

# GOING GLOBAL

**An industry model of increasing collaboration,  
trust, cohesion and co-ordination**

**REPORT ON A REVIEW OF THE PRIMARY GROWTH PARTNERSHIP AND NEW  
ZEALAND AVOCADO INDUSTRY FUNDED “GO GLOBAL” PROGRAMME**

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“..... the New Zealand avocado industry is developing a coordinated and dedicated strategy that sees the entire industry moving in one direction. It is only through collaboration between all industry partners that the full potential of the programme will be realised”.

Research Bulletin, New Zealand Avocado 2016, P4.

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## CONCLUSIONS

1. The Go Global PGP programme has made a major contribution to the New Zealand avocado industry, achieving a step change in the way that the industry operates. It is now a much more trusting, collaborative, cohesive, communicative and co-ordinated industry, with a correspondingly greater public profile.
2. The step change reflects strong, energetic and passionate leadership from the chief executive of New Zealand Avocado, across-the-board competent and committed staff, sound governance and a well-balanced business plan that was carefully developed and honed over more than two years. Industry and MPI feedback into the programme development process have been keys to providing a robust basis for the programme's execution.
3. Cause and effect relationships between the impact of the PGP programme and the improved state of the industry are complicated by strong prices for avocados, reflecting increasing domestic and offshore demand, and supply falling behind. The historically high prices have probably motivated industry stakeholders to intensify their interest in and their efforts to achieve greater professionalism in their business operations.
4. Nevertheless, the behaviour shift driven by the step change places the industry in a much stronger position to respond to increased international demand for avocados, increasing need for market diversification, more demanding phytosanitary and other compliance requirements and implementation of some quite radically different ways of growing avocados that are more productive and more consistent in their yield.
5. The Go Global PGP programme clearly reflects industry priorities, and has been fine tuned to ensure support of industry stakeholders.
6. Participation of industry in the Go Global programme through working groups is excellent, and industry stakeholders are showing real interest in the early outputs.
7. Progress in a few areas, notably redevelopment of the portal for business improvement and information dissemination to industry, has been slower than ideal, but is now on track to achieve the targets set out in the business plan.
8. No major strategic changes to the programme are recommended. It is important that it is given adequate time to achieve its targets. Based on progress to date and present direction, there is every reason to believe that it will do so.
9. It is not possible to calculate the value for money of the programme because of other important extraneous variables interfering with the relationship between the programme and outcomes to date. However, the low cost and modest magnitude of the programme relative to industry production, sales revenue, multiplier effects and tax generated means that it is almost certain to represent a sound return on investment for both the industry and the government.

10. The review has identified a number of opportunities that could either be incorporated in the current or a future PGP programme, or be exploited by New Zealand Avocado in parallel with the programme. Some of these could be new projects, while others could be dealt with through collation and provision of existing information to industry.

## EXECUTIVE SUMMARY

The New Zealand avocado industry has achieved a remarkable step change in its modus operandi over the last two to three years. It has changed from a less disciplined and more compliance driven industry to one that is much more professional, collaborative, cohesive and smoothly operating. It now has a much higher profile, both within New Zealand and in export markets. While some of the changes commenced from perhaps two years prior to the implementation of the Primary Growth Partnership's Go Global Programme, there is unanimity within the industry that the PGP programme has been a major positive factor in achieving and accelerating the step change.

The change has been achieved by strong leadership within and a reorientation of the operations of New Zealand Avocado - an entity combining the Avocado Industry Council and the New Zealand Avocado Growers Association. New Zealand Avocado has been the contracting entity responsible for the implementation and execution of the Go Global programme. There has been little expansion in staff numbers. The very good progress made since the inception of the programme has occurred because of the energetic and passionate driving force of the CEO, the highly competent, efficient and hard-working team members, sound governance and some important functional changes within New Zealand Avocado. The advances have occurred with good effect across the major growing regions, notwithstanding the geographical and communication challenges involved, important orchard size and ownership differences between Bay of Plenty and Northland, and the inevitably political nature of industry organisations.

For several years prior to the planning and execution of the PGP programme, New Zealand Avocado was strongly focused on research and development. Since about 2012, research has been largely outsourced, placing the organisation in a strong position to be able to execute the wider functions represented by the Objectives of the Go Global programme. These most notably encompass export diversification, improved and more consistent yields from orchards, supply chain efficiencies and improved information systems and dissemination. While advances in achievement of each of the Objectives have varied, the overall progress and the industry impact have been very good.

In addition, the organisation has moved from a more policing-based approach to compliance to a more proactive, supportive and collaborative approach. This has been important in facilitating stakeholder acceptance of, participation in and support for the PGP programme.

New Zealand Avocado staff have also been proactive in seeking information to develop and execute the PGP programme from a wide range of sources beyond immediate avocado industry stakeholders, e.g. government agencies, other PGP programmes, other horticultural industries and commercial bodies, research institutions and overseas horticultural logistics and marketing organisations. This eclectic approach has provided a sound information base for decision-making on how best to structure and execute the programme.

The PGP programme has driven much greater cohesion in both domestic markets and in export markets in Southeast Asia, both of which are important targets of Objective 1. While

the Australian market is outside the scope of the PGP programme, and therefore of this report, more disciplined behaviour of exporters in that market has also arguably been positively influenced by the collaboration engendered through the PGP programme. The successful progress evident with Objective 1 reflects a well-considered decision by New Zealand Avocado to develop collateral and execute market research around the concept of a “New Zealand story” explicitly to complement (rather than potentially interfere with) the activities of licensed exporters in markets targeted for diversification.

Objective 2 focuses particularly on achieving greater yields and more consistent biennial avocado production nationally. Very good progress has been made here also, with working groups quickly established in major production areas and addressing the multiple themes that contribute to Objective 2.

Work on Objective 3 has taken longer than expected to determine its focus and reach full speed. However, this has been because of careful and detailed observation and analysis of industry needs, consultation with packhouse and other post-harvest operators. This in turn has led to agreement on decisions on priorities that are both important and have stakeholder support. This has resulted in work focusing on three particular themes - maximising the availability of fruit that qualifies to go to all markets, upgrading the critically important industry spray diary, and improving the industry’s AvoGreen compliance system. The selection of these three themes within the overall supply chain Objective was an intelligent decision that has generated excellent consensus and support of packhouses and positive behaviours by growers, representing an overall increase in industry professionalism in this critical operational area.

Objective 4 concerns extraction of value from avocados stones and skins. A small amount of work has been undertaken, but further work has been deferred until some important and confidential commercial issues are addressed. This is a sensible approach. It is premature to judge the future economic value of this Objective.

Objective 5 is concerned with the generation and dissemination of information, and includes the system that underpins these functions. Progress on Objective 5 would have been more rapid if New Zealand Avocado had had at least one IT proficient staff member at the commencement of the PGP programme, and if there had been an earlier analysis of user needs to guide strategic direction and establishment of priorities.

While the organisation initially lacked some important competences to progress the Objective, the delays that occurred eventually enabled the organisation to reconsider and clarify priorities, obtain additional internal and external information technology expertise and avoid allocating valuable resources in directions of dubious value.

The work relating to Objective 5 is now picking up speed, is better positioned to support and enhance the outputs of other Objectives and has the hallmarks of a well thought out information systems and dissemination plan. It will be very important to link carefully together the three technical development streams of work planned for the portal.

While these areas of technical IT work have been evolving, there have already been some excellent examples of information transfer mechanisms in the form of well attended field days, ongoing and well rated industry publications, and an informative research bulletin summarising preliminary work and outlining future plans that was particularly well received



by industry. It is suggested that the research bulletin be updated and disseminated on an annual basis, and also distributed to packhouses and consultants.

The PGP programme has interacted positively with two other factors important to the industry. While these factors preceded the programme, their impacts appear to now becoming especially significant. First, the Horticultural Export Authority regulatory regime and export licensing system, and its requirement for an Export Marketing Strategy, has provided a sound base for achieving greater collaboration amongst exporters. Second, Zespri's highly disciplined albeit single desk marketing model is familiar to good numbers of avocado growers, packhouses and exporters, particularly those located in the Bay of Plenty, as many grow or deal with both fruit. The awareness of the disciplines implicit in the Zespri supply chain and marketing model, in conjunction with the Go Global PGP programme, have undoubtedly impacted on the avocado industry and the operating model that has emerged over the last three or four years.

Lifting an industry by its bootstraps to a more professional, collaborative and cohesive dimension inevitably involves numerous unknowns. In many ways, the Go Global programme is an "action learning programme" with inherent mistakes and important information feedback loops informing future decisions and strategies as the programme proceeds. A particularly important aspect is how best should New Zealand Avocado staff interact and work with growers, packhouses and exporters. In this context, occasional mistakes become events to be learned from and in turn contribute to eventual success.

Spillover to other industries is an important aim of PGP programmes. It is evident that the step change achieved by the avocado industry has been observed by other horticultural industries that have consulted New Zealand Avocado on how to make similar gains. New Zealand Avocado staff, with the CEO setting a notable example, have been helpful to these other industries on several occasions.

Perhaps the greatest direct risk to the programme is the turnover of staff within New Zealand Avocado. It is important that the Programme Steering Group and the board of New Zealand Avocado monitor both organisational stability and culture, particularly in a regional and industry context where other attractive external positions may be readily available for a talented staff. Indirect or disruptive risks could include a price collapse in Australia resulting from large volumes of Mexican or Western Australian avocados coming on stream and the apparent inevitability that the much anticipated Trans Pacific Partnership (TPP) with associated tariff reductions in Asian markets will not eventuate. (The TPP could potentially help New Zealand by making it more difficult for central and South American exporters to access the Australian avocado market.) On balance, the staff stability risk is considered manageable, and the market related risks represent an environmental shift to which the industry should be well capable of adjusting given the goodwill generated and progress achieved through Objective 1.

It is difficult to estimate in quantitative terms the value for money of the PGP programme. Results have yet to be fully realised, and the application of any formal cost benefit analysis at this stage would be a highly questionable. The problems are exacerbated by the qualitative nature of the gains achieved. What is clear is that industry stakeholders are unequivocal about the improved status of the industry in terms of collaboration, cohesion, discipline and operational efficiencies, particularly since the inception of the PGP

programme. The industry is likely to have gross revenues of some \$130 million in 2016/17, and is well on target to achieve its PGP based target of \$280 million by the target date of 2023. The total cost (including in-kind assistance) of the programme is about \$1.6 million per year, provided 50/50 by industry and government. The additional industry profitability, other private sector value add multipliers and additional taxation arising from the much better performing industry are likely to very substantially exceed the costs of the programme, implying that it represents a sound return on investment. Based on a brief scan of other PGP programmes, the relative costs and benefits appear especially favourable.

In summary, there is good evidence that the leadership, commitment and teamwork of New Zealand Avocado, aided by the resources and progress of the PGP programme, have greatly increased the across-the-board performance and the profile of the avocado industry and its product in New Zealand media and almost certainly amongst consumers. The PGP programme's contribution has occurred in parallel with increasing domestic and international demand for avocados and correspondingly strong prices. While advances in achieving each of the Objectives have naturally varied, both the overall progress and the industry impact have been very good indeed. Whether such changes could have occurred without the investment in the PGP programme is indeterminate, but the reality is that the programme has enabled new investment that has been targeted towards agreed key issues. On balance, the strong conclusion is that the leverage provided by the PGP investment has facilitated major changes in the approaches taken by the industry body which have already proven effective.

## RECOMMENDATIONS

### General

#### ***Continuation and increased recognition of programme***

1. Maintain the programme in toto on its present course, subject to specific recommendations outlined below.
2. Build greater recognition of the brand name “Go Global” to focus stakeholders’ attention on the ongoing importance of international market diversification.

#### ***Organisational***

3. Focus on maintaining staff stability within New Zealand Avocado, bearing in mind the talented staff, the buoyant employment market in Bay of Plenty and the importance of developing and maintaining long term staff-stakeholder relationships to maximise successful execution of and outcomes from the Go Global programme.

#### ***Industry production sales target***

4. Review and increase the 2023 industry production target of \$280 million if and after New Zealand gains approval for access of avocados into China, anticipated to be during 2017.

### Objective 1

#### ***The New Zealand Category Story:***

5. Encourage exporters to incorporate the words “New Zealand” more prominently on more of their packaging.

### Objective 2

#### ***New cultivar research***

6. Develop an early strategy outlining the basis on which new varieties will be released to the industry, and incorporate this into the next annual plan.

#### ***Research into Plant Rot***

7. Increase the focus on helping the industry achieve optimal orchard management to protect fruit from rot during transit to more distant markets, both current and future (e.g. India, China).

### Objective 3

8. Give highest priority to the upgrade of the spray diary with immediate allocation of resources to this task in order to achieve maximum efficiencies and reduce market rejection risks.
9. Provide assistance to the Industry Systems Manager (e.g. 1 FTE) to assist with administration and increase the speed with which the spray diary upgrade can be completed.
10. Given good progress to date in working towards the target of all fruit for all markets and a consequent possible risk of diminishing returns from additional expenditure, the Programme Steering Group should review the extent of PGP funds allocated to the fruit for all markets project to ensure that, going forward, it still represents a sufficiently high priority within Objective 3.
11. Once the spray diary is upgraded, consider how the information can be most usefully used by the industry - either directly by growers or via post-harvest operators, e.g. yield data, spray treatments, interaction of variables such as reject analysis and pest control.

