



FOUNDATION SKILLS IN SEASONAL WORKPLACES

Phase I Report | December 2006



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EXECUTIVE SUMMARY

This report covers Phase I of the Foundation Skills in Seasonal Workplaces (FSSW) project and was completed in December 2005. The research sought to answer three questions:

- Do the management, organisational and work structures in horticulture and viticulture create barriers to engagement in a workplace learning programme, and if so, how?
- What barriers are there to supporting training in horticulture and viticulture workplaces?
- What levers can be used to overcome these barriers?

Interviews were completed with a range of representatives from the kiwifruit, pipfruit and wine industries. From these interviews, five main barriers to foundation skills programmes were identified:

- **Management structures** – These range from small family-owned businesses to large corporates, and contractors who supply labour. As in other industries, large businesses face fewer barriers than small businesses.
- **Type and nature of work** – The seasonal nature of the work and the transient labour force make employers unwilling to invest in training. Products are perishable, leaving few opportunities to stop for training.
- **Employer perceptions** – Employers see the benefit of training, but do not see training in generic skills as a priority.
- **Capability** – Few foundation skills programmes are available. Outside the corporates, management capability to organise or supervise the delivery of programmes is limited.
- **Time** – It is difficult to find time for training, and the intensity recommended to make gains in adult literacy is a particular issue in providing this type of programme.

Other barriers include:

- **Contract-based payment** – Many of the seasonal work tasks are paid on a contract basis rather than at an hourly rate. This is an incentive for employees to increase quantity, sometimes at the expense of quality, which may be the focus of training initiatives.
- **Facilities** – Employment at orchards and vineyards typically involves hard physical work at a number of locations. Facilities for undertaking training are limited.
- **Workers' perceptions** – Many people attracted to work in these industries like the outside physical work but are averse to traditional training, possibly due to negative experiences at school and/or a low level of foundation skills.
- **Origin of workers** – There has been a significant increase in the use of workers from overseas to service seasonal labour demands in the industry. Though some of these workers may lack foundation skills, temporary migrants are not usually seen as a priority for investment in any training programme.

Within the industries, a number of factors may be catalysts for foundation skills programmes:

- **Complexity** – Production systems are becoming more complex as operators aim to achieve higher yields and more consistent levels of quality to remain competitive. The desire to retain and enhance the skills of workers may encourage employers to participate in foundation skills training programmes.
- **Quality** – Industries are placing greater emphasis on quality. This requires workers to have a better understanding of plant physiology and technical matters, such as crop loading, and is likely to require some upskilling.
- **Compliance** – Employers need to comply with an increasing array of regulations relating to resource management, health and safety and chemical use. Requirements such as EurepGAP (Euro-Retailer Produce Working Group Good Agricultural Practices) in the pipfruit and kiwifruit industries oblige growers and employers to meet certain export standards. Employees will need a basic level of literacy to meet these standards.
- **Skill shortages** – Because of the shortage of labour, employers place more value on employing and retaining good staff and on investing in them in order to achieve higher levels of productivity. If foundation skills training can be seen to contribute to this, then some employers would support it.
- **Employability** – Employers were concerned with the poor work ethic, motivation and life skills of some of their New Zealand employees. Lack of these skills limited employers' ability to make full use of their labour. Many expressed interest in a programme that could address these issues.
- **Market drivers** – The New Zealand horticulture and viticulture industries typically supply high value markets that are sensitive to food safety issues and to the broader values of production, including the treatment of workers. EurepGAP and British Retail Consortium (BRC) market assurance programmes provide a potential driver for growers to increase their commitment to staff development.
- **Immigration** – The New Zealand horticulture and viticulture industries increasingly rely on labour from overseas. In some situations, employers can only access this labour if they have shown a positive commitment to employing New Zealanders wherever possible, and demonstrated that they provide good working conditions. Mechanisms such as the AIP (Approval in Principle) process could be used to encourage employers to invest in foundation skills programmes.
- **Bad weather** – On some days, work cannot be undertaken due to bad weather. This could be an opportunity to provide training but would require a flexible and responsive training provider.

Opportunities for initiating foundation skills programmes will be best accessed through large companies, contractor associations, union representatives, or by specifically targeting certain groups, such as casual employees moving to permanent employment and workers requiring higher levels of skill (e.g. pruners).

The report identifies several areas for further research. These include:

- further clarification of the market size for foundation skills programmes within the industries
- further research into the activities of other agencies
- skill needs analysis
- cost benefit analysis
- further consultation with stakeholders to ensure that programmes are designed to meet the needs of the industry.

1. INTRODUCTION

1.1. Project background

This research report covers Phase I of the Foundation Skills in Seasonal Workplaces (FSSW) project.

The FSSW project seeks to improve the development of foundation learning policy at the strategic and operational levels by enhancing the understanding of government agencies on what makes foundation learning effective in workplaces that depend on seasonal work, specifically horticulture and viticulture.

