and education

Tahuri Whenua plans to achieve its strategic vision through key objectives:

- To establish a grower entity with the appropriate structures to ensure **continuity**
- To promote a **collaborative** Maori participation to horticulture within the wider horticulture industry
- To facilitate full Maori **participation** in the horticulture industry
- To improve crop **production systems**
- To build **relationships** with the horticulture and related industries
- To facilitate Maori participation in **research and development** in the horticulture sector
- To support Maori **business development** in the horticulture sector
- To acknowledge **matauranga Maori**
- To foster education, **training & development** for Maori in the horticulture industry

Summary of Strategic Plan

To establish a grower entity with the appropriate structures to ensure continuity

It is imperative the structure of Tahuri Whenua Inc. Soc. is such that it will endure the social and political pressures, which will arise in the future. The structure is independent of individuals or personalities and provides a framework for the operational management of any activities associated with Tahuri Whenua Inc. Soc.

To promote a collaborative Maori participation to horticulture within the wider horticulture industry

The opportunity exists for the Maori stakeholder in the vegetable sector of the horticulture industry to collaborate to foster a position within the industry which allows individual stakeholders to compliment rather than compete with each other. In reality, the current Maori presence in the industry is small and most participants are isolated from others both geographically and commercially. Tahuri Whenua Inc. Soc. is in a position to facilitate a collaborative approach between its members which will in turn foster and strengthen relationships and long-term outputs.

To facilitate full Maori participation in the horticulture industry

Presently Maori representation and participation in the horticulture industry is minimal and does not achieve a full and positive Maori presence. Besides the role of a strategic Maori entity such as Tahuri Whenua Inc. Soc., there are other actions which Maori can undertake to facilitate full Maori participation in the horticulture sector.

To improve crop production systems

Both commercial and non-commercial horticulturists continually strive to improve their production systems to achieve the optimum outputs from their system in both quality and quantity. Tahuri Whenua Inc. Soc. is well positioned to work with members to improve cropping systems.

To build relationships with the horticulture and related industries

The horticulture industry is wide ranging and many organisations already exist in the industry – each with experience and resources which can benefit or foster Maori participation in the industry. Resources range from information relevant to specific blocks of land or specific crops to information regarding international, regional or local resources, issues or politics.

The range of organisations is diverse and does not include consultants or advisors who often assist growers to achieve their objectives.

To facilitate Maori participation in research and development in the horticulture sector

Research and development (R & D) is crucial to the technological and economic advantage which Maori can develop within the vegetable and horticultural sectors.

R & D needs to be purchased strategically so that it is both timely in its outcomes and builds on earlier projects. It is important to recognise the various means of transferring the research outcomes which result from projects and a process of managing outcomes 'owned' by Tahuri Whenua is imperative in the long term. This also needs to be supported by an intellectual property position for Tahuri Whenua whereby Maturanga Maori and other specific knowledge is protected for the benefit of members rather than researchers.

Key factors relevant to this objective are to:

- Develop an accepted intellectual property agreement – using professional input as appropriate
- Develop relationships for long term research benefits
- Work closely with partners to ensure their input adds **real** value to Māori producers and products.
- Retain control of research and development initiatives where Tahuri Whenua are the client and therefore purchase the R & D
- Look for – value for \$ investment, R & D which builds on itself or follows a staircasing approach (not looking for a piecemeal approach)
- Develop project specific management processes
- Develop processes for the management of project outcomes

In the future it would be worthwhile considering the establishment of research awards and scholarships specific to Tahuri Whenua Inc. Soc. objectives – subject to funding.

Research opportunities are possible with the following entities and it is worthwhile to consider building relationships with them for long term benefits to all parties:

- FoRST - Foundation for Research Science & Technology
- Crop & Food Research Ltd (CRI)
- HortResearch (CRI)
- Industrial Research Ltd (CRI)
- Sustainable Farming Fund (MAF)
- Specialist Research Centres e.g. Riddet Research Centre
- Massey University
- Lincoln University

To support Maori business development in the horticulture sector

Tahuri Whenua Inc. Soc is not a business entity in itself. It does not have an income stream which is business orientated and the rules and objectives of the society establish it only as a representative body for Maori in the horticulture sector, many of whom will be in business themselves. It is the role of Tahuri Whenua Inc. Soc. to represent the interests of their members in ways that will support their own (the members) business development within the sector.

To acknowledge matauranga Maori

As a distinctly Maori organisation, Tahuri Whenua Inc. Soc. specifically acknowledge Matauranga Maori and its related tikanga as part of the normal activities of the society.

To foster education, training and development for Maori in the horticulture industry

An independent EDUCATION PLAN has been developed for Tahuri Whenua Incorporated Society and addresses this aim in more detail.

Education (including all levels of training and development) is well recognised as a key to future Maori success in all aspects on New Zealand society. Primarily education, training & development will achieve two functional aims;

The up skilling of Maori vegetable growers including access and experience with up-to-date technology, and,

The training of the next generation of horticulturists and horticultural leaders who will succeed those currently in the industry

Other Plans

Aside fro the strategic plan produced fro Tahuri Whenua, other plans completed are:

- Education Plan
- Operational Plan
- Communication Plan
- Policy Development Plan
- Finance Management Plan

Growing profile

Tahuri Whenua is cultivating relationships with entities such as Hort NZ, AGMARDT, Lincoln University, key Maori incorporations (Wakatu). The relationships are not outcome focused but aim to create a working association between the parties