### Objective 4

12. In the event of any promising development within this Objective, make an early decision to link up with an appropriate partner operating in the industry concerned (e.g. specialist or health foods, cosmetics, medical applications) and possessing extensive competencies in global market entry, development and expansion, and in addressing any regulatory issues influencing distribution channels.

### Objective 5

13. Ensure that Objective 5 priorities link to work on other Objectives, especially the critical revamp of the spray diary and the AvoGreen system in Objective 3.
14. Establish a user group in conjunction with the existing IT advisory group. While the user group may meet from time to time, it is more important that its representatives are used as sounding boards and provide user based guidance to New Zealand Avocado over time as it iteratively develops Objective 5 solutions.
15. Update and disseminate the research bulletin on an annual basis, and also distribute it to orchard and other relevant consultants and to post-harvest operators.
16. Ensure that other information of particular interest to post-harvest operators is distributed to them regularly, noting that the Packers Forum meets only twice a year.

### Further Opportunities

17. Develop new projects, expand or publicise existing ones, or provide up to date information to industry about the following themes, as discussed in detail in the report:
  1. **Phytophthora** – a major issue facing the entire industry, with major production consequences.
  2. **Market rot** - problematic from time to time, and is likely to be more important as the industry seeks to distribute product to more distant markets.

3. **Ongoing adverse effects of post-2007 storm damage in mid Northland** - major area of production concern, with 5 to 10% of total yields being achieved from about 25% of national plantings.
4. **Fruit accumulation and cooling – implications for packing regulations** - representatives of some packhouses believe that rapid cooling of fruit warrants more flexible regulations relating to required time constraints applicable to packing.
5. **Comparative production data (so orchardists can compare yields and other reduction parameters with nearby/comparable orchards)** - this is gradually being collated by New Zealand Avocado.
6. **Improving fruit production estimates** - reflecting the classic difficulty of estimating total orchard, regional and national future fruit production.
7. **Increasing time to market to say 45 days** - important issue for adding value to the industry as it seeks to distribute product to more distant markets.
8. **Monitoring of Western Australian crop** - to better inform Asian market export diversification and volume allocation decision-making.
9. **Use of working groups for other technical issues** - working groups that are cohesive and which have demonstrated that they can function effectively may be able to be used for solving other technical problems over and beyond those for which it was designed to address.
10. **Provide more and faster feedback from market to growers** - the professionalism of the industry and its clear commitment to food safety could be further enhanced by developing systems whereby market out turn and phytosanitary reports are fed back more rapidly to growers.
11. **Future usage of “Go Global” brand** – the expression “Go Global” is not widely used within the industry, but the question arises as to whether it has some enduring value for maintaining the industry’s focus on market diversification.
12. **Reviewing other previous research** – to avoid repetition of earlier research, it would be desirable to review research work relevant to the avocado industry undertaken by CRI’s over the last 25 years, and within New Zealand Avocado (in its previous guise), prior to 2011.
13. **Long term planning** - it would be worth developing a long-term and collaborative project to try to forecast the nature, regional balance, extent of market diversification and other technical parameters of the industry in 10 years’ time. Such an exercise should be useful for New Zealand Avocado planning its future direction and resource allocations, including any future further PGP programmes.

## INTRODUCTION

The New Zealand avocado industry has grown rapidly over recent years. International and domestic demand for avocados has increased significantly, reflecting increased consumer understanding of the fruit, and its eating and nutritional qualities. International demand for avocados is growing at about 15% annually, outstripping supply which is growing at approximately 3% per annum.

The New Zealand industry is complex in terms of its locations and scale configurations. Almost two thirds of the industry is located in the Bay of Plenty with remaining production dominated by the Far North and the Mid North of Northland. In the Bay of Plenty, the average size of orchards is small, and there are numerous “lifestyle” avocado blocks. The scale of avocado orchards in Northland is much larger, and there are a number of substantial, corporately owned and operated plantations.

The avocado tree itself is still not well understood genetically, and has some growing characteristics which create challenges for growers, technical advisors, post-harvest operators and exporters. Tree decline, canopy management and selection of the best cultivars are important challenges facing the industry. The development of best practice guidelines is a priority.

Yields vary significantly across the industry, and fluctuating biennial production is a strong traditional feature. This leads to fluctuating incomes for growers, and makes it difficult for post-harvest operators to plan and execute their activities, and for exporters to meet the growing demands of traditional and new export markets.

Post-harvest operators are dominated by a small number of large packhouses that service both the kiwifruit and the avocado industries, along with several smaller packhouses that only handle avocados. Compliance of growers with permitted spray regimes and minimisation of chemical residues on fruit are critical to both picking, packing, exporting and market acceptance of fruit.

The Australian market accounts for more than 80% of avocados exported from New Zealand. This market dependence is a significant longer term risk, and the industry has determined that it warrants diversification into new markets, particularly in Asia.

There is scope for utilising some of the waste components of the avocado, e.g. stones, skin, providing that appropriate research is undertaken and product and market value propositions determined.

Information flows between growers, packhouse operators and exporters are increasingly important as the industry expands, and online/web based tools and mechanisms are essential to the efficient operation of the industry and utilisation of best practice from orchard to market.

All of the above aspects have been encapsulated in a Primary Growth Partnership programme entitled “Go Global”, involving a Partnership between New Zealand Avocado

(an amalgamation of the Avocado Industry Council and the New Zealand Avocado Growers Association) and the Ministry of Primary Industries. Go Global is a five year programme which runs from 2014 to 2019, and this review was an agreed contractual obligation of the parties from the outset.

The five objectives of the programme are:

**1. Market Entry & Growth** – Asia and New Zealand: the aim is to enable the expansion of Asian and New Zealand market sales through the development of market entry and growth strategies, generic marketing collateral and market insights for non-Australian markets.

**2. Consistent and Sustainable Avocado Supply:** on orchard research on methods to increase avocado yield per hectare and decrease annual yield variations including understanding and validating new canopy management strategies; evaluating new cultivars; optimising tree decline management; and the development of best practice guidelines.

**3. Efficient Supply Chain:** the aim is to identify, analyse and improve areas offering the greatest potential to improve the efficiency of the supply chain and develop best practice guidelines where appropriate. The initial focus has been on three areas – on-orchard food safety; all market access from orchard to packhouse; and AvoGreen® pest management.

**4. Products from Waste:** The aim of this project was to investigate the feasibility of developing value-added products utilising the avocado skin or stone.

**5. Information Portal, Knowledge Transfer & Adoption:** the aim is to develop an “information portal” for the collection, analysis and dissemination of information to the avocado industry.

A sixth Objective covers programme management.

## **APPROACH TO REVIEW**

The terms of reference for the review are included as Annex 1.

## **OBJECTIVES OF THE REVIEW**

The objectives of the review were to:

- i. Assess programme progress to date as a whole, in each of the objectives, and in particular the likelihood of the programme delivering the expected outcomes;
- ii. Identify any unintended consequences (positive and/or negative);
- iii. Assess internal and external factors affecting the programme including management and governance;
- iv. Identify any key risks to achieving the contracted outcomes;
- v. Identify potential additional benefits (spillovers).
- vi. Identify opportunities that the programme could address in the future.
- vii. Deliver recommendations for the future strategy, direction and delivery of the programme.

For the purposes of the review, the sixth Objective, Programme Management, is incorporated into the examination of the other five Objectives.

## **SCOPE OF THE REVIEW**

The review consisted of more than 30 mostly face-to-face and on-site interviews, supplemented with some telephone interviews, of those involved in the governance, management and execution of the Go Global programme, and including some additional closely involved or interested stakeholders within the avocado and horticultural industries and the government. The reviewer also examined a wide range of documents including the original business case and subsequently revised annual business plans, quarterly reports, minutes of the Programme Steering Group, numerous internal documents, compliance definitions and standards, the New Zealand avocado website and multiple drop-down menus, marketing collateral, notes from working groups and avocado industry and related horticultural industry studies and reports.

Consistent with the objectives of the review, it was neither an audit, nor an assessment of the rationale for New Zealand Avocado or MPI's involvement in the programme. The review was carried out between October and December 2016.



## REVIEW FINDINGS

### GENERIC PROGRAMME FINDINGS

#### **Early Progress**

An impressive feature of Go Global was the speed with which structures were established and stakeholders informed and educated in the first quarter of the operation of the programme. Designated working groups for multiple tasks across several Objectives were established, market research was initiated and communication channels set in place with Plant and Food Research undertaking the MBIE-funded orchard research programme. The channels were necessary to ensure seamless congruency between the MBIE and MPI funded programmes. All of this rapid and early progress occurred while management was simultaneously establishing PGP related governance structures, methods of measuring and recording of in-kind costs by partners, and implementing information and financial reporting mechanisms to ensure that commitments to the Crown were met in a timely fashion.

Right from the outset, packers, exporters, grower groups and research providers were given the opportunity to have regular input into PGP activities. An early meeting was held with Zespri which yielded insights into options for database management and novel IT systems for communicating with industry.

The Avocado Industry Council's Chief Executive has been passionate and energetic in driving the programme forward, and moved rapidly to recruit key staff members to support the Go Global programme manager, and already had applications in hand by the time of the first Programme Steering Group meeting on 17 October 2014.

In conjunction with the early rapid progress, there was also a realisation with respect to two of the objectives - Supply Chain Efficiency and Information Portal/Transfer and Adoption - that the scope of the work involved was greater than originally envisaged.

From April 2014, and particularly from June to September 2014, there was extensive media coverage of the Go Global programme, reporting comment from Jen Scoular, Ashby Whitehead, Minister Nathan Guy and others. The coverage was not only national, but especially strong in those regional and local newspapers most likely to be read by people on the avocado industry. The media coverage continued into early 2015 and beyond, with increasing emphasis on the industry's diversification into Asia.

#### **Extensive Information Scanning, Sourcing and Generating**

An Impressive feature of the Go Global programme has been the manner in which management has scanned external, and internal information sources, and obtained or generated important information for the programme.

#### ***Other Agribusiness Trading Organisations***

Go Global management tapped into other agribusiness trading organisations, looking for precedents that could be useful and avoid "reinventing the wheel". The most important of these were Zespri and major players in the pipfruit industry, enabling management to access a great deal of useful information about the systems, processes and procedures

necessary to grow a horticultural industry into a large-scale and thriving industry with diversified export markets.

### ***Other PGP Programmes***

Go Global management made a particular point of contacting other PGP programmes, both directly and via MPI. DairyNZ was also an important source of information.

Management responsible for the Primary Growth Programme within MPI was proactive in encouraging collaboration and information sharing amongst PGP programmes, and Go Global was certainly one of the beneficiaries of this approach. A good example was Farm IQ, which had undertaken extensive IT system development work for the red meat industry, work which proved especially helpful to the Go Global programme. Again, Farm IQ's work on developing "user stories" of successful best practice was adopted by Go Global early in 2015. The Red Meat Profit Partnership also provided a useful precedent in the area of data management, and there were consultations with other PGP programmes, e.g. Ravensdown's fertilizer programme.

### ***The Industry***

In parallel with this external focus, Go Global management ensured a generally comprehensive and inclusive approach to sourcing information from within the industry. No substantial stakeholders were ignored, and in some cases, quite large numbers of individuals were involved. For example, for Objective 2, canopy management strategies are being developed and new cultivars are being evaluated by a number of working groups utilising a range of orchards across all growing regions. Objective 1 required extensive collaboration amongst exporters and a high level of trust, as participants shared information on a range of new marketing initiatives across Asian markets.

In the case of Objective 3, the complexity of supply chain systems and processes and the wide range of participants required even more intensive and careful establishment of information channels for the projects. Go Global management wisely took adequate time - more than originally envisaged - to obtain the buy in of supply chain participants, form effective working groups and ensure ongoing collaboration and commitment to the extensive supply chain analysis and evaluation that was clearly required.

For Objective 5, early generation of data was important in establishing a baseline for the programme's comparison of future data on production yields and consistency. The production and availability of these quantitative data could have been enhanced by earlier attention to user needs as discussed later in the report. More recently, sourcing of external third-party expertise has been obtained which is likely to make a valuable contribution to future progress.

### ***MPI assistance***

It has been noted that MPI provided conduits to other PGP programmes potentially helpful to Go Global. MPI is a large and complex organisation, and is obviously important to the avocado industry in terms of negotiating access to key markets, notably China. MPI also has relevant and important strengths in areas such as information management. The MPI

representatives on or attending the PSG committee meetings were quick to make these capabilities available to Go Global, particularly with respect to Objective 5.

MPI's flexibility in the way it operates the PGP programme, including its portfolio management approach and active involvement in the governance of the programme means that programme underspends can be made available in subsequent quarters/years. This has proved extremely helpful in areas of complexity where the larger than anticipated scope of work made it necessary to expand some projects and extend milestones.