The project links objectives from three different strategies:

- Foundation Learning Strategy – This strategy aims to develop initiatives to increase knowledge of barriers to and demand for foundation learning. It will introduce a new funding mechanism to ensure learners can access quality learning opportunities in appropriate contexts.¹
- Seasonal Labour Strategy – This strategy seeks to support the horticulture and viticulture industries to manage seasonal labour demand to achieve sustainable growth. It will do this by building a sustainable and dynamic base that attaches premium value to the products and people in the industries.
- Workplace Productivity Agenda – This work programme aims to build on where workplaces are performing well, while also achieving improvements that move New Zealand to a sustainable, high value, high skill and high wage economy. The Workplace Productivity Agenda explores issues that contribute to high performance in the workplace. These include innovation, workplace culture, leadership and skill development.

The FSSW project looks at foundation skills issues within the horticulture and viticulture industries. It considers how improving these skill levels might impact on productivity.

The research sought to answer three questions:

- Do the management, organisational and work structures in horticulture and viticulture create barriers to engagement in a workplace learning programme, and if so, how?
- What barriers are there to supporting training in horticulture and viticulture workplaces?
- What levers can be used to overcome these barriers?

1.2. Summary of previous research

In 2004, the Department of Labour commissioned a review of international literature on foundation learning programmes, focusing on demand-side barriers affecting the provision and take-up of these programmes. The review considered

¹ Note that the workplace aspect of foundation learning is now part of the Innovative and Productive Workplaces Upskilling Strategy.

literature on initiatives and programmes in Australia, Canada, USA and UK. It included identifying government policies and initiatives that promote foundation learning within the education system and the workplace. Across the four countries, the review found a range of situational, attitudinal and institutional barriers to the demand for foundation learning programmes in the workplace. Barriers included people's perceptions, and the time, cost and inflexibility of training offered.

The FSSW project builds on this research by looking specifically at the extent to which these barriers apply in the kiwifruit, pipfruit and wine industries.

It further explores three additional factors:

- Seasonal work being field based and episodic may add barriers to engagement in foundation learning training.
- The IALS survey (International Adult Literacy Survey) showed that people at level one (poor level of foundation skills) were most likely to be working in the agricultural sector, which includes horticulture.
- Uptake of training in the horticulture industry is low compared to other primary industries.

1.3. Methodology

Research methods for this phase of the project were developed after discussions with the New Zealand Fruit Growers Federation and the Marlborough Viticulture Advisory Group on Workforce Development. In telephone interviews, representatives of seven product groups and regional associations were asked about organisation and management structures, as well as training practices within the industry.

For the next stage, interviews were completed with employers representing large or corporate employers, small employers and contractors in Marlborough, Hawke's Bay and Bay of Plenty in the wine, pipfruit and kiwifruit industries.

The interviews aimed to give an insight into the industry and add depth to the information already gained through the Horticulture and Viticulture Seasonal Labour sector engagement. This report includes information from the interviews and from other sources as noted.

1.4. Industry background

New Zealand's horticulture industry is an integral part of the primary export market. The temperate New Zealand climate allows a wide range of fruit and vegetables to be grown successfully. The main areas of horticulture production in New Zealand are Northland, Greater Auckland, Bay of Plenty, Gisborne, Hawke's Bay, Nelson, Marlborough, Canterbury and Otago.

Horticulture is one of the largest employers in these regions. Thousands of additional workers are employed seasonally by orchardists and flower and vegetable farmers to assist with harvesting and packaging produce.

New Zealand's wine industry is also an important part of the economy. New Zealand sauvignon blanc is rated throughout the world as the definitive

benchmark style for this variety. The growing recognition for New Zealand chardonnay, pinot noir, méthode traditionnelle sparkling wines, riesling, cabernet sauvignon and merlot blends is helping to cement New Zealand's position as a producer of world-class wines.

This research focuses on kiwifruit, apple and wine growers, as these are the biggest exporters in horticulture in New Zealand and employ most of those in the industry.

2. FINDINGS

2.1. Issues creating barriers to engagement in foundation skills training

A number of factors influence the potential for foundation skills training programmes to be established in the horticulture and viticulture industries. A breakdown of findings by industry is included in Appendix 1.

2.1.1. Management structures

The range of management structures in the two industries reflects the different type and size of business operations, and the need for different types of labour.

At one extreme are traditional family owned and operated businesses. These are typically small- to medium-sized enterprises (SMEs)² where the owner undertakes a range of management functions. These owners often have significant experience in the technical management of an orchard or vineyard, but can have limited understanding of human resource management issues, including training. This lack of management capability reflects the relatively small number of staff they employ directly and the limited establishment of formal operational systems. Some owners have begun to use labour contractors as a way to make the best use of labour and to manage the increasingly complex compliance requirements associated with employing staff.

The management structures of SMEs in horticulture/viticulture create barriers that may limit their ability to participate in foundation skills training initiatives. These include:

- lack of awareness of the benefits associated with skill development, especially foundation skills
- turnover of staff and the risk of losing staff who develop a higher level of skills. SMEs do not always provide the opportunities for advancement that occur in larger businesses. Employers are concerned that, if workers gain skills, they may leave to take on better positions elsewhere.
- time pressure where owner/managers of SMEs manage a range of tasks, which leaves less time to invest in skill development
- the management style of owner/operators who generally take on all tasks requiring reporting, so the need for foundation skills training for staff is not evident to them.