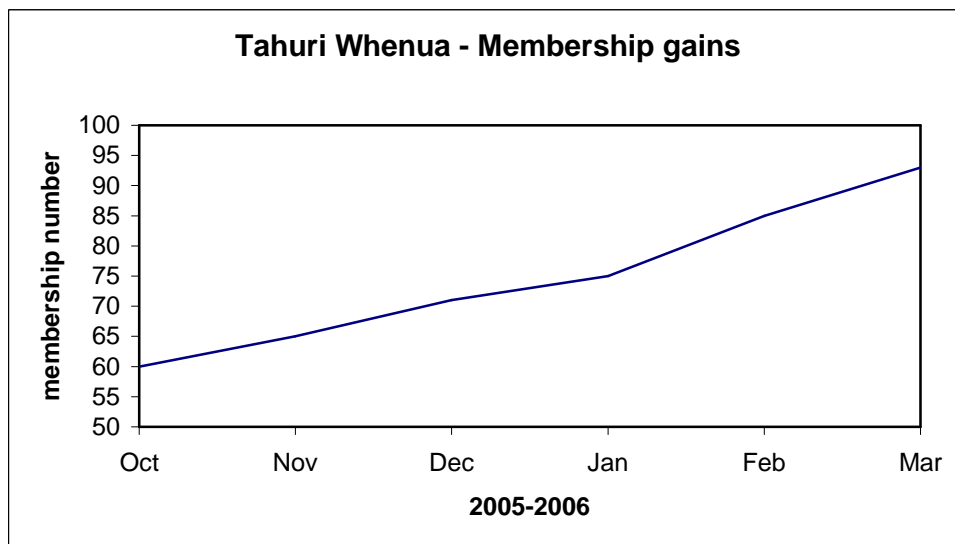
DESCRIPTION OF MEMBERS

Number of Members

Tahuri Whenua has three types of memberships currently available:

1. Kaumaatua & Kuia
2. Individuals (including students)
3. Groups – Marae, schools, runanga, trusts etc

The current capacity of Tahuri Whenua is ninety-three registered members nationwide. It has experienced rapid growth within the last four months, growing from sixty members in November 2005 to ninety-three at the end of March 2006. A seventy-two percent increase in just four months. The increase has been due to a major recruitment drive over the five months. The rate of increase is also due to the collective being voluntary; as the collective has been slowly promoting itself through its current members. Many Maori still do not know of the collective's existence. However there are a large number of associates that have not registered with the collective who still share an interest and attend hui.



However the potential for the collective is almost unlimited and it is still in early stages. The ninety-three members could be allegorically compared to a drop in the bucket of what the collective could potentially reach. The collective is currently looking to use funding from Sustainable Farming Fund for promotional purposes that will target potential members and national outputs.

Within the ninety-three current members, not all are vegetable growers. Some are supporters who strongly believe in the kaupapa (purpose) and wish to tautoko (support) the collective. There are also a number of group members including schools (both primary and secondary), land trusts and marae. Out of the members that do grow crop many are in very primitive stages of commercial production systems in comparison to the much larger and more professional Pakeha growers.

The nature of the collective being voluntary and many Maori hesitating to part with the small amount of the registration fee, a lot of energy has had to be put in to gain membership. Maori often expect personal contact from a member of the committee

before they will join the collective. Many Maori have often expressed an interest in joining the collective, but unless physical interaction of some sort takes place, nothing occurs, Kanohi ki te kanohi, face to face contact is imperative in successful relationships with current and potential members.

Description of growers

A number of the growers who are part of the collective are small-scale and would struggle in comparison to other larger commercial growers. Some pakeha growers are utilising hundreds of hectares where most of the smaller Maori growers are using a fraction of that (often less than a hectare), another problem is that Maori land or communally owned land has in most cases been much harder to manage in comparison to land with single ownership. The lead in time for any change in land use is dragged out a lot longer. There are examples of whanau owned land taking eighteen months just to source permission from beneficiaries to get a soil test. The same group aimed to establish taewa and conducted marketing research, but by the time they managed to go through the motions of gaining approval from their trustees the research will be outdated and ostensibly worthless

However other growers face different difficulties. They are set up but the best or correct management systems are not in place. Some members have chosen to go organic, believing this is the way their ancestors would have grown the crops. They often end up producing a field of weeds due to their lack of knowledge, timing and commitment. In this particular case another whanau member's cattle got into the crop and destroyed it.

Another member growing crops in Christchurch asked basic horticultural questions when given the opportunity to express his concerns. Again reinforcing the argument that Maori growers have yet to learn the basics of growing the crops before too much pressure is put on them. What needs to be identified to many growers is that research is **new** knowledge and not the basic knowledge applied in upskilling. A lot of the knowledge they seek is already available.

Location

The collective has members throughout New Zealand but has lower membership in some areas, for example the Wairarapa and many parts of the South Island. Tahuri Whenua is looking to actively promote membership in these areas, by obtaining a student on a scholarship to go to the South Island and talk to key target organisations and individuals. This will help ensure that the collective is a national collective.