### **Dealing with Delays**

Almost inevitably, because of the extensive range of projects implemented, the limited resources and the need to involve multiple industry stakeholders, there were some delays in implementing the overall programme. These were generally well-founded delays, and reflected sensible awareness of resource constraints and the need to assess several external proposals. For example, they recognised that informing and obtaining the buy in of multiple industry stakeholders for complex supply chain analysis and improvement could be a protracted process. All such delays were signalled early to the Programme Steering Group, enabling adjustments to timelines and budgets to be made smoothly.

### **Governance**

All information gleaned from minutes and interviews indicates that the Programme Steering Group (PSG) has operated as a cohesive and effective governance entity. There is no indication of industry parties having pushed their own particular agendas. On the contrary, the evidence is that there has been a complete commitment to progressing the wider interests of the New Zealand avocado industry.

Members spent several months sounding out potential an independent chairman for the PSG. They set a high bar in terms of governance abilities, and considered a number of high quality potential incumbents. In April 2015, this led to the appointment of Bob Major, with wide senior management and governance experience, especially in the dairy and seafood industries. Through to that point, Tim Knox of MPI chaired the meetings effectively and professionally. Governance has been of a high standard, with open discussion, excellent minutes and action points noted. A risk register is maintained and conflicts of interest recorded. (It is perhaps relevant that the Avocado Export Council is now seeking an independent chairman for the first time).

### **The New Zealand Avocado team**

All individual team members within New Zealand Avocado involved in the PGP programme, past and present, received explicit commendation by name during the course of the review for their efforts. This praise ranged from responsive to very helpful to outstanding, and was sometimes contrasted with the organisation's performance in the years immediately prior to the PGP programme's origins.

### **Quarterly Reports**

Right from the start in June 2014, Go Global management utilised a comprehensive template for reporting to the Programme Steering Group on progress against objectives.

The methodology used traffic light style tables to indicate progress. A reporting template was agreed between industry and MPI which has evolved only very slightly to cover the following critical issues consistently:

- A. Executive Summary/Public Summary
- B. Programme Management recommendation to the Programme Steering Group
- C. Delays/Issues
- D. Financial implications of changes to the annual plan
- E. Skills/capability
- F. Data/information
- G. Collaboration/meetings
- H. Objective Summary
  - a. Important developments or results separated out for Objectives 1 - 5.
  - b. Objective 6 covers project management, and includes a general comment on achievement against milestones. It also covers key external relationships, e.g. with other PGP programmes, Plant and Food Research and reports on any spillovers to other horticultural or other primary sectors.
- I. Financial detail
- J. Risk Management
- K. Intellectual Property
- L. Programme Publications/Outputs
- M. Communications

### **Working Groups – Exemplifying an Action Learning Programme**

The execution of a complex range of projects under the several objectives of the Go Global programme hinged upon the successful establishment and operation of a number of working groups. It has already been noted that several of these groups were established very early in the piece. While not specified as such, this establishment and operation of working groups was very much an “action learning” exercise for New Zealand Avocado. “Action learning” has been defined simply as “an approach to solving real problems that involves taking action and reflecting upon the results”<sup>1</sup>. The emphasis is on taking action rather than allocating large amounts of time to planning that can become excessive and counter-productive. The implication is that action learning will inevitably lead to successes and failures, and that those involved will learn valuable lessons along the way.

There is early evidence that this is exactly what occurred. For example, in the February 2015 minutes of the PSG, a report on a project in the Far North to address tree decline management states, “A major step forward for the PGP programme has been a better understanding of how best to develop the working group structure, their work plans, coordinate their activities and elicit participation”. It is clear that management was learning some rapid lessons about the operation of working groups, and this was confirmed by subsequent feedback from several interviewees involved with or in such groups.

The lessons learned early on were applied effectively over the ensuing months. While there were inevitably a range of views within working groups, Go Global management and

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<sup>1</sup> [https://en.wikipedia.org/wiki/Action\\_learning](https://en.wikipedia.org/wiki/Action_learning)

working group members ensured that the groups were well structured around the problems each was addressing. They established effective communication amongst working group members, developed sound plans for each working group, met at appropriate intervals depending on the particular problem, and developed generally consistent mechanisms for communicating with the rest of the industry. Such external communication was sometimes sensitive, as it was important to balance the need for rapid information dissemination with the risk of releasing information that had not been properly tested or verified. The working groups handled this aspect very well, which was important in maximising the industry uptake, the credibility of the PGP programme and the value of the information to stakeholders.

Working groups are discussed further under individual Objectives.

The “Action Learning Programme” phenomenon has extended beyond the working groups to the overall approach taken by the programme to address the industry’s supply chain and information collation and dissemination. It is in these areas where uncertainties have been greatest, and timelines stretched as the programme team have grappled with the optimal forward direction and the best way to allocate resources. The fact that some mistakes have been made along the way is less important than the manner in which lessons have been effectively learned and absorbed in reviewing programme strategy, required resources and future direction. This also serves to reinforce the importance of the flexibility available for programme changes within PGP, and the need to maintain a good level of stability across the programme team in order retain institutional learnings.

### **Integration of Objectives across programme**

While this was considered important in the planning and co-funding of Go Global, in reality it may not be that integration *per se* is most important, but rather that the selected priority areas for work within the PGP programme are complementary. The evidence suggests that the substantial and detailed planning of the PGP programme will ensure that this occurs.

There are already clear links between areas of work, e.g.

- smoothing annual crop volume variation will help exporters keep faith with retailers and consumers in terms of volumes available and more consistent prices;
- increased supply chain efficiency and related quality assurance and simplified compliance will assist exporters access export markets, especially those most sensitive to phytosanitary risk<sup>2</sup>;
- the revamped portal will support all of the other Objectives.

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<sup>2</sup> Australian avocados were locked out of the Thai market in 2015 because of phytosanitary concerns.

## PROGRESS ACROSS INDIVIDUAL OBJECTIVES

### Objective 1 Marketing

#### *Working groups*

Two working groups were established early, the New Zealand market working group and the export promotions working group. New Zealand Avocado is to be commended for structurally locating working groups under AVEC, which, along with its rapid action on Objective 1, arguably contributed significantly to achieving the buy in of exporters which might not otherwise have readily been forthcoming.

#### *International Markets*

The speed with which Go Global management acted right from the commencement of the programme is the subject of favourable comment elsewhere in the report. A good specific example of this is the launch of the category story into Asian markets:

- In June 2014, a consultancy was commissioned to develop the New Zealand avocado category story and guidelines
- In August 2014, the category story and related guidelines were accepted and effectively signed off by AVEC/New Zealand Avocado.
- In September 2014, the New Zealand category story was launched at Asia Fruit Logistica (AFL) in Hong Kong, attended by more than 8,100 trade visitors from 64 different countries.
- By the end of 2014, an Avocado Supply and Demand Model covering 12 markets and detailing the relative attractiveness of priority export markets had already been collaboratively developed.

A major problem area in optimising global marketing of avocados is sharing of information amongst exporters on the crop flow. It is in this area that major gains have been made, reflecting greater openness and trust amongst exporters, a cultural shift undoubtedly influenced, if not generated by the PGP programme. Exporters that are not fully vertically integrated see further scope for improvement in exchange of information with packhouses. Progress is especially meritorious given that the number of avocado exporters has increased from seven to 13 over the last five years. The four largest exporters are leading the charge into South East Asia. Given that such new market development is not necessarily profitable in the early stages, they would like to see a wider exporter commitment to the initiative to diversify into South East Asian markets under Objective 1 because of the risk of “free loading” by those not contributing. Smaller exporters sometimes claim they have insufficient fruit for the present to justify the costs of diversification much beyond the Australian market.

Interviewees commented that AVEC had, over the last two years, become a much more collaborative and constructive entity. For example, fortnightly conference calls of AVEC members had become standard practice over that time period.

Major issues abound in the industry's Asian diversification initiative, e.g. control of quality and ripening, education of retailers in provision and handling of ripe fruit, educating consumers about how to eat avocados, and ensuring the supply chain is aligned to the variable demands of new export markets. Korea is an excellent example of progress being made on these fronts under the aegis of the PGP programme, with New Zealand Avocado developing a Korean language website promoting the New Zealand Inc category story, and the exporters leveraging this collateral to make very good progress on trade and consumer education.

A particular challenge for New Zealand Avocado and exporters is the need to sell avocados during the North Asian winter, requiring a quite different marketing strategy to the more familiar summer sales in the southern hemisphere.

One of the keys to the success of the PGP programme within Objective 1 has been the complementarity of the "New Zealand category story" and related online and point of sale collateral and market research developed by New Zealand Avocado with exporters' on the ground initiatives. Exporters only want New Zealand Avocado involved in these initiatives when explicitly invited, and New Zealand Avocado has been careful to respect this stricture. The business model whereby exporters draw down upon the generic New Zealand category story, marketing collateral and market research information is an effective one. (Exporters paying for and executing their own market research and marketing collateral information can hardly be expected to share this with other exporters.) At the same time, exporters have had plenty of opportunities to contribute to the category story. There have been some good instances of joint trade visits with the CEO of New Zealand Avocado supporting exporters seeking to break into or expand sales into Asian markets. There is a healthy dialogue amongst stakeholders on the roles of New Zealand Avocado in developing international markets vis-a-vis the efforts and initiatives of individual exporters.

New Zealand Avocado also undertakes a great deal of market monitoring both onshore and offshore, and monitoring of flows of fruit to individual markets. This information is made available to exporters, and is very important to their market allocation decisions and particularly to their early advice to offshore buyers on likely available volumes.

The CEO has also been careful to maintain strong links with New Zealand Trade and Enterprise, which is well aware of and impressed by the step change achieved by the avocado industry under the PGP programme.

There were very large increases and record volumes of product exported to Tier 2 Asian markets in 2014/15. For example, there was 91% volume growth for exports of New Zealand avocados to Singapore, 77% to South Korea and 77% volume growth in exports to Thailand. Typically, prices have been maintained, despite the increased volumes.

In the future, there are exciting prospects for the industry to leverage the specific nutritional characteristics of New Zealand grown avocados as this information emerges from research and can be incorporated in marketing strategies and collateral. The overall efforts and

achievement to date within Objective 1 provide a useful base for the industry in the event of it gaining access to the Chinese market.,

New Zealand Avocado is also to be commended for introducing a contestable fund to underwrite and encourage innovative initiatives in new target markets. This fund is well aligned to Objective 1, and there are already signs of it effectively complementing the funding available under the PGP programme.

**Key target - identification of three secondary Asian markets**

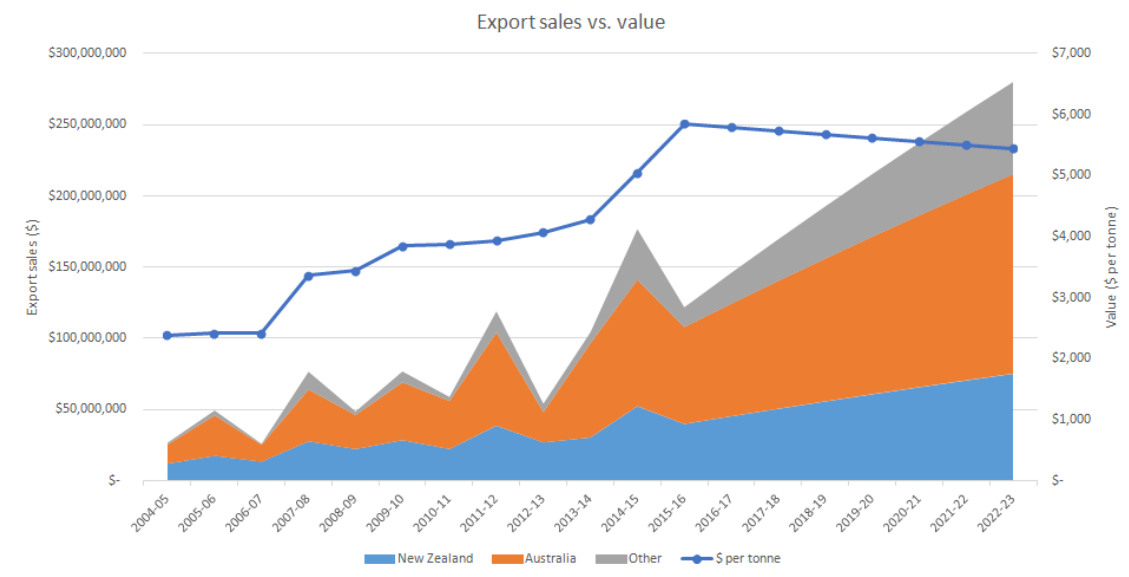
An important milestone of the PGP programme was that secondary Asian markets would be identified as priority targets by March 2017. It is concluded that this milestone will be met, with the most likely candidates being Thailand and China based on success in those markets to date and the potential growth from those markets.

Trial shipments to India have also been instigated by major exporters.

**Key target - total industry production to achieve sales of \$280 million by 2023**

A major target of the PGP programme was for the New Zealand avocado industry to achieve total sales of \$280 million by 2023. This required exports to increase from \$70 million in 2013/014 to \$205 million, and domestic sales to increase from \$19 million to \$75 million.