Conversely some smaller operators may be able to provide more intense mentoring support to workers requiring foundation skills training, especially employers who are sensitive to social issues and have a commitment to their wider community.

At the other extreme are very large companies with management and support structures associated with size. Some companies employ all staff directly rather than using contractors as they have human resource systems in place to satisfy

² SMEs are defined as businesses employing less than 20 employees.

labour regulations. Some are trying to provide full-time positions to ensure access to an adequate supply of skilled labour, rather than relying on a pool of seasonal labour. They often have standard operating procedures defining work tasks and monitoring systems. They are often aware of the benefits associated with training. Their greater staff numbers provide a pool of potential learners and offer economies of scale for any foundation skills training programme.

Though they may be more receptive to establishing programmes, processes for decision making may create a barrier. Larger companies typically have specialised management tasks as well as tiers of management to cope with the complexity and the size of the business. This can slow decision making and restrict innovation. Top management are more likely to be interested in programmes where the return on investment or benefits can be demonstrated.

Contractors are the third main type of employer within the horticulture and viticulture industries. They tend to have a core of permanent staff, supplemented by transient seasonal staff. Turnover among the latter group can be up to 300%. Management within contracting businesses creates several potential barriers to foundation skills programmes:

- Labour management – Workers are sent where and when they are needed, so planning a training programme in the workplace is difficult.
- Training practices – Most contractors are not interested in providing training to workers. The few that are interested are seen as the exception.
- Nature of the business – While the expectation is that the contractor will supply people who are able to perform the job, contractors are paid on the basis of units of labour not quality of labour.

2.1.2. Type of work

The horticulture/viticulture industries require large numbers of workers with a broad range of skills. This influences the perceived need for investment in specific training. Given the nature of the work, most employers do not see basic or generic training as a priority.

Disincentives to supporting training (including foundation skills training):

- Skill level – Some work (e.g. kiwifruit harvesting) requires limited skills or training with no perceived need for literacy, numeracy or language skills.
- Short employment period – Some tasks require a short period of intensive work, (e.g. 1–2 months). Opportunities for downtime to train are limited, and any investment can only be recovered over a short period, as there is no certainty that workers will return.
- Product – Fruit is a perishable product. When it is ready to be picked or pruned, there is little opportunity to stop for training.
- Contract-based payment – Many of the seasonal work tasks are paid on a contract basis rather than at an hourly rate. This is an incentive for employees to increase quantity, sometimes at the expense of quality, which may be the focus of training initiatives.
- Facilities – Employment at orchards and vineyards typically involves hard physical work at a number of locations. Facilities for undertaking training are limited.

- Workers' perceptions – Many people attracted to work in these industries like the outside physical work but are averse to traditional training, possibly due to negative experiences at school and/or a low level of foundation skills.
- Seasonality – The peaks and troughs in labour requirements driven by the seasonal nature of production leave few opportunities to employ full-time workers, which is a disincentive to invest in training.
- Origin of workers – There has been a significant increase in the use of workers from overseas to service seasonal labour demands in the industry. Though some of these workers may lack foundation skills, temporary migrants are not usually seen as a priority for investment in any training programme.
- Turnover of workers – Typically there is a high turnover of staff within a season.

2.1.3. Employer perceptions

The people interviewed for Phase I of this project had a range of attitudes to training and the value of foundation skills training. The attitudes expressed appeared to reflect the broader industry:

- Variations between large and small businesses – This is covered in 2.1.1.
- Attitude to generic skills – Several employers thought that the nature of the job made it unnecessary for employees to have literacy, numeracy or language skills, even if that was socially desirable.
- Short-term horizons – In industries such as pipfruit, some operators have gone into survival mode and focused on cutting costs. They do not see investment in enhancing staff capabilities as a core business focus.
- Grower disconnect – The increase in the use of contractors has meant that some growers have reduced input into and understanding of issues relating to the employment and performance of workers. This creates a challenge to establish an understanding of the merits of foundation skills training.
- Lack of capacity or understanding – Most small- to medium-sized operators do not understand human resource development systems, opportunities or benefits. Without this understanding, the theoretical justifications for foundation skill development are of limited value. The benefits associated with investment in this area need to be clearly defined.

2.1.4. Capability

The establishment of effective foundation skills training requires:

- Resources – existing foundation skills programmes or resources in the industry are limited.
- Management capability – outside some of the larger corporate operations, management capability to organise or supervise the delivery of a foundation skills programme is limited.

2.1.5. Time

As indicated elsewhere, both the horticulture and viticulture industries face time constraints that limit their ability to provide structured time off for training. Constraints include the perishable nature of the fruit, the weather and the

shortage of labour, which means that employers have fewer opportunities to back fill for employees attending training.