Markets

The main products currently being produced by Tahuri Whenua members are Taewa (Maori potatoes) and Kumara. The growers themselves have not put much time into marketing as many are struggling with their production systems so put most of their time and energy into this area of business. Another reason they have not put much emphasis into the marketing of their produce is because supply and demand has meant they haven't had to. Demand currently exceeds supply

Pat Busch a Taewa grower from Rolleston prison in Christchurch has no trouble selling his produce. The entire harvest is bought by an organic wholesaler in the

Hawkes Bay. This illustrates the current position of the market. Pat explained that anything he plants is already sold at the other end, so why should he “*bother trying to market himself*”. This has been reflected throughout the collective with people having little difficulty with the selling of their produce. Even the produce grown in the Massey University project trials is in high demand; potential buyers of seed are told they must wait until after harvest as they can not be guaranteed produce until the quantity has been assessed. At the moment demand continues to outweigh the supply, but the question is for how long. Growers are currently competing with themselves and are their own worst enemy in many cases. Tahuri Whenua has initiated discussions with its members regarding the creation of a marketing collective/initiative based on geographical and production levels

Some growers however have expressed concern for the future as they can see how one large potato grower could easily come into the market and kill all the smaller less established or less professional growers. The lack of large-scale volumes of taewa seed is the only current restriction placed on the bigger grower, but this will not be the case in the next couple of years. One pakeha grower from the Manawatu region had one tonne of the Huakaroro variety of taewa seed. Maori growers see the need to create a succession opportunity as an alternative to taewa in the future.

Research will need to be done to identify the full potential of the current markets for those specialised to identify new markets. Also how long will it be until the current market becomes saturated? This research would need to be done sooner rather than later in order to give the growers time to either adjust for the change by seeking new markets for their products. Tahuri Whenua is looking to address some of these questions in the short-term future.

Returns

The current (2005) base rate or purchase price for the taewa (Maori potato) is \$2.50/kg but there are examples of returns as high as \$10/kg. Appendix 2 is an example of returns of \$4.50/kg. This pricing is good compared to domestic potatoes, but the average yield for taewa is up to 17 tonne/ha in comparison to 70 tonne/ha for domestic potatoes. This has to be taken into account in regards to pricing the smaller growers have been selling their produce at the side of the road or at small farmers markets. There have been examples of taewa being sold in supermarkets but over very short periods due to inconsistent volumes produced. These examples illustrate the potential for the product.

CURRENT RESEARCH

Summary of Current Research

Tahuri Whenua has been working in partnership with other parties to help achieve its R&D and other objectives. The following organisations have aided/ or are currently aiding Tahuri Whenua in achieving its objectives.

- **Crop and Food Research (CRI)**
- **The Riddet Centre (Massey University)**
- **The Sustainable Farming Fund (MAF)**
- **Te Puni Kokiri (TPK)**
- **The Pu Hao Rangi Trust**

The Sustainable Farming Fund and Te Puni Kokiri has provided funds for the establishment and consolidation of the Maori grower's entity, whilst the Riddet Centre and Crop and Food Research have been involved in research and development projects

Other projects exist through Massey University which are aligned to Tahuri Whenua through association e.g. Bio protection CoRE/ Lincoln University

Virus elimination in taewa

Prior to, and subsequently to, Tahuri Whenua becoming a formal entity, the growers were working with Crop and Food to eliminate virus from Taewa in order to improve crop production systems. Four varieties of taewa have been put through the virus elimination program. They are:

- Tutaekuri
- Huakaroro
- Moemoe
- Karuparera

The cuttings produced from the programme have been given to a professional seed producing company in Christchurch for the next phase of the program. Tahuri Whenua's committee plans to contract the Christchurch seed growers to bulk up the seed bank, and then control the distribution to its members.

Commercialisation of traditional cultivars of kumara

The unique white-skinned and white-fleshed early Maori kumara are to be studied for their potential as a gourmet food.

The Pu Hao Rangi Trust, guardians of these early kumara cultivars, have joined with the Tahuri Whenua, in a joint venture to explore the economic potential of New Zealand's early kumara. Technology New Zealand will fund the two-year research project. Crop & Food Research assisted the Trust by removing viruses and Pam Fletcher has maintained the virus-free lines in tissue culture at Lincoln.

Crop & Food Research agronomists are now working to understand the best growing conditions for the cultivars. Yields and quality during storage will be two key factors examined in the trials. The aim is to identify an early kumara line suitable for the

market and to establish a successful production system. Tahuri Whenua and Pu Hao Rangi Trust will work together to get production underway and develop markets

The Riddet Centre project – Taewa product development

Currently the Riddet Centre has secured research funding through FRST for development of joint technology project with taewa targeting product development. The Maori stakeholder in this project is Tahuri Whenua.

Description of initiative

The programme Outcome Statement is to Develop technologies, based on a scientific understanding of taewa Maori, for making unique products for profitable niche markets that express the tikanga and unique attributes (colour, taste, texture, composition) of taewa, and which can be used by Tahuri Whenua to build new commercial enterprises. The programme addresses the investment signals and priorities relating to the use of added value food. When achieved, it is believed this outcome will make a significant contribution to increases in export revenues of food products and will underpin other research on aspects of food production.

Programme Summary

The programme comprises two interlinked parts: scientific research, and the establishment of a technology development plan between Tahuri Whenua and the research team.

- Scientific research: There is a dearth of information on the attributes and properties of taewa. The wide ranges in characteristics such as colour, texture, and flavour in taewa cultivars originate from variability in underlying chemical and physical properties. In order to develop unique value-added taewa products, it is necessary to determine these properties so that helpful quantitative comparisons can be made between cultivars, and between taewa and modern mainstream potato varieties. The data obtained will be essential in developing appropriate processing and preservation technologies for producing taewa products of excellent commercial potential. Joint Technology Development Plan: A technology development plan has been drawn up jointly by the scientific research team and the end-users (Tahuri Whenua and other Maori groups) that will both assist in the direction of the scientific work outlined above, and provide a clear pathway to the application of the results of the research in the development of value-added taewa products. As such, a plan is essential to the realization of the desired Maori outcomes that are the impetus for the programme (i.e. the successful commercial development of taewa as a significant cash crop for Maori and for New Zealand) the Maori project co-leader, Maori project participants and the Maori end-user will work with the other project participants, and other interested parties, to establish the plan. The challenge in developing taewa products will be to design processing and preservation technologies that will retain and exploit desirable colour, flavour, textural and nutritional taewa attributes, whilst accommodating the disadvantages of sub-optimal characteristics. This programme is aimed at discovering what these attributes and characteristics are, and is thus an essential step in meeting this challenge. The programme is designed to underpin both cultural and economic outcomes for Maori. The project will therefore be conducted in a way that integrates Maori tikanga and modern scientific methods; Maori knowledge and modern science will bring together in an environment where each will complement the other throughout the duration of the project.