The industry is on track to achieve these targets, with an allowance for a slight annual fall in revenue per tonne. Taking account of the past history of New Zealand horticultural product price fluctuations, this conservative future pricing track assumption is considered reasonable - notwithstanding price increases over recent years and the currently favourable global supply/demand situation. Sales in 2016/17 are likely to exceed \$130 million based on export sales surpassing \$90 million and domestic sales exceeding \$40 million. As noted elsewhere in this report, it is not appropriate to attribute this magnitude of increase to the PGP programme.





The question has been asked whether the original targets should be increased to provide a greater stretch for the industry, given the importance of achieving a good return on government funds. It is the opinion of the reviewer that the targets should only be reviewed after access to the Chinese market has been confirmed, anticipated to be during 2017. This could significantly impact export prospects for the industry and needs to be factored into any new PGP targets, even if exports to China remain independent of such targets.

More fundamentally, while the industry is on track to achieve the targets, the following points must be considered:

- horticultural consumer preferences and commodity prices can fluctuate or develop an adverse trend over time;
- trade access rules may not be as favourable for New Zealand as previously assumed given the outcome of the recent US Presidential election and the apparently inevitable collapse of the Trans Pacific Partnership;
- the genetics of the avocado are still being analysed and understood, and while orchard practice is having a positive impact on biennial production, the problem has still to be solved long-term. If it proves more difficult than anticipated, fluctuating supply will make marketing into sensitive new Asian markets more difficult;
- adverse natural events such as the 2007 storm in Northland can adversely impact the industry at any time.

On the positive side, there have been some large new or continued expansions of locally owned, corporate and offshore funded plantings in Northland over recent years.

### ***Domestic***

Representatives of marketing companies also praise the contribution of the PGP programme in improving coordination in the New Zealand retail sector, getting representatives of the major retailers around the table, improving dialogue, and educating supermarket retail staff in the correct handling of ripe fruit.

Right at the start of the programme, Go Global management took advantage of the annual conference of the Produce Marketers Association to launch the avocado category story, and to distribute Toolkits to marketers and supermarkets. This initiative was highly successful with some notable uptakes by supermarket chains. Information was also made available directly to consumers, e.g. 15,000 New Zealand Avocados Amazing Anytime recipe cards were distributed interested people at the Taste of Auckland Festival in 2014. New Zealand Avocado has also assisted with other in-store collateral information, TV advertising and digital marketing.

### ***Go Global marketing plan***

By the last quarter of 2014, there was an increased focus on the development of a “Go Global marketing plan”. Exporters and New Zealand-based marketers met regularly to discuss the topic, and drew upon information from the prior season’s market, especially feedback from test marketing in India.

This marketing plan built upon the Export Marketing Strategy (widely referred to as the EMS) previously developed for, and required by the HEA. It is consistent with the EMS, but also addresses the domestic market, which is gradually being aligned with the EMS. The references to the EMS and the HEA made it clear that the Authority's levy system and licensing regime had provided a sound collaborative platform for the execution of Objective 1. Relevant policies and procedures to underpin New Zealand Avocado's role in the execution of the Go Global marketing plan have now been completed.

### ***Small exporters, market disciplines and innovation***

The major industry contributors to Objective 1 are large exporters who are the most committed to market diversification into Asia. From their perspective, the fewer parties involved in diversification initiatives, the easier it is to collaborate and make key decisions. They may regard some small exporters as virtually of nuisance value. Small exporters on the other hand may argue that they lack sufficient fruit to participate in diversification. For the industry, their value lies in providing greater competition and also in some cases seeking and introducing innovations in both domestic and export markets. These matters are generally outside the scope of the review, except to the extent that any such innovations could expand sales and New Zealand and assist diversification, e.g. small fruit for niche markets. It is important that New Zealand Avocado monitors and is prepared to nurture these innovations with appropriate generic support.

### **Objective 2 - Consistent and Sustainable Avocado Supply**

Achieving consistent and sustainable avocado supply requires successful establishment and execution of multiple, complex projects. The Go Global business plan had already identified the subject areas around which each of these projects should be based, and this was validated by an early benchmarking study of growers. Early experience reinforced the importance of a holistic approach to this Objective, with designated milestones linked to subject areas. These designated milestones have already proven valuable in enabling early quantified results in areas such as canopy management and pruning to be reported to growers.

Objective 1 of the PGP programme has been implemented and executed effectively across both Bay of Plenty and Northland (Far North and Mid North). There are significant structural differences in orchard ownership and size between the two regions and within Northland, with an average orchard size of 2.2 ha in Bay of Plenty, 8.4 ha in the Far North and 4.1 ha in Mid North<sup>3</sup>... Bay of Plenty orchards include a large number of growers generally classified as "lifestyle options", whereas in Northland, a corporate model is much more common.

Further, it has to be remembered that the avocado is still relatively undomesticated and canopy management is still evolving significantly. The history of the kiwifruit industry demonstrates the massive orchard management changes that have and can be made to greatly improve the level and consistency of production from a previously little understood plant. The timing and potentially positive impact of Objective 2 of the PGP programme are therefore particularly favourable.

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<sup>3</sup> Average size orchard for the "rest of New Zealand is 3 ha.

### ***Working groups and overall progress***

As designated in the business plan, management moved rapidly to establish working groups, not only for each project, but for the four subject areas within each project. These cover canopy management, new cultivars, tree decline and implementation of orchard-scale trials from MBIE-funded PFR programme findings. Pests and diseases have also been incorporated into the PGP programme, and there is also a study underway on pollination with bumblebees. In the case of new cultivars, four working groups were established covering a total of 24 orchards. Again, reflecting the rapid implementation of the Go Global programme, all of these working groups were established in the first quarter following the establishment of the programme. Across the subject areas, work plans detailing specific objectives and responsibilities of the working groups were either underdevelopment or developed and approved in the first quarter. There is also a working group on orchard costing, which should provide a basis for future benchmarking between orchards.

Some working groups have still to be established, but groups are operating effectively across Bay of Plenty and Northland, with strong support from New Zealand Avocado staff. Good information gathering templates have been developed for the working groups to ensure the collation and analysis of comparative data from participating orchards.

Interviewees commented that working groups were being deliberately inclusive, and that there was a trickle-down effect broad enough to touch a good number of people. There was some risk of some of them being dominated by strong individual grower personalities and it is important for all of those involved in the working groups to feel free to voice their views. However, overall the response of growers has been very positive: one grower described the information coming from trials on his property as “brilliant”. The operation of the groups is proving a good learning experience of New Zealand Avocado staff, and the lessons learned mean that future management of the groups should be more efficient.

One of the outcomes of the application of MBIE funded research and on orchard trials is expected to be a toolbox of best practice guidelines that growers can use to optimise inputs and to achieve maximum sustainable outputs. It is too early to see this comprehensive toolbox emerging yet, but those involved in working groups are confident that it will be able to be developed based on the evidence already materialising from research and subsequent on-orchard trials. This confidence reflects the high quality baseline information on annual fluctuations, yields and geographic variations provided through the PGP programme. It also reflects the consequent ability of the on-orchard trials – over and beyond MBIE funded research - to analyse the interactions of multiple variables such as pruning, temperature, irrigation and tree management.

Some information has already been well accepted by the industry, e.g. revised pruning regimes and new planting densities. Work on new cultivars is proceeding well. Licensing rights to most cultivars are held by New Zealand Avocado, and there are 2-3 year waiting lists for favoured new cultivars. This is likely to constrain the rate of uptake of the outputs of this part of Objective 2.

### ***Technical Working Group***

The business plan envisaged a Technical Working Group to advise on the transfer of outputs from MBIE funded research as seamlessly as possible via the PGP. New Zealand Avocado has

been able to use the Technical Working Group that MBIE had already established to advise on its own research programme. The Technical Working Group includes expert staff from New Zealand Avocado and Plant and Food Research, rural professionals and growers. It is divided into two subgroups to monitor the technical streams of work involved. It facilitates and ensures effective uptake by the industry via the PGP established working groups of the research generated within the MBIE funded programme. It also provides guidance to the Objective 2 working groups.

### ***MBIE Co-Funded and MPI PGP Co-Funded Programmes***

MPI's Primary Growth Partnership was established independently of research programmes co-funded by MBIE. Nevertheless, there is a strong alignment of focus of the two departmental programmes across primary sectors.

In the avocado industry, the MBIE funded research programme broadly seeks to address the issue of achieving more consistent supply of avocados from the industry year by year. The industry therefore represents a very good example of the two Ministries working cohesively together, facilitating uptake by the PGP co-funded Go Global programme of MBIE co-funded research undertaken by Plant and Food Research. The collaboration of all of these parties means that speed and effectiveness of uptake is maximised, and any risk of overlap between the programmes is avoided.

As early as February 2015, the PSG were able to view a 'dashboard' of individual orchard characteristics, performance and management data representing preliminary results from the MBIE funded research. These findings were able to be incorporated by working groups involved in several on-orchard projects within Objective 2. Further, cultivar related analysis from the MBIE research was incorporated into the 2015/16 plan.

### ***Key target - achieving an average yield of 12.4 tonnes per hectare by 2023***

An important target within Objective 2 is for the programme to achieve an average yield of 12.4 tonnes per hectare by 2023. The reviewer sought feedback from growers, consultants, grower representatives working for packhouses, people with wide experience working in the industry and New Zealand Avocado staff. There are multiple examples of spectacularly high orchard yields in a single year approaching 40 tonnes per hectare – but these are not maintained consistently. While there was a minority view that the 12.4 tonnes might be too easy or not a profitable level of production<sup>4</sup>, the majority perspective was clearly that the target yield should be retained. It was pointed out that (i) the present national average is about six tonnes per hectare, (ii) no country in the world averages more than 10 tonnes per hectare<sup>5</sup>, (iii) the industry includes numerous lifestyle growers that inevitably pull the average down, and (iv) the impact of low production every second year, given the biennial production habits of avocado trees, has yet to be solved.

It is too early in the timeframe of the programme to determine whether or exactly when the target will be achieved. However, all those involved are confident that it will be achieved,

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<sup>4</sup> Profitability also of course depends on Orchard Gate return (OGR). Again, there are a range of views on what constitutes a profitable OGR; around \$17 a tray for Class I fruit was a typical figure.

<sup>5</sup> Benchmarking against other countries is of no great value because of the greatly varying growing conditions.

and the reviewer found no evidence to contradict this. On the contrary, there is mounting evidence that differences in yield performance are significantly a result of differing – and controllable - orchard management practices.

It is therefore recommended that the present target be retained. An inference of the comments received is that professionally focused growers are likely to exceed an average of 12.4 tonnes per hectare. Over time, with the growth of the industry, it can be expected that these growers will become more dominant and that the average yield will increase accordingly.

New Zealand Avocado has a special focus on the highest yields achieved by the top 10% of growers. Some have achieved consistent average yields of 20 – 25 tonnes and analysing these high performers should enable New Zealand Avocado to both lift the production aspirations of the rest of the industry and provide insights into the determinants of consistently strong production performance. This highlights the opportunity for, and the potential of, benchmarking systems.

### ***Reduction in biennial production***

A biennial index was quickly developed, incorporating a graphical and mapping tool to take account of multiple influences and differences, e.g. region, sub-region, tree age.

Similar to the work being undertaken on yield, while progress is very good and the work on track, it is too early to determine conclusively to what extent the project, underpinned by MBIE funded research, will reduce volatility of annual production. While it is still too early to be certain as to how this targeted area will pan out, initial findings on orchards are promising, as demonstrated graphically in the recently published Research Bulletin, with pruning emerging as a key factor.

### ***Other projects within Objective 2***

New Zealand Avocado reports that the best performing new cultivars (and the worst rootstocks) are increasingly becoming evident. Factors identified in tree decline have been identified and counter-strategies are beginning to be implemented. Capture of grower know how to achieve optimal canopy management is of great benefit as a lead in to development of best practice guidelines. The particular focus on top growers and how they operate their orchards is proving invaluable.

### **Objective 3 – Efficient Supply Chain**

Objective 3 took some time to get underway. An initially important component was a comprehensive survey of the industry's supply chain with the suggestion that the PGP programme might identify major opportunities for new efficiencies to be established amongst post-harvest operators. KPMG was employed to do some preliminary survey work, and New Zealand Avocado's Industry Systems Manager also analysed packhouse operations in order to identify PGP programme priorities. The feedback from the operators, confirmed by the survey and observational evidence, was that they already had a strong grasp of their

throughput processes and were achieving good levels of efficiency within the constraints of the seasonal horticultural industry in which they operated<sup>6</sup>.

Accordingly, the PGP programme concluded that the greatest contribution to product assurance, system compliance and packhouse efficiency be to focus more narrowly on three themes - fruit for all markets, upgrade of the spray diary and effective implementation of the AvoGreen production system. This focus therefore accurately reflects the reality of industry priorities and is greatly welcomed by relevant stakeholders in the industry. Post-harvest operators explicitly commented on the fact that they felt that they had been listened to by New Zealand Avocado: e.g. “The best thing about it is that they are listening to commercial operators. They are designing systems to be practical, we couldn’t ask for more. The systems they are developing look very robust and we can’t praise them enough.”