Research shows that a commitment of around 100 hours is required for a person to make any real gains in their literacy, language and numerical skill levels.³ Seasonal labourers are often employed for only three to six months of the year, so the prospect of finding 100 hours within this time is unlikely. If a worker was employed for 3 months, they would need to do around eight hours a week, which is unrealistic given the amount of time currently given to specific skills training.

2.1.6. Summary

While management structures within the industry do create some barriers to engagement in foundation skills training, the greatest challenges arise from the type of work involved, with its seasonal nature, the pressures of the harvest and the consequent constraints on the time needed to undertake foundation skills training. Employers' perceptions of the value of foundation skills training are also a barrier, compounded by a lack of resources, including a lack of programmes.

Overcoming the barriers created by the nature of work will require flexibility and innovation. Any foundation skills programme will need to work round these barriers to be successful. In some instances, it may be necessary to provide foundation skills training outside the workplace.

2.2. Opportunities within the industries

2.2.1. Possible drivers for foundation skills training

A number of drivers in the horticulture and viticulture industries may create opportunities to establish foundation skills training programmes:

- Complexity – Production systems are becoming more complex as operators aim to achieve higher yields and more consistent levels of quality to remain competitive. The desire to retain and enhance the skills of workers may encourage employers to participate in foundation skills training programmes.
- Quality – Industries are placing greater emphasis on quality. This requires workers to have a better understanding of plant physiology and technical matters, such as crop loading, and is likely to require some upskilling.
- Compliance – Employers need to comply with an increasing array of regulations relating to resource management, health and safety and chemical use. Requirements such as EurepGAP (Euro-Retailer Produce Working Group Good Agricultural Practices) in the pipfruit and kiwifruit industries oblige growers and employers to meet certain export standards. Employees will need a basic level of literacy to meet these standards.
- Skill shortages – Because of the shortage of labour, employers place more value on employing and retaining good staff and on investing in them in

³ *Working in the light of evidence, as well as aspiration: A literature review of the best available evidence about effective adult literacy, numeracy and language teaching*, J. Benseman, A. Sutton, J. Lander (Ministry of Education, 2005)

order to achieve higher levels of productivity. If foundation skills training can be seen to contribute to this, then some employers would support it.

- **Employability** – Employers were concerned with the poor work ethic, motivation and life skills of some of their New Zealand employees. Lack of these skills limited employers' ability to make full use of their labour. Many expressed interest in a programme that could address these issues.
- **Market drivers** – The New Zealand horticulture and viticulture industries typically supply high value markets that are sensitive to food safety issues and to the broader values of production, including the treatment of workers. EurepGAP and British Retail Consortium (BRC) market assurance programmes provide a potential driver for growers to increase their commitment to staff development.
- **Immigration** – The New Zealand horticulture and viticulture industries increasingly rely on labour from overseas. In some situations, employers can only access this labour if they have shown a positive commitment to employing New Zealanders wherever possible, and demonstrated that they provide good working conditions. Mechanisms such as the AIP (Approval in Principle) process could be used to encourage employers to invest in foundation skills programmes.
- **Bad weather** – On some days, work cannot be undertaken due to bad weather. This could be an opportunity to provide training but would require a flexible and responsive training provider.

2.2.2. Summary

Any of these drivers could be used to make foundation skills training more attractive to the industry and ensure that programmes are appropriate. Foundation skills programmes would need to be refined in consultation with businesses and employers wishing to be involved.

2.3. Possible pathways for foundation skills training

Foundation skills training could be delivered through various pathways. Some specific opportunities are outlined below.

2.3.1. Contractors' associations

Labour contractor associations have been established in the Bay of Plenty, Hawke's Bay and Marlborough. They champion the interests of legitimate labour contractors. The contractors' associations are a way to reach clusters of contractors who could collectively provide and support a large enough group for a foundation skills development programme. Doing this on an individual contractor basis would be costly and ineffective. Incentives for contractors to participate could include the following:

- **Offering training at supervisor level for full-time staff** – These employees are usually sourced from seasonal staff who show interest and promise. Training could provide a bridge to full-time employment for seasonal staff who may be reluctant to take on more responsibility due to a lack of foundation skills.
- **Providing training in the off season** – Gaps in the availability of work create a risk that good workers will leave the industry to take up full-time work elsewhere.

2.3.2. Large companies

Larger companies typically have systems in place to employ and train large numbers of staff. Opportunities for foundation skills programmes include the following:

- Productivity enhancement – Most large companies have key productivity indices that they monitor and against which they seek to improve. They may be receptive to supporting foundation skills training if the relationship between that training and increases in productivity can be clearly established.
- Infrastructure – Large companies have HR and training managers dedicated to addressing the needs of the companies' workforce. Where these positions exist, it is easier to approach companies about foundation skills training.
- Regulatory compliance – Compliance with regulations to protect their brand image and remove any potential liabilities is a key concern for most companies. This could lead to support for a foundation skills programme that ensures that staff are aware of and manage these risks (e.g. health and safety, GrowSafe).
- Influence on others in the supply chain – Some larger companies have a significant influence on the activity of companies that supply them (e.g. contractors, contract growers). They may be able to require suppliers to support these initiatives or recruit people through them for a foundation skills programme.
- Building on existing training programmes – Several of the larger companies indicated interest in foundation learning programmes that could be integrated into existing training courses run by the company.
- Learning centres – Although there are challenges in providing suitable training facilities for those who work in the field, companies also employ a large number of workers in packhouses. It may be possible to use a packhouse to pilot a workplace learning centre. This could be a point of difference for companies and help improve the ability of companies to recruit staff.