(Sourced www.frst.govt.nz)

FUTURE RESEARCH

Questionnaire

A questionnaire was sent to the committee members of the collective in order to gain their view in regards to Tahuri Whenua's future in regards to research and development. All but one member responded to the questionnaire with varied opinions given from each question. Non-committee members were also informally questioned on the R&D questions, as this was the only way to get a response from many of them.

Importance of research

When asked how important research was, the majority of the committee agreed that in order for Maori to succeed within the industry they must be up to date with the latest research and development. One member commented, *"if we want to be able to achieve some of our objectives – then it is required that research be undertaken"*. There was also a response that believed R&D was not needed at this stage in time. members believed other areas such as:

- Maori land resource potential
- Maori skill base – crop management, financing, marketing.

The two kaumaatua questioned also mentioned evaluating other aspects as well as R&D.

Relevance of CRI's

When asked if the research objectives of CRI's such as CFR are relevant to Tahuri Whenua. All agreed that outsourcing R&D to CRI's was a good way to create Maturanga (knowledge). However with all members the underlying matter of whether the CRI's were genuinely out to help them through R&D or to source funding via the Maori aspect was questionable. One response was *"Depends - as long as they recognise us as a science opportunity – not using us because we are Maori"* While another mentioned they are not simply *"a box to tick"*.

Responses to this question also pasted comment on the areas research would be done *"they cannot necessarily cater for all our needs as Tahuri Whenua but they are doing current research in relevant areas of interest"*.

Relationship with CFR

The Tahuri Whenua members were asked what type of relationship they saw Tahuri Whenua having with CFR. How the relationship be developed was the main point to come from this question A key factor to come out of all the interviews with growers and members is that they want CFR to develop a relationship should first with the collective without any research expectations as they don't want to be targeted by CFR solely as a money making option. Any subsequent research down the line needs to be science focussed rather than research simply because they are Maori (clients). This means don't treat them (Maori growers) as different just because they happen to be Maori growers, they want to be treated as serious opportunities for science projects. One particular grower mentioned not trusting CFR with her Taonga (treasure) so would not let them come to her garden. Another member commented, *"Who is Crop*

and Food what are the benefit to us as people not benefits to C&F". Similar expressions came from other growers when an informal conversation about R&D regarding C&F was established. Another committee member made a comment in regards to what they would expect if CFR working closer with Tahuri Whenua "*I expect any CRI we worked with closely to be represented at relevant Hui*". However Tahuri Whenua does recognise CFR as being a leader in its field. A committee member mentioned, "*We should use CFR wherever possible – they have all the gear, know how*"

*The following is a comment by Aroha Te Pareake Mead after reading a Press Release by Crop & Food Research New Zealand (19 Jan 2006) titled **Gourmet sweet potato?***

"It would be nice if the main motive for this collaboration was to increase the production of kumara as a food staple for all, rather than a boutique product for the high-end market. It is the boutique market that usually motivates intellectual property assertions by the researchers."

Possible research with from CFR

For the growers some found it difficult to distinguish between what research was and what knowledge already existed. A comment made by one of the growers was "*what do Crop and Food do? Why don't they come and tell us what they can do for us*". The committee had a varied response on what research they believed should be done by CFR. Listed below are main points

- Improve sustainable land resource use
- Improve skill base
- Research at a social science level
- Identifying where Maori growers are going wrong
- Is it worth integrating rongoa into growers system? If so how?
- Improve social and cultural standing in horticulture
- Share of improved market values from researched values
- Identify health benefits of produce e.g. Antioxidant
- Increase yield
- Post harvest handling of produce

These point were all made showing the diversity and direction each member wishes to pursue. All, however, emphasised that it must have a direct benefit to Maori and be able to achieve *Good science results* and be accepted by in the horticulture and or science communities

Research Opportunities

There was a broad response regarding research opportunities. These perceived opportunities were often intertwined with research that could be done by CFR. Further virus elimination with other varieties of taewa were common suggestions from growers as well as some of the committee members. This was due to the small yield currently being produced by the taewa in comparison to the domestic potatoes. Other research to increase the yield either in the management systems or post harvest production were options that would members wanted to be looked at. Other opportunities included new crop production systems and added value to old crops.

This could cater for some of the older crops that have been left to their own demise while science has progressed more mainstream crops. It is important to note that these suggestions were not solely targeted at taewa crops but also other Maori/ indigenous crops.

Also sustainability management is an area members see of interest to Maori. Research could identify impacts on the environment and environmental management risk. The breakdown and identification of benefits from indigenous crops would add value to the produce already grown.

Marketing research could be an option as well. The products being grown have little or no marketing information available. Should taewa be a niche-focused product or are the growers restricting themselves by doing so? At the same time Tahuri Whenua do not want to create a market it cannot control. This will only encourage outside growers to come into the market as the demand may outstrip supply because there is limited produce already. This will in turn squeeze the smaller growers out of the market. Tahuri Whenua are considering research options with AGMARDT relevant to some of these marketing questions.