### ***Fruit for all markets***

This section of Objective 3 is progressing well, with close collaboration with MPI evident to ensure global market demands are clearly understood, industry practices and MPI compliance requirements are aligned and the industry’s obligations under the Food Act met. The work involves developing a streamlined and globally acceptable interface between growers and packhouses to enable efficient and certain certification that growers’ fruit meets maturity requirements, that growers are registered for export, that their spray diaries are up to date and declared and that any residue testing required has been undertaken.

One caveat is some divergence of view on the “fruit for all markets” theme. It was suggested that a great deal had already been achieved on this front, and that the programme might either now or shortly be getting close to a point where future expenditure produced significantly diminishing returns. In Northland in particular, there appears to be little difficulty in accessing fruit for all markets, presumably reflecting the more corporate and larger scale nature of the industry. An alternative and majority perspective was that some Bay of Plenty growers are still not compliant for all markets, that markets have complex and constantly changing compliance requirements and that they are becoming ever more demanding of information, assurance and compliance. There was therefore a good case for continuing the project, especially while the industry’s marketing strategy was still in the early stages of achieving market diversification through the initiatives in Objective 1. It is recommended that the Programme Steering Group review this aspect to ensure that, going forward, PGP funds allocated to the fruit for all markets project represent a genuinely high priority within Objective 3.

Assurance requirements for food safety are increasingly complex. Critical information must be collated from growers and made available to the packhouse before a grower’s fruit can be packed for export. For example, packhouses must be able to access a certificate attesting that a grower is registered for export under the HEA, that the growers’ fruit meets maturity requirements and that the grower’s spray diary is up to date and declared, and any residue testing required undertaken. All of these aspects are subject to audit by MPI or accredited

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<sup>6</sup> Interviews also suggested that there were some historical and unwelcome instances of New Zealand Avocado trying to tell packhouses how to run their businesses.

auditors. The relevant PGP programme component recognises that there is an urgent need for a new adopted system that is globally accepted but streamlined and efficient.

### **AvoGreen**

This Objective includes a specific focus on the further development of AvoGreen. “AvoGreen is a responsible and auditable avocado production system which uses the principles of Integrated Pest Management (IPM), an internationally recognised approach, to ensure pesticides are used only when needed. AvoGreen is a requirement of export and all Growers must be AvoGreen compliant in order for their crop to be exported”<sup>7</sup>. AvoGreen is an important competitive advantage for the New Zealand avocado industry.



AvoGreen is a definable, quite complex and manual system, owned and operated by the Avocado Industry Council. It encompasses application forms, an operating manual, forms and plans and includes details of accredited operators and trainers. Determination of compliance is also a manual process.

AvoGreen is now 16 years old, and the base operating platform is outdated, lacks agility and no longer supported by the original company that created it. There is also a risk of AvoGreen becoming fragile as some chemicals and pesticides that effectively underpin the programme become no longer acceptable or available. The PGP focus on AvoGreen is therefore very important, given that there is a continuous risk of new pests entering the country. Combined with this, customers demand more in terms of minimising chemicals used in pest management.

The intention is to rationalise and integrate AvoGreen with the revamped spray diary and food safety processes into a more agile system, and provide a dashboard system for packhouse management to review quickly and efficiently. In early 2016, New Zealand Avocado sought feedback from growers as part of a review of the system, and provided an online option for growers to forward their thoughts on it. This redevelopment is still in its early stages. It will be important to ensure the system is sufficiently robust for use in trade access discussions and potentially disputes.

While all of the components of Objective 3 are compliance related, they are far from business as usual. They are new developments that reflect an industry that is growing rapidly and subject to stressors as it seeks to diversify into new and challenging foreign markets. The three components of this Objective have been carefully selected and progress to date on each has been very good.

### **Spray diary**

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<sup>7</sup> <http://industry.nzavocado.co.nz/industry/avogreen.csn>

The greatest risk for the industry appears to lie with the spray diary system. While it is generally effective, it is based on a platform that is 16 years old, and no longer supported by the company that developed it. It requires a significant upgrade to improve its user functionality. Its deficiencies place great pressure on the staff of New Zealand Avocado, particularly the Industry Systems Manager. An upgrade of the system will allow much greater data analysis, manipulation and sharing, and provide growers with the ability to monitor their spray regimes, for example to more readily compare spray applications across years for particular months or weather conditions. Any failure of the spray diary system could lead to market rejection of New Zealand sourced fruit.

Another risk is that if progress is not rapid, packhouses might seek to implement their own parallel systems, which would be inefficient from an industry and national perspective.

Accordingly, it is recommended that the spray diary system be given top priority for immediate resource allocation by New Zealand Avocado. It is also recommended that the Industry Systems Manager receive greater administrative support (about one FTE) to ensure that the Manager's time is allocated to the most critical aspects of Objective 3, while also executing business as usual compliance tasks which are outside the parameters of the PGP programme.

The industry's spray diaries and aggregate represent a rich source of information. Once the base PGP spray diary project has been completed, there is good scope to consider how the information can be most usefully used by the industry - either directly by growers or via post-harvest operators, e.g. yield data, spray treatments, interaction of variables such as how was reject analysis linked to pest control.

A secondary area of risk to long term execution of upgraded spray diary and AvoGreen systems lies in the unwillingness of some mostly older growers to adapt to online as distinct from manual processes. This matter is discussed in more detail under Objective 5.

### ***Working group***

New Zealand Avocado has wisely utilised the NZ Avocado Packers Forum as the working group for Objective 3. This has had the effect of reinforcing buy in and maximising participation of packhouses to the PGP programme. All packhouses are collaborating in the PGP programme, which forms a regular component of the agenda of Forum's biannual meetings. A strong sense of engagement and mutual trust has been built through the process. Whereas previously, there was a tendency to regard New Zealand Avocado as intent upon policing compliance, there has been a move towards more constructive consultation and sharing of issues and information. Members of the working group confirmed the positive appreciation on the part of packhouses of the more streamlined and user-friendly systems that Objective 3 is seeking to develop and introduce. If New Zealand Avocado did not have a focus on improving the key systems within Objective 3, packhouses would have to develop their own systems, and the differences between these would create inefficiencies across the industry.

### **Objective 4 – Products from Waste**



Progress on this Objective was centred upon a partnership with New Zealand Avocado Oils Ltd. Only a very small amount of funding (\$10,000) has been allocated to this project. This is because New Zealand Avocado Oils Ltd has yet to clarify its future direction with respect to the project. Irrespective of this, New Zealand Avocado is committed to progressing the matter, and is following up other R&D options.

At this stage, there is a high level of uncertainty as to the likely discoveries and resulting commercialisation options that might emerge. There is of course, always a chance that some extremely high value bioactives, nutraceuticals or cosmetic applications could be found that could represent a significant future revenue stream. Should this occur, it would be extremely important for New Zealand Avocado to recognise its limitations (and those of the existing industry) and make an early decision to link up with an appropriate partner operating in the industry concerned (e.g. specialist or health foods, cosmetics, medical applications) and possessing extensive competencies in global market entry, development and expansion, and in addressing any regulatory issues influencing distribution channels.

The reviewer has been advised of a number of confidential matters with respect to Objective 4 and has concluded that the actions of New Zealand Avocado are both entirely appropriate in seeking to protect and progress the interests of the industry and commercially sensible in the context of the initial business arrangement and its current status. No further comment as appropriate.

## **Objective 5 - Information Portal, Knowledge Transfer and Adoption**

### ***Scoping of work***

Initial phases of work here were to review other primary industries' portals in order to capture best practice from them, and contracting of a software/database consultant to develop a strategy for an information systems review and to document user stories to direct the development of the information portal. Zespri was consulted more recently, and reinforced for New Zealand Avocado staff the magnitude of the tasks ahead of them.

Early on there were differences of view within New Zealand Avocado of the direction that Objective 5 should take. The preliminary work confirmed that Objective 5 was a huge project and that getting the detail right up front was very important. It was immediately recognised that this might take longer than anticipated. It was realised that adjustments to task deadlines would be necessary, and this was signalled prior to the end of 2014. At the same time, the possibility that the scope and cost of the portal could be greater than envisaged was also recorded as a risk.

Progress on scoping Objective 5 would have been more rapid if New Zealand Avocado had had at least IT proficient business analyst familiar with development processes and databases at the commencement of the PGP programme. In order to guide strategic direction and establishment of priorities, there should have been earlier analyses of user needs and users' interactions, and involvement on an iterative basis of more people from within the industry who represented targets for PGP information<sup>8</sup>.

### ***Working group***

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<sup>8</sup> The reviewer acknowledges the advice of IT consultant Mr Vinny Venkatesh on best practice in information Portal and IT system redevelopment.

New Zealand Avocado has established an IT advisory group with strong inputs from IT professionals, including MPI (particularly helpful in ensuring alignment of data standards with MPI and other primary sectors). Membership of the group is flexible depending on the stages of development of solutions under Objective 5.

It is recommended that a user group also be established in conjunction with the IT advisory group. While the user group may meet from time to time, it is more important that its representatives are used as sounding boards and commentators for New Zealand Avocado as it iteratively develops Objective 5 solutions.

### ***Portal/website development and resources***

The New Zealand Avocado website ([www.nzavocado.co.nz/industry](http://www.nzavocado.co.nz/industry)) is an increasingly important source of information on the PGP programme. Development of a full-scale and well-performing portal is underway, with the recent injection of third party professional IT expertise assisting with planning a new platform and ensuring carefully derived user input into the design stage. Comments from industry stakeholders were that the online diary is now good, while the spray diary - criticised at times for its lack of utility - and tools for exporters are improving.

Member access to these critical parts of the portal is password protected, which enhances the competitive position of New Zealand growers and other industry stakeholders relative to their overseas counterparts.

Somewhat belatedly there is a more intensive focus on the execution of a formal user needs analysis. It is not surprising that this is acknowledged as a priority by the IT company now assisting New Zealand Avocado. Although the user stories that have been generated to date are not the same as a comprehensive user needs analysis, the stories will be able to be used by the IT company and New Zealand Avocado staff going forward. There is good awareness of the need to develop a system that is more user-friendly, dynamic and intuitive and where it is easier to find resources.

New Zealand Avocado is presently seeking external providers to assist with technical development of business improvement (centred on the spray diary), a dashboard plus the overall portal, and a stakeholder relationship management system. It will be very important to ensure that these parallel streams of work keep to budget and link together effectively and seamlessly as they are developed. New Zealand Avocado management will need to monitor closely this time-honoured area of risk.

It will be important that Objective 5 priorities link to work on other Objectives, especially the critical revamp of the spray diary and the AvoGreen system in Objective 3. Packhouses need to be regularly informed of portal developments relevant to them as the Packers Forum only meets twice per year. They are already appreciative of the improvement made to the New Zealand Avocado website. There is also a need for work on the information flows between packhouses and exporters where these are not vertically integrated.

Provision of information for growers on daily orchard performance requires information from packhouses that is presently fed back largely on an end-of-season basis. This and other technical issues need to be teased out, meaning that this project may require some significant changes to industry practice and therefore take some time to execute. The reviewer does not believe it is as high a priority as the redevelopment of the spray diary.

There could be scope for New Zealand Avocado to capture some specific expertise of individual avocado growers who coincidentally happen to have professional IT backgrounds, e.g. by including them in an advisory group for this Objective. Their experience may also be useful in ensuring that the planned scope of the portal does not become excessive, which is a common risk with such developments. One such grower emphasised the importance of using open source rather than proprietary software for the new portal platform.

### ***Growers ignorant or afraid of the online***

A particular issue for this Objective is the age demographics of the growers in the avocado industry. The reviewer was informed that a 2006 industry survey showed that 90% of people in the industry were over 55 years of age. More than one older grower interviewed stated that they did not use the existing portal and/or that they had found prior changes difficult. It was evident that it might be difficult to motivate some of them to do so unless the portal's accessibility and use was extremely simple and intuitive. Some of them phone New Zealand Avocado for assistance, and staff indicated that some of these call over and over again. Others are assisted by packhouse grower reps and spray contractors.

Testing any new portal developments early and on an ongoing basis with older growers who are presently relatively uncomfortable with the existing system is likely to help ensure that the user-friendliness and value of the new portal are maximised. Some older growers may never be convinced but it is important that their number is minimised. They do tend to be the less commercially focused growers, and ultimately need to be informed, bluntly if necessary, that the future direction of information transmission will be online. It is pleasing to note that New Zealand Avocado is using a specific IT provider with valuable experience in addressing primary sector user needs (including those of older people) for software development in Objective 3 – and ultimately in Objective 5. This should maximise the probability of good uptake by less online-proficient growers.

### ***Publications and fortnightly email***

The fortnightly email Avo Connect and the industry publication Avoscene - published five times per year - are critical conduits for informing industry stakeholders, particularly growers, about the aims and progress of the PGP programme. They are very well rated by readers and clearly highly professional in their format and content.

In November 2016, New Zealand Avocado issued an informative research bulletin summarising preliminary research and on-orchard and other trial work and outlining future plans. The graphics and overall presentation within the research bulletin were outstanding. It was particularly well received by industry. It is recommended that the research bulletin be updated and disseminated on an annual basis, and also distributed to post-harvest operators and consultants, several of which expressed considerable interest about the document to the reviewer.