2.3.3. Unions

Union representatives are increasingly active in some regions and industries. They are keen to see that employers offer suitable conditions of employment and that workers' rights are protected. They are another possible avenue for implementing a foundation skills programme. In the UK, this style of programme has been used for both unionised and non-unionised workplaces.

2.3.4. Target groups

Interviews with employers suggest that they would support providing foundation skills training for some groups of workers over others. Factors influencing the level of support for training:

- Permanent vs. casual – Employers were more interested in and committed to training permanent staff. The high turnover of casual staff meant that the benefits from training were limited.

- Seniority – The more senior the position and the greater the potential influence of the worker on the performance of the orchard/vineyard, the greater the employer’s interest in investing in training.
- Corporate vs. owner/operator – Corporate operators have a greater focus on staff development than owner/operators and have established systems and resources to facilitate this. Systems typically operate down to the orchard supervisor level and may encompass orchard workers. Owner/operators do not typically have such formal processes, with the individual operator’s attitude determining investment in training.
- New Zealanders vs. workers from overseas – Employers were most interested in encouraging New Zealand orchard workers into permanent positions.

Specific groups identified as appropriate for foundation skills training:

- Casual employees moving to permanent employment – Most employers sourced their permanent workforce from their casual or seasonal workforce. They targeted people they saw as capable and interested in making a career in the horticulture/viticulture industries. However, some employees did not have an adequate level of foundation skills to complete required training.
- Workers requiring higher levels of skill (e.g. pruners) – With quality becoming a greater focus within the industries, technical knowledge required to produce the maximum benefit is critical in tasks such as pruning. Employers saw training for workers who are performing more highly skilled work as more of a priority than training for low skilled seasonal work such as harvesting.

2.3.5. Industry organisations

Several industry organisations operating in the horticulture and viticulture industries have an interest in training; others specifically manage the training interests in their industry. Collaborating with these organisations would be important to gain industry buy-in and as an avenue to promote foundation skills programmes in the industry.

Several industry organisations have implemented training programmes that are based on the idea of workplace learning but do not necessarily require any academic work. Integrating foundation skills teaching into these courses could be an option.

Industry organisations that indicated involvement in training:

- New Zealand Fruit Growers Federation (now part of Horticulture NZ) – NZFF encourages education and training within the industry and promotes research and development. It has close links with the Horticulture ITO and represents the industries’ interests in terms of education and training.
- NZ Kiwifruit Growers Inc. – KGI has played an active role in training in the kiwifruit industry, beginning with the adoption of a strategic labour development plan. KGI have also liaised with Bay of Plenty Polytechnic to write a Level 2 course for orchard workers.

- NZ Wine – NZ Wine has concentrated education efforts around the higher skills end and focused on research and development.

2.4. Applicability to other seasonal industries

2.4.1. Introduction

While the FSSW project focuses on the horticulture and viticulture industries, the findings may be applicable to other seasonal industries. The following is a snapshot of industries where:

- seasonality is a factor
- the industry is engaged with government or other organisations around skill issues
- International Adult Literacy Survey (IALS) data shows that a large number of people lack the requisite foundation skills to operate effectively in everyday work and life.

2.4.2. Seafood

The seafood industry has three main elements: wild catch fishing, in which wild species are fished from New Zealand waters; aquaculture, in which species are deliberately farmed; and seafood processing.

The industry is New Zealand's fifth largest exporter, though revenues have been declining with a cut in the wild fish quota.

The industry is under considerable pressure from falling prices, increased fuel costs, a strong New Zealand dollar reducing international competitiveness, environmental pressure (by-catch and seabird/mammal loss) and international competition from other fishing nations (particularly the development of aquaculture). These pressures have eroded profit margins and placed significant pressure on the industry to cut costs.

Seasonality

While employment in the seafood industry is generally full-time, the work itself is seasonal, depending in some cases on the migration patterns of the catch. Only the processing side shows real demand for seasonal labour, with approximately 30% of labour in this area being seasonal.

Engagement with government

Representatives from government and the fishing industry are currently engaged in addressing a range of issues, including skill and labour shortages, employment conditions and immigration issues. These issues are similar to those being addressed in the horticulture and viticulture sectors in relation to seasonal labour.

Skill levels in the industry

The IALS data aggregated the agriculture, horticulture and fishing industries into one industry in the breakdown of foundation skills needs by industry. This means that the fishing industry appears to have the same percentage of people with foundation skills issues as horticulture.