Reasoning behind research opportunities

All members were looking to benefit growers directly. The view to see growers have long-term benefits from R&D is universal amongst the collective. It was mentioned R&D is part of the strategic plan for Tahuri Whenua and is needed so that growers can be prepared for new opportunities. *“We need to look at development of growers and direction into the future for the betterment of those across the board”*. Another member gave the following bullet points.

- Direct access to CFR scientists for hapu representatives.
- Access to ideas and technological advances as well as specific advice in key areas.
- Increased strategic importance for whanau, hapu, iwi, as part of developing relationships between these groups.
- There is a knowledge base between both parties in adding value – new science and tikanga.

For Maori to be competitive within the horticultural industries they need to have the advantage of research and development.

Beneficial Research

Some members identified that research can sometimes be wasted in the short and long terms. The transfer of knowledge to the growers has to be considered before any research is undertaken. One member stated, *“If it has no benefit to Maori whether short or long term research, forget it”*. The growers have to be shown how the research will in turn benefit them; options and opportunities need to be laid out in front of them. There are some projects that are of ‘academic’ interest (e.g., archaeological and archival research) but with limited contributions to Maori growers’ sustainability. The two Kaumaatua commented, *“What happened in the past we already know about. We don’t need historical research. If you want to know how it was done just ask us. We need to look forward to the future”*. While another member commented on who was doing the research and whether that was their particular area of expertise or where they targeting to use an umbrella approach to Maori research and cover all aspects simply to chase the funding. *“I think CFR should focus on their science expertise and not the social or marketing”*.

Members tended to be cautious by the idea of CRI’s doing research in the name of Maori benefit. Historically there have been cases of abuse of trust and misuse of funds with in this area. For a CRI to fully gain the trust of Maori they would need to clearly identify the benefits Maori would gain rather than the CRI’s forcing their hand and telling Maori they know what is best.

Information transfer

From a growers perspective they wanted the transfer of information technology made clear and easily understandable. The following are bullet points were suggested ways to transfer knowledge on to growers:

- Pamphlets to be done with specific bullet points of the outcome
- Blueprints to be written for those more serious about taking concepts on board
- Professionally – which means a written report available to members ahead of the public
- Via a R&D subcommittee within Tahuri Whenua
- Simple power point presentations in the growers language to show what has been done
- Intellectual property rights established before knowledge is distributed
- Published through Tahuri Whenua whenever possible
- Information data base accessible only to members
- Protocol needs to be adhered to when moving that information forward

The information distributed must be beneficial to the growers and members of the collective before it becomes available to the public. If and when the information becomes available to the public’s intellectual property rights must still remain with the collective. Without this benefit to Tahuri Whenua there would be no reasoning to source R&D as a collective body. Therefore members would not be motivated to be part of the collective.

SUMMARY

It has been identified that the Tahuri Whenua has an interest in Research and Development. The governing body has expressed a view that R&D is vital to the future of the collective. The growers have also expressed similar views that they want whatever edge they can get in order to compete within the horticulture sector.

The area of indigenous crops and the markets that they are involved in has been identified as an untapped market, with demand outweighing supply. This has opened the door for CRI's to do research in the name of Maori development using these crops. However Maori are looking for a partnership rather than outsourcing research. They want to be in the loop rather than being told what it is they want. It is in the best interest of the CRI's to look to genuinely develop better relationships with the Maori communities before they start to consider R&D on behalf of Maori

Tahuri Whenua has proven to be a professional well establish collective that no doubt will be a recognisable player with in the industry. They have identified that they wish to be taken seriously and targeted for genuine professional reasons, not simply chasing the Maori R&D dollar.

Further virus elimination of taewa varieties and improved production systems for specific crops would be the two most predominant research initiatives.

The committee members of Tahuri Whenua recognise the opportunity given to them to participate in this report and expressed their hope for a long term relationship between Maori horticulturists and CFR as a leading research entity in their industry.

Nga mihi ki nga rangatira,
Nga mihi nui ki a koutou katoa

Simon Ngarangi Walsh

APPENDICES

Appendix 1: Covering letter sent with questionnaire

Tena koe

I have put together some simple questions which I hope will identify what direction you and other members of Tahuri Whenua committee would like to see the strategic plan heading. One of the key objectives stated in the strategic plan is to facilitate Maori participation in research and development in the horticulture sector. The questions focus on research or the creation of new matauranga (Knowledge).

The information gained from you and other members is extremely valuable, both for my task and for the collective overall. The information will show me what involvement you would like Crown Research Institutions such as Crop and Food Research to have with Tahuri Whenua. I would be truly grateful for the information you provide, as it will help me build a picture of the view of Tahuri Whenua's members on research and development. Please feel free to add any other comments outside of the questions asked.

I look forward to hearing from you within the next few days

If you have any queries please do not hesitate to contact me anytime at s.n.walsh@massey.co.nz or 0274285123

Kia ora

Simon Walsh
Research Assistant

Appendix 2: Committees responses

Respondent 1

1. How important do you consider research in general is to the objectives of Tahuri Whenua (TW)?
Vital for it to grow
2. Do you think the research objectives of CRI's such as CFR are relevant to TW?
Absolutely
3. What type of relationship should TW have with CFR?
Clear and Relevant
4. What research would you like to have undertaken by CFR (for TW as a client) to achieve?
Understandable results
5. What research opportunities do you think TW should focus on?
Short and long term methodology of crop growth by growers
6. Why do you think these opportunities should be focused on?
For the future food technology
7. Are there any opportunities where you believe research would be wasted?
To me no research is ever wasted either long or short term relevancy is the key
8. How do you think the transfer of any outcomes from R & D (done for TW via CRI) should be handled?
Made available in a clear and understandable form

Respondent 2

1. *How important do you consider research in general is to the objectives of Tahuri Whenua (TW)?*

Very important - if we want to be able to achieve some of our objectives – then it is required that research be undertaken.