The online and hard copy publications will be extremely important in informing the industry in the future as progress on other Objectives evolves. For example, most growers are organisationally distant from export diversification efforts, but it is vital that they understand and appreciate the importance of these initiatives and support the initiatives and the role that New Zealand Avocado is playing in them.

### ***Weekly monitoring reports***

These valuable reports to industry stakeholders are essentially business as usual and are outside the scope of this review.

### ***Field days***

Field days are an extremely important conduit for transfer to growers of information on the PGP programme. They have been one of the most successful highlights of progress in the PGP programme to date. Numerous field days have been held in western/central Bay of Plenty and Northland, and also some in eastern Bay of Plenty (Opotiki) and Poverty Bay. Attendances have consistently been stronger than in the years prior to the initiation of the PGP programme, and the average attendance at field days increased from 177 people in 2013/14 to 314 people in 2015/16<sup>9</sup>. Growers have enjoyed the opportunity to interact with researchers presenting at the field days. In some instances, New Zealand Avocado has had to repeat field days because of the strong demand from growers. Team members from New Zealand Avocado have been prominent in presenting on PGP programme preliminary results and future direction.

Several interviewees alluded to the dairy industry's farm extension services - including field days - as a good model for the avocado industry. Word-of-mouth has always been an important and powerful form of information transmission in New Zealand's primary industries. The PGP programme has provided resources and impetus for New Zealand Avocado to take advantage of this well-established form of information dissemination through the well-established and proven mechanism of field days.

### ***Exporter and packhouse clusters of growers***

New Zealand Avocado has been responsive to requests from packhouses to attend field days and for staff to attend field days and presentations that the packhouses have arranged for their own growers. Growers typically depend a great deal on information provided by their packhouses, so this is an important conduit for dissemination of results from the PGP programme. Exporters are increasingly active in assembling their own clusters of growers, and it will be crucial for New Zealand Avocado to factor in these internal industry relationships in order to optimise transfer of information to industry from the PGP programme. One interviewee made the point that small discussion groups can be better than field days for effecting on-orchard uptake of best practices.

### ***Sharing of cost information***

An important element of Objective 5 is to capture input costs from growers to enable them to make comparisons with their peers and thereby improve cost management and productivity. Some interviewees warned of the difficulties of obtaining accurate and reliable data from growers. It was suggested that working in smaller localised groups might be a better short and long-term operating model both for maintenance of motivation of growers and to enable more realistic comparisons to be made.

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<sup>9</sup> Go Global Business Plan, 2016-17

## OTHER KEY REVIEW QUESTIONS

### ***Does the programme address key industry issues in relation to the expected outcomes?***

While some opportunities are outlined later in this report, it is clear that the programme has been very well structured to address key industry issues. This reflects the intensive period of preparation, arguably assisted by the initial rejection by the MPI PGP Independent Advisory Panel of the first version of the PGP programme proposal. There is no question that the lengthy and detailed planning and preparation prior to approval were critical in identifying appropriate priorities and gaining buy in of industry.

### ***Effectiveness of allocation of resources***

The following table shows expenditure to date and the future expenditure profile across the five programme Objectives and Objective 6 – Programme Management.

2016-17 Annual Plan budget

Total all objectives	1 June 2014 to 30	1 July 2015 to 31	1 April 2016 to 31	1 April 2017 to 31	1 April 2018 to 30	Total
	June 2015	March 2016	March 2017	March 2018	June 2019	
	13 Months Actuals	9 Months Actuals	12 Months Budget	12 Months Budget	15 Months Budget	
<b>Co-Investor</b>						
Cash	359,161	310,573	712,037	693,437	855,315	2,930,523
In-kind	112,881	103,974	256,224	383,588	494,212	1,350,878
<b>Total</b>	<b>472,041</b>	<b>414,547</b>	<b>968,260</b>	<b>1,077,025</b>	<b>1,349,527</b>	<b>4,281,401</b>
<b>PGP</b>	<b>472,041</b>	<b>414,547</b>	<b>968,260</b>	<b>1,077,025</b>	<b>1,349,527</b>	<b>4,281,401</b>
<b>Total</b>	<b>944,083</b>	<b>829,094</b>	<b>1,936,521</b>	<b>2,154,050</b>	<b>2,699,054</b>	<b>8,562,802</b>

Total Funding	1 June 2014 to 30	1 July 2015 to 31	1 April 2016 to 31	1 April 2017 to 31	1 April 2018 to 30	Total
	June 2015	March 2016	March 2017	March 2018	June 2019	
	13 Months Forecast	9 Months	12 Months	12 Months	15 Months	
Objective 1	556,553	354,390	787,617	783,740	944,523	3,426,823
Objective 2	133,157	148,926	342,127	545,511	700,547	1,870,268
Objective 3	68,233	134,109	262,127	255,792	340,751	1,061,012
Objective 4	6,085	-	16,616	16,614	20,686	60,000
Objective 5	82,926	122,721	417,650	432,312	542,117	1,597,725
Objective 6	97,129	68,950	110,384	120,082	150,431	546,974
<b>Total</b>	<b>944,083</b>	<b>829,094</b>	<b>1,936,521</b>	<b>2,154,050</b>	<b>2,699,054</b>	<b>8,562,802</b>

There is a high level of unanimity across the industry that the targets of the PGP programme are the right ones. Further, industry stakeholders are impressed by the quality of the New Zealand Avocado staff and the fact that staff numbers are not excessive for what is being achieved. For the last two years there have been 2.5 FTEs employed specifically for the PGP programme, with a further 3.2 existing FTEs contributing to the programme. The overall size of the New Zealand Avocado staff has increased only very modestly over the last 10 years, with R&D largely outsourced and much increased workload associated with supply chain and export functions. There was no adverse evidence and no criticism by stakeholders of the balance between the resources allocated to the range of Objectives.

Based on the finding of this review, the reviewer has concluded that the current and proposed balance of funding allocated amongst the programmes is appropriate.

### ***Value for money - the attribution problem***

It is not possible to differentiate the quantitative benefits that have arisen from:

- the contributions of the Go Global programme,

- relevant work (e.g. pruning trials) that commenced prior to the PGP programme,
- the strong leadership and high level team performance of New Zealand Avocado,
- the economic benefits generated by pure industry growth reflecting increased international and domestic demand, with favourable pricing across markets,
- the learnings evident from the kiwifruit industry and
- the positive influence of the Horticultural Export Authority and MPI regulatory regimes.

The reviewer is of the opinion that even a formal cost benefit economic analysis would struggle to differentiate and quantify these elements.

The PGP programme was implemented and has been executed during a period of exceptional growth by the New Zealand avocado industry, reflecting strong demand in multiple markets. It is extremely difficult to unpick and separate out the effects of the Go Global programme from the generic effects of industry growth.

It is clear that some market and industry growth, albeit highly fluctuating, was occurring both well before and subsequent to the implementation of the Go Global programme in 2014.

Year	New Zealand Market	Australian Market	Other Markets	Processing	Total	Producing hectares	Implied Yield Tonnes per hectare
2004-05	4,928	5,644	528	652	11,100		
2005-06	7,118	11,798	1,435	2,619	20,351		
2006-07	5,441	4,925	277	391	10,644	1,785	6.0
2007-08	8,143	10,833	3,714	4,076	22,690	2,452	9.3
2008-09	6,370	6,975	721	794	14,066	2,696	5.2
2009-10	7,338	10,544	1,997	1,858	19,880	2,994	6.6
2010-11	5,687	8,725	744	1,543	15,157	3,524	4.3
2011-12	9,759	16,639	3,783	3,816	30,181	4,247	7.1
2012-13	6,552	5,247	1,447	879	13,246	4,179	3.2
2013-14	7,043	15,437	1,816	2,636	24,297	3,661	6.6
2014-15	10,326	17,595	7,086	4,095	35,008	3,511	10.0
2015-16	6,787	11,637	2,393	2,089	20,817	3,738	5.6

There are clearly important synergies between the programme per se and industry growth. A simple example is new growers entering the industry and seeking and obtaining valuable information at (very well attended) field days that were part of the Go Global grower

extension activities. This ensures that industry expansion reflects latest available best practice in orchard development and management.

Commentators were unanimous that the Go Global PGP programme had enabled the industry to do a great deal more and a great deal more quickly than would have otherwise been possible. One industry leader put it: “The future will tell. The programme is hitting its milestones and a big payoff is likely”.

What can be quantified is that the industry generates revenues of over \$130 million (estimate for 2016/17), and is well on target to achieve its revenue target of \$280 million by 2023. The reviewer does not have an economic multiplier available to apply to the industry, but even at a conservative 1.4x<sup>1011</sup>, the increased annual economic output contribution of the industry since the start of the PGP programme, albeit from all causes, even today would approach \$45 million<sup>12</sup>.

It is indeterminate as to whether the industry’s step change to a more coordinated, collaborative and disciplined operating model would have occurred in the absence of the PGP programme. While a more adverse “counterfactual” can never be established, the possibility of such an opportunity cost having arisen without the PGP programme cannot be ignored. This is certainly the viewpoint of leaders across the avocado industry.

Larger scale growers were unanimous that they are employing more contractors and staff in total than ever before, especially because of the increased importance of seasonal pruning. Bigger packhouse operators were able to employ people for longer periods because the expanding avocado industry’s harvest and packing season complemented the kiwifruit packing season. It has not been possible to quantify these employment effects, and even if it was, the attribution problem remains.

The same is true for avocado orchard price increases over the course of the PGP programme. Record prices of well in excess of \$300,000 per hectare in prime areas of Bay of Plenty have been reported, although prices below this are the norm. Many avocado orchard sale prices include a house and quite often kiwifruit or other horticultural crops, confounding any value analysis.

Notwithstanding the attribution problem, considering the outstanding progress of the industry and the indicated “counterfactual” risk, it is concluded that it is highly likely that the annual economic contribution of the PGP programme from both industry and Crown perspectives far outweighs the annual financial and in-kind costs to government and industry. This conclusion was tested with several industry leaders and all confirmed that it was both fair and valid.

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<sup>10</sup> A 2011 Kapiti Coast study of rural land use used an approximately 1.45x multiplier of gross output (measured by sales) for added value impact.

[http://www.kapiticoast.govt.nz/contentassets/.../berl\\_eia\\_of\\_otaki\\_land\\_use\\_2011.pdf](http://www.kapiticoast.govt.nz/contentassets/.../berl_eia_of_otaki_land_use_2011.pdf)

<sup>11</sup> A 2009 report on the wine industry

([http://www.nzwine.com/assets/sm/upload/v9/q6/e9/ls/NZIER\\_Rep\\_April\\_09.pdf](http://www.nzwine.com/assets/sm/upload/v9/q6/e9/ls/NZIER_Rep_April_09.pdf)) used direct economic output multipliers of from 1.83x for output, 2.33x for value added impact and 2.03x for employment. Secondary, or induced multipliers were even higher. Regional economic multipliers are typically lower than national multipliers.

<sup>12</sup> Based on increased export and domestic sales of \$32 million from 2013/14 to estimated 2016/17.

***Is the programme likely to deliver the contracted outcomes? What are the key risks?***

The answers to the first question have been answered in the affirmative in the earlier sections under each Objective.

Natural disasters aside, there are two potential material risks.

The first is the rate of progress and inherent difficulties associated with Objective 5. However, as discussed in that section of the report, this risk has been greatly mitigated by the clarification of direction and recent acquisition of third party IT expertise with a strong user needs focus.

The second risk is staff stability within New Zealand Avocado. There have been several staff departures over the last three years. The Bay of Plenty is a thriving employment market, and staff retention is especially important. It is important because the type of projects undertaken within the PGP programme are heavily dependent on establishing and maintaining good relationships, and inevitably this takes time and is assisted by reasonably long serving staff. Some interviewees referred to past employees of New Zealand Avocado as impressive performers or key contacts which they had now lost and therefore their information on the PGP programme had also been reduced. On the other hand, staff who have left have generally stayed within the industry, meaning that there may be a transfer of good practice from New Zealand Avocado to industry stakeholders.

***What other spin-offs or unintended consequences are evident from the PGP programme?***

Alignment with Plant and Food Research's planning

Over and beyond its core Objective 2, the PGP programme has been helpful in assisting Plant and Food Research to ensure that its research programme matches industry priorities. At a more formal level, there is now greater alignment of Plant and Food Research's business plan with New Zealand Avocado's goals and vision.

Avoidance of cold gullies for growing avocados

One consequence of the MBIE funded research and on-orchard trials that are part of the PGP programme may be that growers shy away from growing avocados in gullies where low temperatures prevail, preventing good consistent yields.

Positive impact on other smaller horticultural industries

The PGP programme's overall impact in improving the professionalism, discipline and collaboration across the industry has not been lost on other horticultural industries. A number of these smaller industries have sought advice from New Zealand Avocado, and the CEO of New Zealand Avocado addressed the 2016 Annual Conference of Summerfruit New Zealand on New Zealand Avocado's experiences and progress – immediately following a presentation entitled "Lifting our Game".