2001 census data shows that around 60% of those working in the fishing industry have no qualifications or only a school qualification. This is similar to the horticulture and viticulture industries, where about 66% of workers have no qualification or only a school qualification.

2.4.3. Tourism

Tourism is an expanding industry in New Zealand, contributing approximately \$17.2 billion to the Gross Domestic Product (GDP – the total value of all goods and services produced in New Zealand) each year.⁴ It is a major employer helping to stimulate regional development. Tourism supports one in ten jobs in New Zealand, with over 102,700 full-time equivalent jobs provided directly through tourism and an estimated 69,300 provided indirectly.⁵ The tourism industry encompasses the accommodation, food and beverage, transport, and activities and attractions industries.

Seasonality

Like horticulture and viticulture, the tourism industry is affected by seasonality, but this is due to demand for services rather than availability of product. Demand generally peaks from November through to February, depending on the activity. Ski activities and related services, for example, experience highest demand in the winter months. Seasonality in demand impacts on the level of employment within each sector.

Engagement with government

At the Tourism Conference in August 2000, the Prime Minister and Minister of Tourism reinforced the government's commitment to a private/public sector partnership to develop a tourism strategy for New Zealand. A Tourism Workforce and Skills Leadership Group was formed in response to recommendations in that strategy.⁶ The leadership group is comprised of government agencies and industry organisations.

Skill levels in the industry

The tourism industry employs people with a wide range of skills and qualifications. Some sectors such as food and beverage have more people with vocational qualifications than others. The Tourism Workforce and Skills Projections Report shows that, across the accommodation, food and beverage, transport, and activities and attraction sectors, many people have no qualifications or school qualifications only.⁷ This is similar to the fishing, horticulture and viticulture industries. IALS data does not break down information in a way that distinguishes the tourism industry.

⁴ Tourism Industry New Zealand website at <http://www.tianz.org.nz/Industry-Facts/Key-Facts--Figures.asp>, accessed on 2 December, 2005

⁵ Ibid.

⁶ New Zealand Tourism Strategy 2010 at <http://www.tourism.govt.nz/strategy/index.html>

⁷ Tourism Workforce and Skill Projections Report, October 2004 at <http://www.tourism.govt.nz/policy/pol-reports/pol-workforce-skills/WorkforceAndSkillsOct2004.pdf>

2.4.4. Agriculture

Agriculture is New Zealand's largest industry and the biggest economic earner. It produces more than half our exports and contributes over \$11 billion to the GDP. The agricultural industry in New Zealand is a major employer, covering an estimated 11.4% of the workforce. This includes around 66,000 people employed on sheep, beef and dairy farms, but does not include the thousands of family members who work on farms unpaid.

New Zealand's most important export markets for the agricultural industry are the United States, Japan, Australia, the United Kingdom and Korea.⁸

Seasonality

The agriculture industry has seasonal increases in demand in some sectors (e.g. cropping at harvest), but these are not as pronounced as for the horticulture industry. For example, employment in agriculture rose to 127,400 in the December 2002 quarter and peaked at 130,400 in the March 2003 quarter. Employment declined to 123,500 in the June 2003 quarter, with much of the fall being for seasonal reasons.⁹ Of greater importance has been the retention and recruitment of full-time workers.

Engagement with government

Representatives from the agriculture sector have been engaged with government as part of the Food and Beverage Taskforce. The Taskforce comprises Ministers, government agencies, business executives, representatives of industry bodies and individuals. The Taskforce aims to establish a bold vision for the food and beverage sector, providing opportunities for investment and jobs.

Skill levels in the industry

Analysis from the 2001 census data shows that nearly 70% of farmers and farm workers have no qualifications or only school qualifications. IALS data on agriculture is the same as that for fishing and horticulture, with up to 50% of workers not having adequate literacy, numeracy and language skills.

2.4.5. Summary

Further research into these industries would determine the nature of their management and organisational structures, what barriers exist to training and whether these are similar to those experienced in the horticulture and viticulture industries.

⁸ Ministry of Agriculture and Fisheries website at <http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/sonzaf/2004/index.htm>

⁹ Department of Labour, Industry Profile – Agriculture and Horticulture at <http://www.dol.govt.nz/PDFs/Industry-Profile-Agriculture-and-Horticulture.pdf>

3. POSSIBLE NEXT STEPS

Given the results of this report, it is suggested that following up on the issues set out below would enhance the information currently available on addressing foundation skills issues in seasonal industries.

3.1. Clarify the market size for foundation skills programmes

This research has identified constraints on and opportunities for establishing foundation skills programmes in the horticulture and viticulture industries. A more detailed quantitative analysis could help establish the number of potential participants for any programme, depending on who is targeted. Previous research, including the 1996 International IALS Survey, identified over 50% of the industry as having an inadequate level of foundation skills.

The labour supply in seasonal industries is dynamic. Conclusions from earlier research such as the IALS survey may no longer be valid given the large shifts indicated in this study. Those interviewed suggested that ten years ago most people in the industry were New Zealanders, while today a high proportion of workers employed in the industry appear to be from overseas.