2. Do you think the research objectives of CRI's such as CFR are relevant to TW?
To a certain degree – yes. They cannot necessarily cater for all our needs as TW but they are doing current research in relevant areas of interest.

As a National Maori Growers' Collective I see the greater issue lies currently with our growers within the collective rather than that of the umbrella (TW) to which the growers are a part of. Although the members are the whole reason why the collective even exists my concerns are with what our growers are doing. For instance, there is only a small portion that is doing very well. Most of the research we foresee/have spoken about will inevitably help the growers at the upper end of the scale – those that are achieving their targets. I see research and growers together rather than separate

entities so to speak with TW as an umbrella across the top. The reason for this is due to knowledge transfer or difficulties seen with some Maori enterprises taking on new technologies. Looking at majority of our growers within the collective – a vast majority are not achieving a favoured level.

3. What type of relationship should TW have with CFR?

Interesting question – what types of relationships are there possible to have with them is probably more the issue. Definitely a business relationship and anything else in between is a bonus? Second choice would be to try and have a mutual relationship where we share information between ourselves (the collective & CRI).

I believe it is in our growers' interests to build a strong relationship with CFR. In terms of production, profit and efficiency, the knowledge they have can be very useful. This knowledge may not necessarily be useful to the majority of growers at present but because we are a National collective, I also believe we should be catering for our growers who achieve their higher targets.

4. What research would you like to have undertaken by CFR (for TW as a client) to achieve?

I'm unsure if CFR do this directly but I think research needs to be done at a social level. The choices some people take don't necessarily do their businesses any justice. I think we need to do research on what our growers' want and not marketing etc at this stage but things like finding out what would they like to see their gardens like and for what purpose. It's probably more survey stuff than research stuff but maybe we could get it done through CFR for research purposes in relation to forming some national database. From here we can see what perception requires change and what they want out of it i.e. whanau kai, fundraising or generating income etc. Understanding our growers wants and needs and catering for them accordingly based on their requirements I believe is important. In terms of TW – I think its all paper work that needs to be done.

There is some current research being done at present to do with weed control. Maybe research into weed management to make things easier i.e. a continuation of weed control to suit situations we get with our own growers. I know it's pretty generic but it's still needed.

Maybe the possibility of CFR doing blue prints for our growers – current and up to date versions every year with the budgets. Something to that effect.

An investigation of cover crops that can be a natural herbicide/insecticide.

How best to integrate rongoa into our growers systems in terms of value for money – is it worth it?

At the decision making level – where are growers going wrong?

5. What research opportunities do you think TW should focus on?

Having a major focus on management and increasing production. Also to do research on things we know are out there that need looking into e.g. we got Taewa seed being

looked at by seed place, CFR tissue culture to do with ridding seed of its defects etc. Things like finding the nutritive/medicinal values of our Rongoa. If its going to be sold to some pharmaceutical company then maybe we should be doing more with it before too many claim it as their own. Better management practices for green crops for fields. Alternatives to weed/bug control. Forecasts for future crops to grow. How to encourage direction.

With members I think we need to know why our members join and if grower, what they grow for – start a database about our members to better help understand their needs.

We should use CFR wherever possible – they have all the gear, know how etc.

6. Why do you think these opportunities should be focused on?

We need to look at development of growers and direction into the future for the betterment of those across board. How we go about this is an issue in terms of perception, motivation and education of our members.

7. Are there any opportunities where you believe research would be wasted?

To certain degree knowledge transfer is a problem across the board. Because of this and what many growers take on board, I can see that research can be a waste of time both for the short and long term. It is how we can use it as TW for the betterment of those involved. In other words – at least options/opportunities can be laid out before them.

8. How do you think the transfer of any outcomes from R & D (done for TW via CRI) should be handled?

Tough question. Even though we have/get it – links back to knowledge transfer. Maybe pamphlets to be done with specific bullet points of the outcome. Blue prints to be written for those more serious about taking concepts on board. Grow an information database where only members can access the information.

Also need to get more highly achieving growers as members mainly as show cases and supporters for other growers. More role models for those who are struggling might help motivate people in the right direction – give them the "if you can do it then so can I" attitude.

Respondent 3

1. How important do you consider research in general is to the objectives of Tahuri Whenua (TW)?

Very

2. Do you think the research objectives of CRI's such as CFR are relevant to TW?
Depends - as long as they recognise us as a science opportunity – not using us because we are Maori

3. What type of relationship should TW have with CFR?

A professional one. Cultivate the relationship first before building xxxx projects

4. What research would you like to have undertaken by CFR (for TW as a client) to achieve?

Good science results – accepted by evidence Hort/science communities

5. What research opportunities do you think TW should focus on?

- further virus elimination
- new crops – production systems
- nutritional breakdown of vegies

6. Why do you think these opportunities should be focused on?

Strategies out 3-5 years so that our growers can be prepared by new opportunities

7. Are there any opportunities where you believe research would be wasted?

I think CFR should focus on their science expertise and not the social as marketing etc

8. How do you think the transfer of any outcomes from R & D (done for TW via CRI) should be handled?

Professionally – which means a written report available to members ahead of the public. Perhaps a R&D subcommittee within TW

Respondent 4

1. How important do you consider research in general is to the objectives of Tahuri Whenua?

At this stage of development none, why. The strategic balance needs to focus on

- Maori land resource potential
- Maori skill base – crop management, financing, marketing.
- Social and cultural benefits (F&C need to have this understanding).
- Foundations for partnerships so both parties win. Who is Crop and Food what are the benefit to use as people not benefits to C&F.