## FURTHER OPPORTUNITIES FOR GO GLOBAL

The terms of reference of the review placed some emphasis on opportunities that the PGP programme might pursue in the future. These have been already forwarded separately to the Programme Steering Committee to assist with early strategic planning. Some suggestions from industry are already under consideration or action by New Zealand Avocado.

The following suggested areas arose out of interviews during the Primary Growth Partnership programme. Wherever possible, suggested areas were tested with a sample of subsequent interviewees, and particularly, discussed with New Zealand Avocado staff.

It became evident that the suggested areas generally fitted within the following categories. In a few cases the categorisation was not clear, and will require the advice of New Zealand Avocado management and decisions by the Programme Steering Committee:

- A. It is already being addressed by New Zealand Avocado.
  - B. It is in the preliminary stages of being addressed.
  - C. It is under consideration for being addressed.
  - D. There is already information available about the area, but it may have been derived several years ago (and potentially have been forgotten about) or it may not be in a structured or packaged form that can be made readily available to industry (generally growers).
  - E. It is an important area and it would be a good idea to consider developing a project to address it.
1. **Phytophthora** – this is claimed to be major issue facing the entire industry, with major production consequences. Drawing upon Australian and South African research and experience in New Zealand, New Zealand Avocado have narrowed down locations, concentrations and frequency of phosphonic injections, and the major task may be to communicate this effectively to industry.  
Category: A, but D also applies
  2. **Market rot** - this is stated to be problematic from time to time, and is likely to be more important as the industry seeks to distribute product to more distant markets, e.g. India. It appears that there are some on-orchard solutions, e.g. coppers, but there are occasional market acceptance issues with these. There may be scope to identify and/or assess additional disease control solutions and the timing of their application, e.g. pro chloraz ((Sportak) as used by the Australian avocado industry on fruit destined for Asian markets. See also a 1996 research article - [https://www.nzpps.org/journal/49/nzpp\\_490370.pdf](https://www.nzpps.org/journal/49/nzpp_490370.pdf). New Zealand Avocado has already applied for external funding to address market rot. This issue also relates directly to the opportunity cited below, “increasing time to market to say 45 days”.  
Category: D, but may need to be E.
  3. **Ongoing adverse effects of post-2007 storm damage in mid Northland** - major area of production concern, with 5 to 10% of total yields being achieved from about 25%

of national plantings. In 2007, trees were badly affected by flooding and wind. There is a body of information relating to new cultivars<sup>13</sup>, canopy management, drainage and other orchard management techniques that needs to be brought together into a total package for distribution to growers, particularly via field and days.

Category: D

4. **Fruit accumulation and cooling – implications for packing regulations** - representatives of some packhouses believe that rapid cooling of fruit warrants more flexible regulations relating to required time constraints applicable to packing, enabling packhouses to more readily match their operations to shipping dates. Essentially, there could be an argument for regulations that operate in parallel to non-cooled fruit. While Plant and Food Research have undertaken some limited analysis of fruit harvested in November, a more comprehensive study is required to underpin any new regulations. The study would seek to quantify variables such as time of year of harvest, time from picking to cool storage, optimum or acceptable degree of cool storage, time from cool storage to packing, and subsequent fruit shelf life.  
Category: E.
5. **Comparative production data (so orchardists can compare yields and other reduction parameters with nearby/comparable orchards)** - this is gradually being collated by New Zealand Avocado. Structuring the data into a format for comparative analysis (benchmarking) and release to growers, and obtaining the support of growers for the release of such information, will be complex and time-consuming.  
Category: B.
6. **Improving fruit production estimates** - several interviewees noted the difficulty of estimating total orchard, regional and national future fruit production. It was suggested that addressing this problem and seeking ways of achieving more accurate estimates could be a future project under the PGP programme.  
Category: E.
7. **Increasing time to market to say 45 days** - important issue for adding value to the industry as it seeks to distribute product to more distant markets, e.g. India. Some work is underway on this topic at Plant and Food Research. The technologies required to address the issue could be eclectic - the reviewer understands that while controlled atmospheric storage of avocados may be problematic, other technologies such as the hypobaric low-pressure system may have greater potential. There may be scope for developing longer time to market, in conjunction with significant industry input, into a major project, given the potential industry benefits and opportunity for New Zealand to gain a comparative international advantage. New Zealand Avocado staff involved would need to tread carefully around the natural competitiveness of post-harvest operators and exporters.

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<sup>13</sup> Advice to the reviewer was that (relatively) new varieties Dusa and especially Bounty grow particularly well in Northland but that there is a severe shortage of and up to three years waiting list for the varieties.

Category: A, but may need to be upgraded to a full-scale project as in E.

8. **Monitoring of Western Australian crop** - while the Australian market per se is not permitted to be included within the PGP programme, the large Western Australian plantings could in the future impact on prices achieved in the Australian market, and therefore significantly influence the volume that the industry would want to allocate to Asian markets in particular. Therefore, the rationale for monitoring the Western Australian crop more explicitly, would be to better inform Asian market export allocation decision-making. While plantings are large, Mediterranean fruit fly, phytophthora (also in adjoining gum forests), heat, availability of water, tree decline, constraints on further bush clearing and inconsistent market supply performance in earlier years may act to significantly reduce the threat of Australian market price collapse from Western Australian fruit. There is already some regular monitoring of Australia's avocado crop, but crop estimation is a hazardous exercise, and there could be an argument for New Zealand Avocado introducing a more formal monitoring arrangement specific to Western Australia given the market timing overlap of New Zealand and Western Australian fruit<sup>14</sup>.

Category: E.

9. **Use of working groups for other technical issues** - working groups that are cohesive and which have demonstrated that they can function effectively may be able to be used for solving other technical problems over and beyond those for which it was designed to address.

Category: As required.

10. **Provide more and faster feedback from market to growers** - the professionalism of the industry and its clear commitment to food safety could be further enhanced by developing systems whereby market out turn and phytosanitary reports (e.g. if an insect or residue was found on fruit) are fed back - ideally very rapidly - to growers.

Category: E.

11. **Future usage of "Go Global" brand** - it was noticeable during the review that the expression "Go Global" was little used by interviewees, who typically simply referred to the PGP programme. This may change in the future as the brand becomes better known, and the question arises as to whether it has some enduring value for maintaining the industry's focus on market diversification. This could be a small but ongoing project alongside the PGP programme.

Category: E.

12. **Reviewing other previous research** – several expert industry commentators noted earlier research and technical on-orchard work that had been undertaken from as early as the 1990's. Because of a loss of institutional memory in New Zealand Avocado (and even potentially in Plant and Food Research), some important

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<sup>14</sup> Several interviewees also referred to the threat of Central and South American avocado growing countries gaining access to the Australian market. Australia has stringent policies on phytosanitary risk and it is understood that this is presently mitigating the threat. New Zealand Avocado and AVECO are monitoring this issue.

information had been lost and was the subject of reinvention through current research and so-called “new” best practice. This creates an opportunity to review research work relevant to the avocado industry undertaken by CRI’s over the last 25 years, and within New Zealand Avocado (in its previous guise), prior to 2011.

Category: D

13. **Long term planning** - given the rapid growth of the avocado industry in New Zealand, the step change that has been achieved, the regional differences in scale, economics and growth patterns between Northland (especially the far North) and the Bay of Plenty, it is likely that the industry will look very different in, say, 10 years’ time. It would be worth developing a long-term and collaborative project to try to forecast the nature, regional balance, extent of market diversification and other technical parameters of the industry in 2026. Such an exercise should be useful for New Zealand Avocado planning its future direction and resource allocations, including any future further PGP programmes.

Category: E

Not on the above list but perhaps worthy of consideration are some dimensions of post-harvest performance, e.g. cool storage temperature and product quality management. There has been some work done on these in past years, e.g. by Plant and Food Research, and it is possible that some valuable information could be rediscovered. Any decision to develop one or more projects in this area would require convincing post-harvest operators to share information that might not otherwise occur naturally.

Based on the suggestions and subsequent feedback, a strategic response to the areas could be as follows, based on their A to E rating:

- A: Use Avoscene and Avo Connect and online communications to advise growers that the area is being addressed and how this is being undertaken. It may be appropriate to invite more growers to participate. Once the relevant project addressing the area concerned has been completed, ensure that all forms of communication, including field days, are used to inform growers.
- B, C: Use Avoscene and Avo Connect and online communications to advise growers that the area is in the preliminary stages of being addressed or is under consideration and how this is being undertaken. It may be appropriate to consult growers, to invite them to participate or to expand the base of growers involved.
- D: Package comprehensive, up-to-date information into a form that can be communicated effectively to growers in written and online formats, and at field days.
- E: Providing it is concluded that the area is a priority, develop it further and include it in the PGP programme going forward, or seek MBIE support for a change in the research programme to incorporate the new area.

## **OTHER COMMENTS**

### ***Effects of Go Global Programme in a Context of Market and Industry Growth***

The pattern of high industry growth has created a number of factors which interact with and effectively contribute materially to the economic and operational value of the Go Global programme.

First, the aging of avocado growers means that there are always new entrants into the industry. These growers are typically information hungry, as they seek to adopt industry best practices. The information intensive nature of the orchard systems components of the Go Global programme and the emphasis on information dissemination have proven especially relevant and useful to their needs. They have been to the fore as consumers (early adopters) of information from the portal being redeveloped as part of the Go Global programme and have been prominent attendees at workshops and field days. More importantly, their on-orchard practices have benefited significantly from the information.

Second, the market diversification objective was ideally timed and ultimately welcomed by exporters in a prior context of expanding volumes and limited markets. It is therefore likely to prove important in underpinning future international demand for New Zealand avocados, maintaining strong price levels and reducing price fluctuations.

Third, the objectives relating to supply chain and logistics have already proven important in facilitating collaboration by participants in this sector of the industry to develop and improve their systems and skills to cope with the surging product volumes.

### **Kiwifruit industry – a positive influence on the avocado industry**

One estimate is that about one third of avocado growers in Bay of Plenty, also grow kiwifruit. For major packhouses, kiwifruit represent the lion's source of revenue.

It has been obvious in the course of the review that the experience of growers and packhouses - and even some exporters with respect to the Australian market - have not hesitated to apply lessons from, or seek to model on, multiple aspects of the kiwifruit industry, including Zespri. (The CEO of New Zealand Avocado was formerly Treasurer of Zespri.) Many kiwifruit growers are strongly supportive of the Zespri single desk marketing model, and this has unquestionably contributed to the increase levels of collaboration and discipline that have also been encouraged by the PGP programme. Several commentators contrasted this with other more minor horticultural products where such collaboration and discipline was notably lacking.

There have been significant learnings from the kiwifruit industry applied at the all-important grower-packhouse interface and in the rationalisation of packhouses to a smaller number with greater scale. Even the grower payment system has drawn significantly upon the experience of the kiwifruit industry.

For the larger packhouses, the growth of the avocado industry has been important in improving equipment utilisation across complementary seasons, and providing longer term employment prospects for staff.