Up-to-date statistics on the residence status of employees and the level of skills in the horticulture and other seasonal industries would be beneficial in calculating the benefits of a foundation skills intervention.

3.2. Clarify the activity of other agencies

A range of government and private agencies have an interest in ensuring wide access to foundation skills training. To ensure the best use of resources, it will be important to identify past, current and planned programmes so that synergies can be developed, conflicts removed and the chances of success enhanced. A review of initiatives should include consultation with:

- Tertiary Education Commission
- Ministry of Education
- Ministry of Social Development
- Ministry of Agriculture and Forestry
- Training providers
- Horticulture ITO.

3.3. Skill needs analysis

Limited skill needs analysis has been undertaken for the horticulture and viticulture industries. A more extensive analysis would provide a clearer insight into the opportunities and priorities for foundation skills and other training for these industries.

3.4. Cost benefit analysis

Information obtained in the skill needs analysis could be used to prepare an economic analysis of the benefits associated with investment in a foundation skills project. This would provide a potential funding agency with information to make a decision about allocating funding in support of a programme targeting this sector.

It would also clarify the benefits to participating employers and employees. Although financial benefits are important, the identification of other benefits would assist with engaging employers and employees. Possible benefits to employees in a foundation skills programme may include:

- access to higher paying positions and possibly full-time employment
- increased levels of productivity, which is important for those working on contract rates
- access to accreditation (e.g. driver's licence, GrowSafe, quality assurance auditing)
- increased self esteem.

3.5. Stakeholder analysis

This project has highlighted the value of consultation with industry stakeholders to clarify issues and opportunities relating to the provision of foundation skills programmes. The development of initiatives should continue this intensity of consultation to ensure that programmes meet the needs and the priorities of stakeholders. The identification of an interested, qualified and resourced champion and the development of a close working relationship with them will facilitate the development, monitoring and evaluation of further initiatives.

4. CONCLUSION

This research follows previous research into demand side barriers to the uptake of foundation skills programmes. It looks at a specific industry and employment group – namely seasonal labour in the horticulture and viticulture industries. The additional barriers created by management structures and by the nature of work in these industries need to be taken into account in designing foundation skills programmes. Possible pathways towards achieving this are suggested. These possibilities would need to be discussed and developed in close consultation with the industries involved before further initiatives could be implemented.

APPENDIX RESEARCH FINDINGS BY INDUSTRY

1. KIWIFRUIT INDUSTRY

1.1. Industry background

Kiwifruit was originally commercialised in New Zealand, where growers remain the most efficient and highest earning kiwifruit growers in the world. The kiwifruit industry has been based on the production of a single variety – the Hayward kiwifruit. Years of research to develop new varieties is now showing its first successes; new varieties such as Zespri Gold, a gold-fleshed variety, are being established by growers.

Some statistics:

- Growers – In 2004, there were an estimated 2,703 growers, an increase from 2,335 in 1994.
- Production area – In 2004, an estimated 10,580 ha were in production compared with 10,161 ha in 1994.
- Packhouses – The number of packhouses decreased from 190 in 1994 to 98 in 2004. However, the size of packhouses increased.
- Exporters – There was one exporter of kiwifruit in 2004 (Zespri).
- Exports – New Zealand kiwifruit valued at \$659 million was exported to 42 countries in 2004. Exports were up 22% on 2003.
- The export crop comprised 53.3 million trays ZESPRI™ GREEN (82%), 9.4 million trays ZESPRI™ GOLD (14%), and 2.4 million trays ZESPRI™ GREEN ORGANIC (4%).
- The average orchard gate return was \$38,500 per production hectare, comprising \$37,600 for ZESPRI™ GREEN, \$37,000 for ZESPRI™ GREEN ORGANIC, and \$44,500 for ZESPRI™ GOLD.
- Approximately 0.7 million tonnes of kiwifruit enter world trade each year. Trade is dominated by Italy (33%), New Zealand (33%) and Chile (17%). China has an estimated 50,000 ha of kiwifruit planted.¹⁰

1.1.1. Industry statistics

Season (ends 31 March)	1994	1999	2000	2001	2002	2003	2004
Crop volumes (million)							
Trays submitted	55.8	63.1	52.2	65.5	70.0	64.1	66.1
Trays sold	49.9	59.4	51.8	61.5	64.7	61.3	65.1
General Statistics							
Yield (trays/ha)	5,492	6,305	5,295	6,445	6,933	6,175	6,247
Production area (ha)	10,161	10,015	10,234	10,159	10,100	10,376	10,580
Growers/suppliers (no)	2,335	2,681	2,541	2,506	2,504	2,719	2,703
Packhouses (no)	190	118	113	102	106	101	98
Coolstores (no)	126	106	103	98	101	99	86

Sources: Zespri Group Ltd Annual Report 2003–04, Kiwifruit New Zealand Annual Report 1999.