2. Do you think the research objectives of Crown Research Institution's such as Crop and Food are relevant to Tahuri Whenua?

All research is relevant. How we define that relevance is the issue *he mana ano to tena to tena – each man is unique and integrity is an act*. It is not a matter of just ticking the box.

3. What type of relationship do you think Tahuri Whenua should have with Crop and Food Research?

My philosophy is one of a – *careful step in science a careful NEW STEP in the Maori world*. That requires a 'nurtured' base from both parties - the world of science from a pakeha perspective the world of science from a Maori perspective. Not just "hey these Maori fellas own some indigenous plants and we believe we can, by eradicating a virus this has some value to Maori does it?"

4. What would you like any research undertaken by Crop and Food Research (for Tahuri Whenua as a client) to achieve?

It must achieve a direct benefit to Maori

- Better land resource use
- Improved skill base
- Improved cultural and social standing we are not just the “drain digger”.
- Share of improved market values from researched values.

5. What research opportunities do you think Tahuri Whenua should focus on? (In the short term and the long term?).

Areas of research need to include

- Impacts on and from environmental management risk
- Biotechnology what values do indigenous plants have.
- New crop development or add value to old crops.

6. Why do you think these opportunities should be focused on?

- Direct access to C&F scientists for hapu representatives.
- Access to ideas and technological advances as well as specific advice in key areas.
- Increased strategic importance for whanau, hapu, iwi, as part of developing relationships between these groups.
- There a knowledge base between both parties in adding value – new science and tikanga.

7. Are there any opportunities where you believe research would be wasted in the short and long term?

If it has no benefit to Maori whether short or long term research forget it.

8. How do you think the transfer of any outcomes from research and development (done for Tahuri Whenua via CRI) should be handled?

Handled as a partnership (paid for through funds accessed) i.e. if papers/field days are to be presented we need to be present to ensure correct tikanga etc is followed through.

I believe also if research is under-taken in one rohe tangata whenua status is paramount that protocol needs to be adhered to when moving that information forward. (The old ways- or do we want to go down that line)?

It needs to be clear that Tahuri Whenua is the conduit for advancement and is no way should it take away the tikanga of the whanau, hapu or iwi within that rohe in which the Research is under-taken.

Respondent 5

1. How important do you consider research in general is to the objectives of Tahuri Whenua?

As technology and innovation are part of modern society, R and D (Research & Development) is very important as it can contribute to better management of the growth of the crops as shown by some of the research already being conducted on the taewa such as that for disease resistance eg: late blight trial.

Research can definitely assist growers to harvest bumper crops and at their optimum.

2. Do you think the research objectives of Crown Research Institution's such as Crop and Food are relevant to Tahuri Whenua?

Yes, (perhaps I'm being biased here from a science perspective) any recognised and leading research organisations that can assist and be of benefit to the growers whilst recognising whakapapa is all good.

3. What type of relationship do you think Tahuri Whenua should have with Crop and Food Research?

Not being a grower, I'll leave this one for the growers to respond to.

4. What would you like any research undertaken by Crop and Food Research (for Tahuri Whenua as a client) to achieve?

Straightforward really - the objectives should set the guidelines for the research and the follow through and/or investigation undertaken in the research ought to provide the client with options, ideas, innovation, something that the growers/clients can relate to and realise the potential or perhaps for marketing strategies e.g. we talked about Antioxidant properties for health benefits etc.....

5. What research opportunities do you think Tahuri Whenua should focus on? (in the short term and the long term?)

I'm just throwing in a few ideas off the top of my head

- a. Better pest management
- b. Organics
- c. Health benefits - (always a favoured issue) – also answers Q6
- d. Improved cooking properties of some of the taewa varieties????

6. Why do you think these opportunities should be focused on?

7. Are there any opportunities where you believe research would be wasted in the short and long term?

At the moment – nothing springs to mind

8. How do you think the transfer of any outcomes from research and development (done for Tahuri Whenua via CRI) should be handled?

This may be better left to the experts/legal professions and the growers to work out before involving research organisations.

Respondent 6

1. How important do you consider research in general is to the objectives of Tahuri Whenua?

Accessing relevant research, and research *teams*, is absolutely vital to the future of Tahuri Whenua.

2. Do you think the research objectives of Crown Research Institution's such as Crop and Food are relevant to Tahuri Whenua?

Where their research objectives are to 'empower' Maori in some way, then I think TW is well-positioned to act in the interests of Maori, conditional upon our membership and representation. Certain CRI's are important to TW because of their research focus. Crop and Food is an obvious institute we need to work with, likewise HortResearch, also MAF and Manaaki Whenua, although perhaps to a lesser extent.

I would be concerned about working with a CRI when it is in obvious trouble, like Industrial Research Ltd.

3. What type of relationship do you think Tahuri Whenua should have with Crop and Food Research?

I'm not familiar with all the protocols currently employed by CRI's working with Maori, but essentially it would be a 'professional', i.e., contracted and 'auditable'. However, this still leaves room for a 'closer' relationship, and I would, for example, expect any CRI we worked with closely to be represented at relevant Hui.

4. What would you like any research undertaken by Crop and Food Research (for Tahuri Whenua as a client) to achieve?

In short, to contribute to the resilience of Maori horticultural ventures and, therefore, the long-term sustainability of Maori land and resources. Exactly how this would occur would be up to Crop and Food and TW to debate and discuss. I think there is an opening for post-production work, e.g., the 'personalised foods' Crop and Food is currently working on, as well as research into storage methods. Basically any research into sustainability of land and resources will have relevance to our members, although particular differences such as limited capacity and experience may mean a different emphasis is needed.