## ANNEX 1

### TERMS OF REFERENCE FOR REVIEW

#### TERMS OF REFERENCE

##### Progress Review of Primary Growth Partnership (PGP) New Zealand Avocados Go Global Programme

<b>Background:</b>	<p>The New Zealand Avocados Go Global PGP programme is a partnership between the New Zealand Avocado Industry Council (AIC) and MPI to transform the NZ avocado industry. This is a five year programme which started in June 2014. Total project funding is \$8.6 million over five years of which the Government will fund up to \$4.3 million.</p> <p>In addition to AIC the programme currently has the following co-investors: AVANZA, Just Avocados, JP Exports, Seeka Kiwifruit Industries Ltd, Radfords, and Trevelyan's Pack and Cool.</p> <p>This programme is aimed at transforming the New Zealand avocado industry through investment in increasing productivity and building capability within the industry. The programme will deliver best practice across the value chain, transferred through a network of innovation leaders, rural professionals and growers to achieve widespread adoption, driven by examples of success.</p> <p>The aspiration of the programme is that by 2020:</p> <ul style="list-style-type: none"> <li>• The New Zealand avocado industry will be a globally competitive, high value, sustainable export industry and a dynamic market in New Zealand;</li> <li>• avocado sales will have quadrupled to \$280 million (\$205 million exports and \$75 million from the New Zealand market) and there will be a reduced reliance on a single (Australian) market; and</li> <li>• the average yield per hectare will have tripled to 12 tonnes/hectare.</li> </ul> <p>To achieve this aspiration, the programme consists of five objectives:</p> <ol style="list-style-type: none"> <li>1. Market Entry &amp; Growth – Asia and New Zealand: the aim is to enable the expansion of Asian and New Zealand market sales through the development of market entry and growth strategies, generic marketing collateral and market insights for non-Australian markets.</li> <li>2. Consistent and Sustainable Avocado Supply: on orchard research on methods to increase avocado yield per hectare and decrease annual yield variations including understanding and validating new canopy management strategies; evaluating new cultivars; optimising tree decline management; and the development of best practice guidelines.</li> <li>3. Efficient Supply Chain: the aim is to identify, analyse and improve areas offering the greatest potential to improve the efficiency of the supply chain and develop best practice guidelines where appropriate. The initial focus has been on three areas – on-orchard food safety; all market access from orchard to packhouse; and AvoGreen® pest management.</li> <li>4. Products from Waste: The aim of this project was to investigate the feasibility of developing value-added products utilising the avocado skin or stone.</li> <li>5. Information Portal, Knowledge Transfer &amp; Adoption: the aim is to develop an "information portal" for the collection, analysis and dissemination of information to the avocado industry.</li> </ol>
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	<p>After 2.5 years AIC is reporting that good progress has been made on all objectives (noting that Objective 4 is now on hold due to changing priority of the co-investor).</p> <p>The programme partners have agreed to conduct a progress review of the programme to enable them to assess progress toward the expected outcomes of the programme and to make recommendations as to the future direction and funding priorities for it. Such a review is provided for in the PGP Agreement (contract).</p> <p>This document sets out the intended terms of reference for the review.</p> <p>The review will need to be sensitive to the needs of industry partners to ensure appropriate protection of commercially sensitive information.</p>
<p><b>Objectives of the Review:</b></p>	<p>This review is intended to provide the partners in the New Zealand Avocados Go Global PGP programme with an independent assessment of how the programme is tracking towards the outcomes as contracted through milestones/outputs as set out in the original business plan and modified through the annual plan update process.</p> <p>The three key objectives of the review are to:</p> <ol style="list-style-type: none"> <li>1. Assess programme progress to date as a whole, in each of the five objectives, and in particular:             <ol style="list-style-type: none"> <li>a. determine the likelihood of the programme delivering the expected outcomes;</li> <li>b. identify any unintended consequences (positive and/or negative);</li> <li>c. assess the sustainability of the expected outcomes from the programme in the current economic and environmental context, including the identification of any significant risks to achieving the contracted outcomes;</li> </ol> </li> <li>2. consider the degree of impact on identified potential additional benefits (spillovers); and</li> <li>3. deliver recommendations for the future strategy, direction and delivery of the programme.</li> </ol>
<p><b>Scope of the Review:</b></p>	<p>The New Zealand Avocados Go Global business plan, including subsequent updates, and PGP Agreement will provide the scope of enquiry for the review.</p> <p>The review will draw on a range of information including:</p> <ol style="list-style-type: none"> <li>1. Information on all projects within the programme;</li> <li>2. systems and documents relating to programme management and governance;</li> <li>3. expert advisory panel reports, recommendations and resulting actions;</li> <li>4. working group reports, recommendations and resulting actions;</li> <li>5. project resources including contractors, staff and research providers;</li> <li>6. the programme funding;</li> <li>7. how knowledge generated in the programme is transferred and adopted by the avocado industry;</li> <li>8. the programme outcome logic model and evaluation framework;</li> <li>9. any other internal and external factors affecting the likelihood of success of the programme, including management and governance.</li> </ol> <p><b>Out of scope:</b></p> <ol style="list-style-type: none"> <li>1. An independent evaluation of science quality – the review will consider any expert review reports commissioned by the industry partners and focus on the recommendations and actions taken as a result of those reviews.</li> <li>2. Financial management - MPI conducted a financial management audit during the 2015-16 financial year.</li> </ol>

	<p>3. The rationale for PGP investment in the programme.</p>
<b>Outcomes:</b>	<p>As a result of this review the PGP partners will have:</p> <ol style="list-style-type: none"> <li>1. An independent assessment of the progress made in the New Zealand Avocados Go Global programme mid-way through the term of the agreement, and how the programme is tracking toward the expected outputs and outcomes. The review findings will allow the programme partners to make informed decisions about the future direction of the programme.</li> <li>2. Recommendations for improvements (if required) to any aspect of the programme.</li> </ol>
<b>The Review Process</b>	<p>The review will be carried out as an integrated review by a core team of reviewers whose composition will be agreed to by AIC and MPI. The review team will include:</p> <ol style="list-style-type: none"> <li>1. A lead reviewer who will be expected to provide administrative logistical and analytical support (as required) for the review and will be responsible for preparation of the draft and final reports.</li> <li>2. Specialist reviewers (if required) with sufficient knowledge of capability building, adoption of knowledge, new practice and technology in a horticultural environment.</li> </ol> <p>The review team will be supported by liaison persons from MPI and AIC who will provide materials, as required, to the review team. Expert reviewers (if any) will be identified by the lead reviewer in consultation with MPI and AIC.</p> <p>The programme's outcome logic model, baseline data and key indicators will be provided to the review team. The review team will submit a Review Plan for approval by MPI and NZAIC. It is expected that the review methods will include:</p> <ol style="list-style-type: none"> <li>1. Desk-top reviews of progress reports, business plans and research reports;</li> <li>2. discussions with programme staff, contractors, working group members, and, where appropriate, the expert advisory panels;</li> <li>3. interviews with selected avocado grower, rural professionals, packers and exporters representatives;</li> <li>4. interviews with the PSG Chair and selected PSG members;</li> <li>5. interview with the relevant NZTE customer manager(s);</li> <li>6. interview with the Chair of the Technical Advisory Committee; and</li> <li>7. an interview with the Chair of the MPI PGP Investment Advisory Panel (IAP).</li> </ol> <p>The review team will provide a draft report to the programme partners for comment prior to a final report prepared for NZAIC and MPI. In addition to the final report a comprehensive summary report is required for publication via the PGP website is required.</p>
<b>Review Outputs</b>	Refer to Section 3.2 of the Statement of Work
<b>Lead Reviewer Deliverables</b>	<p><u>Phase 1:</u></p> <ol style="list-style-type: none"> <li>1. A detailed review plan that outlines how the programme will reviewed, roles and responsibilities and a detailed timetable including dates to be submitted for approval by the programme partners.</li> <li>2. Recommendations on the expertise required to conduct the review, taking into consideration reports and actions from external expert reviews already commissioned by the programme partners. The recommendations will include, if an expert is required) a short list of potential expert reviewers for approval by the programme partners.</li> <li>3. Contracting, management and co-ordination of expert reviewers.</li> </ol> <p><u>Phase 2:</u></p> <p>Conduct the review.</p>



	<p><u>Phase 3:</u></p> <ol style="list-style-type: none"> <li>4. Two reports:             <ol style="list-style-type: none"> <li>a. A full final report should report on the programme as a whole and include a detailed evaluation of the each of the five themes, review findings, key risks identified and practical recommendations. This report will be confidential, and not for public release.</li> <li>b. A public report, with all commercial confidential information removed, for public release through the MPI website.</li> </ol> </li> <li>5. As required, presentations to senior MPI officials and senior representatives of the programme partners, the Minister for Primary Industries, and/or the Primary growth Partnership Investment Advisory Panel.</li> </ol>
<p><b>The Review Team</b></p>	<p>The review team will be selected through discussion between the lead reviewer and the programme partners and approved by the programme partners.</p> <p>All personnel, including any sub-contractors involved in the review must be pre-approved by the programme partners before any information is provided to them.</p> <p><b>Confidentiality and Conflicts of Interest.</b> Members of the review team will receive information that may include confidential, contentious or commercially sensitive details. The information from the review, and any subsequent discussions, must remain confidential to the review team. All members of the review team will be required to sign a Confidentiality Agreement prior to receiving information for the review. All members of the review team will be required to disclose any conflicts of interest.</p>
<p><b>Review Costs</b></p>	<p>This is a partnered review and the costs will be equally shared between the partners.</p> <p>The cost of the review will be agreed by all parties prior to the review commencing.</p> <p>The cost of the review, and the PGP contribution, will be considered to be a programme cost and should be accounted for within the contracted programme budget.</p>

**Reference Material to be provided to Review Team**

1. New Zealand Avocados Go Global Business Plan (2014) and Annual Business Plan updates.
2. The programme's outcome logic model, baseline data and evaluation indicators.
3. PGP Agreement and subsequent variations.
4. Quarterly Programme Reports.
5. Names of expert advisory groups used by the programme.
6. Expert review reports, including recommendations and any supporting documentation – provided by NZAIC.
7. Other reference or evaluation reports of relevance to the review - provided by NZAIC.
8. Other programme outputs of relevance to the review as required by the review team (e.g. lists of growers, packhouse operators, exporters, names of orchard systems and other consultants active in the industry, names of other key supply chain participants).

## ANNEX 2

### LIST OF THOSE INTERVIEWED DURING REVIEW

1. Todd Abrahams	Managing Director, Pole to Pole Exports Ltd, Te Puke, Bay of Plenty. Licensed Exporter
2. Eflamm Allain	MPI, Investment Manager, responsible for MPI's investment in Go Global
3. Roger Barber	NZAGA Executive Representative Mid North, AIC Director
4. Jay Bent	Business Manager, New Zealand Avocado
5. Duncan Catanach	Customer Manager, New Zealand Trade and Enterprise, Tauranga
6. Jack Crozier	Experienced grower with wide links in the industry, Omokoroa, Bay of Plenty.
7. Steve Cully	Horticultural supplier and orchard consultant
8. Jonathan Cutting	Orchard Productivity Manager, Trevelyan's Pack and Cool - packhouse, coolstore and co-sponsor of Go Global. Te Puke
9. Tom Clark	CEO, Far North Packers Ltd. Awanui. Secretary, Avocado Packers Forum
10. Andrew Darling	CEO, Just Avocados Ltd, Katikati, Licensed Exporter. Managing Director of Global Fresh, South Auckland Pack and Cool Ltd. AIC Exporter Director. Chairman, AVEC. Member Programme Steering Group.
11. Jonathon Dixon	and Jonathon Dixon, Consultant, Seeka Kiwifruit Industries Ltd, Te Puke, Integrated grower and packer, Licensed Exporter and co-sponsor of Go Global
12. Dave Flett	NZAGA Executive Representative Bay of Plenty/Rest of New Zealand, AIC Director
13. David French	NZAGA Executive Representative, Rest of New Zealand, AIC Director
14. Jerome Hardy,	horticultural consultant with Apata Group and Primor, Puhoi
15. Simon Hegarty	Chief Executive, Horticulture Export Authority
16. Bevan Jelly	Market Development and Project Manager – Objective 1, New Zealand Avocado
17. Tim Knox	Director Market Access, MPI and Chairman, Programme Steering Group
18. Bob Major	Independent Chairman, Programme Steering Group for the Go Global PSG Programme
19. Brian and Duncan Miller	Orchard owner/grower and orchard manager, Aongatete
20. Hugh Moore	Managing Director, KauriPak, Katikati Also Chairman, Team Avocado Trust
21. Glenys Parton,	Industry Systems Manager, New Zealand Avocado, contributes to Go Global

22. Tony Ponder	Director, Southern Produce Ltd, Tauranga, Licensed Exporter. Director of AVOCO and Avanza Ltd. Licensed Exporter and co-sponsor of Go Global. NZAGA Vice Chair, NZAGA Executive Representative At Large, AIC Director, member Programme Steering Group
23. John Schnackenberg	Immediate past Chairman, NZ Avocado Growers Association & Industry Council Ltd
24. Jen Scoular	CEO, New Zealand Avocado, member Programme Steering Group
25. Brad Siebert	Biosecurity Manager and Programme manager for the New Zealand Avocado Go Global Primary Growth Partnership, New Zealand Avocado
26. Helen Sillars	MBIE – former Investment Manager, MPI, responsible for MPI’s interests in first two years of Go Global programme
27. Nico Tahau	Grower representative, Apata Group Ltd
28. Jim Tarawa	Procurement Manager Freshmax NZ Ltd, Licensed Exporter, Tauranga. Formerly with Apata Group and Pole to Pole
29. Therese Temple	Supply Chain Manager, Apata Group Ltd, Apata
30. Marisa Till	Research Manager, New Zealand Avocado
31. Alvaro Vidiella	Technical Director, Riversun, Gisborne. Formerly part of management team, Go Global.
32. Sir Maarten Weavers	Member, Primary Growth Partnership Investment Advisory Panel
33. John Weissing	Major grower, working group member, Mid North
34. Philip West	Research Officer, New Zealand Avocado
35. Ashby Whitehead	Chairman, New Zealand Avocado Growers Association and Avocado Industry Council, member Programme Steering Group

## ANNEX 3

### SUMMARY OF GO GLOBAL FUNDING ACROSS ALL OBJECTIVES, 2014 - 2019

Total all objectives	1 June 2014 to 30 June 2015 12 Months	1 July 2015 to 30 June 2016 12 Months	1 July 2016 to 30 June 2017 12 Months	1 July 2017 to 30 June 2018 12 Months	1 July 2018 to 30 June 2019 11 Months	Total
<u>Co-Investor</u>						
Cash	359,161	392,536	745,403	698,113	735,310	2,930,523
In-kind	112,881	154,796	286,383	398,430	398,388	1,350,878
<b>Total</b>	<b>472,042</b>	<b>547,332</b>	<b>1,031,786</b>	<b>1,096,543</b>	<b>1,133,698</b>	<b>4,281,401</b>
PGP	472,042	547,332	1,031,786	1,096,543	1,133,698	4,281,401
<b>Total</b>	<b>944,084</b>	<b>1,094,664</b>	<b>2,063,572</b>	<b>2,193,086</b>	<b>2,267,396</b>	<b>8,562,802</b>