5. What research opportunities do you think Tahuri Whenua should focus on? (in the short term and the long term?)

Perhaps market access in the short term: I think it is important that our members at least have a better opportunity of business success through their membership with TW. This could include a scoping exercise to enrol some of our growers in the Approved Supplier Programme, or at least increase their awareness of market demands (consumer issues, pesticide reduction methods, labelling requirements). I think there are some basic skills shortages in a wide range of areas, e.g., the use of IT in business, but then we do have a wide range of people involved: not all are commercial growers but, like myself, are passionate gardeners.

Long term I think we need to access new varieties, as well as engage in post-production added-value programmes. Baby-food has been mentioned before. I

think TW would be well positioned to coordinate Maori ventures in supplying niche markets with indigenously-labelled produce from sustainable land-use.

There is also the research area of sustainability itself. Our members have sought to maintain Maori cultural values, as well as seeking opportunities to maximise returns from their land. These two things can, and have in other areas, come into conflict.

6. Why do you think these opportunities should be focused on?
In order to be credible suppliers, our growers need to comply with all relevant pieces of legislation as well as the sector's 'best practice' goals. I'm not sure how many of our members would comply with the various relevant bits of legislation, regarding, for example, the storage of hazardous substances, occupational health and safety around machinery and other equipment.

7. Are there any opportunities where you believe research would be wasted in the short and long term?
I think Lincoln's CoRE/Matauranga Bioprotection team are 'undergunned' and have yet to prove their worth (admittedly, I am rather biased following my association with them!). As long as Nick, or someone of similar standing, is in the position to act as an 'intermediary' with Lincoln, I do not hold any major concerns, as I think the CoRE as a whole is doing some excellent work, and it is right that TW have a connection. There are some projects that are of 'academic' interest (e.g., archaeological and archival research) but with limited contributions to Maori growers' sustainability.

8. How do you think the transfer of any outcomes from research and development (done for Tahuri Whenua via CRI) should be handled?
If TW had contracted the work, I would expect outcomes to be transferred in a timely fashion with prior agreements in place on such issues as IP and monitoring etc. I think TW could have a role in authoring relevant reports: given the PBRF environment, publications are important and TW should look to publish research of its own where possible.

Respondent 6

1. How important do you consider research in general is to the objectives of Tahuri Whenua (TW)?
Important for the future, but our growers are at different stages so we should look at that also

2. Do you think the research objectives of CRI's such as CFR are relevant to TW?
We should be using these places that have the knowledge in order to benefit ourselves

3. What type of relationship should TW have with CFR?
It would depend what CFR intentions were when they look to establish a relationship. Is it beneficial to both parties or mainly for CFR?

4. What research would you like to have undertaken by CFR (for TW as a client) to achieve?

We should concentrate on research that will increase the crops yield, such as the virus elimination and post harvest handling. However the main focus should be the increase in the yield produced so there is more products to sell. Marketing research is also an area that could be of benefit

5. What research opportunities do you think TW should focus on?

- Virus elimination
- Post harvest handling
- Sales – how we should sell the product e.g. bulk, small (niche)

6. Why do you think these opportunities should be focused on?

Because they will benefit the growers directly

7. Are there any opportunities where you believe research would be wasted?

What happened in the past we already know about. We don't need historical research. If you want to know how it was done just ask us. We need to look forward to the future

8. How do you think the transfer of any outcomes from R & D (done for TW via CRI) should be handled?

Maybe power point presentations to the runanga's will be the best way and it will help show people what TW is actually about

Appendix 3: Examples of Taewa prices

Shop for Rokeroke

Rokeroke (delivery included)

Size	Island	Price to door NZ\$	Tick one box or more	Max weight kg	Spuds (0% gst)	Delivery* (12.5% gst incl)
Sample bag	N	9.00	<input type="checkbox"/>	2kg	6.40	3.60
	S	9.00	<input type="checkbox"/>	2kg	6.40	3.60
Quarter bag	N	22.75	<input type="checkbox"/>	5kg	16.00	6.75
	S	27.20	<input type="checkbox"/>	5kg	16.00	11.20
Half bag	N	33.20	<input type="checkbox"/>	10kg	32.00	6.75
	S	38.75	<input type="checkbox"/>	10kg	32.00	11.20
Full bag	N	76.75	<input type="checkbox"/>	20kg	64.00	12.75
	S	87.20	<input type="checkbox"/>	20kg	64.00	23.20

Sourced www.billblane.com 17/03/06

Appendix 4: Meeting notes – Leach & Walsh - 16/01/2006

Current position of Maori growers

- Land use – size of gardens
- Professionalism
- Lack of knowledge/ systems expertise
- Need for education
- In a primitive state compared to commercial Pakeha growers
- Will take time to bring them up to a suitable standard

Market position

- Demand tends to outweigh supply – no trouble on selling produce
- Examples of growers produce sold before planting
- Inconsistent supply and quality
- Growers not specialised e.g. many varieties grown poor, fair or good rather than one excellent - variable quality
- Current returns for produce

Tahuri Whenua's view regarding marketing

- Does not want to kill off smaller growers
- Does not want to rush marketing due to possibility of Pakeha growers saturating the market
- Supply needs to be more consistent
- Wants to be able to manage the opportunities
- Increase return for produce via product development – strategic investment in R&D

Research options

- Main focus bulking up current yields
- Virus elimination- more varieties put through program
- Post harvest – to create constant supply
 - Handling
 - Ground store
 - Chilled