1.1.2. Industry bodies

- Zespri Group Ltd (formerly the New Zealand Kiwifruit Marketing Board) is owned by kiwifruit growers and is responsible for marketing almost all the

¹⁰ MAF Horticulture Monitoring Report 2005 at <http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/farm-monitoring/2005/horticulture/httoc.htm>

export kiwifruit from New Zealand. Input into training is limited to the provision of technical information and quality management skills at the manager/owner level.

- New Zealand Kiwifruit Growers Inc (NZKGI) is the grower body and represents NZ kiwifruit growers' political and commercial interests. It was formed to give growers a voice to develop a secure and stable kiwifruit industry for the benefit of all growers. KGI has been relatively active in designing training programmes for the industry and liaising with providers.
- The Tauranga Fruit Growers Association is the main regional fruit growers association for the kiwifruit industry and represents all local fruit growers. It has a peripheral role in training, but has organised training workshops in the past. The role of the association is to feed the ideas of growers into other organisations that deal with training.

1.2. Employment

1.2.1. Background

A large number of management tasks are undertaken on a kiwifruit orchard. The table below provides a summary of these and the amount of work involved with each.

Activity	Basis	Green				Gold			
		Units (per week)	Period (weeks)	Start 1st week	Finish last week	Units	Period (weeks)	Start 1st week	Finish last week
Winter Pruning	Area	0.5	8 weeks	July 1st week	Aug 4th week	0.7	8 weeks	June 1st week	July 4th week
Tipping/Gel pruning – early	Area	0.27	2 weeks	Oct 1st week	Oct 2nd week	0.29	2 weeks	Sept 1st week	Sept 2nd week
Tipping/Gel pruning – late	Area	0.36	2 weeks	Oct 3rd week	Oct 4th week	0.45	2 weeks	Sept 3rd week	Sept 4th week
Male Pruning – Post Flowering	Area	0.14	2 weeks	Dec 2nd week	Dec 3rd week	0.22	2 weeks	Nov 2nd week	Nov 3rd week
Male Pruning – 1st Summer	Area	0.10	2 weeks	Jan 3rd week	Jan 4th week	0.15	2 weeks	Dec 3rd week	Dec 4th week
Male Pruning – 2nd Summer	Area					0.29	1 week	Jan 1st week	
Summer pruning – 1st	Area	0.18	3 weeks	Dec 2nd week	Dec 4th week	0.24	3 weeks	Nov 3rd week	Dec 1st week
Summer pruning – 2nd	Area	0.24	3 weeks	Jan 2nd week	Jan 4th week	0.30	3 weeks	Dec 4th week	Jan 2nd week
Summer pruning – 3rd	Area	0.22	4 weeks	Feb 1st week	Dec 4th week	0.22	4 weeks	Jan 2nd week	Feb 1st week
Summer pruning – 4th	Area					0.58	2 weeks	Feb 2nd week	Feb 3rd week
Fruit Thinning – 1st	Area	1.18	1 week	Dec 2nd week		1.43	1 week	Nov 3rd week	
Fruit Thinning – 2nd	Area	1.43	1 week	Mar 2nd week		1.79	1 week	Feb 3rd week	
Harvest*	Volume	2016 trays	12 weeks	April 1st week	June 4th week				
Packhouse*	Volume	2632 trays	12 weeks	April 1st week	June 4th week				

* Harvest & packing profile taken of industry statistics for two seasons. Incorporates green & gold harvest.

1.2.2. Seasonal work

The key tasks for seasonal workers are:

- Picking from mid April to mid June – The fruit is picked from the vine into a bag (15–20kg) worn on the shoulders, then tipped into a transporting bin (320–340kg) and taken to the packhouse by truck. Workers are paid on a per-bin contract rate. Picking is a relatively simple task with limited skill requirements.
- Pruning/tying down all year round – The vines are pruned and tied down after harvest. Paid on an hourly and contract basis. Pruners should have an understanding of plant physiology and crop loading, knowing how much fruit should be on a vine and the impacts on dry matter (taste) and the ultimate value of the fruit.

There is also a high demand for workers in packhouses. Tasks include grading and packing from mid April to mid June, paid on an hourly rate. Higher skilled staff, such as quality controllers, are also required at this time.

The peak seasonal labour demand for the kiwifruit industry in Bay of Plenty is approximately 20,000 persons per week in June, which corresponds to a demand in the order of 5,000 persons (BERL Forecasting Tool Report, 2005).¹¹

1.2.3. Permanent work

Permanent jobs on kiwifruit orchards include mowing, orchard maintenance and fruit spraying, as well as jobs undertaken by seasonal workers.

1.3. Management structures in the industry

1.3.1. Ownership and management units

In the past, the kiwifruit industry was characterised by a large number of owner/operator orchards, with some larger corporate/syndicated orchard operations. Over the last 10 years, there has been a trend towards larger orchards and an increase in managed orchards.

The main types of orchard operation are:

- Leased/managed orchards – Approximately 60% of orchards are leased by owners to corporations who undertake all the orchard management tasks and typically use contract labour. Large areas of orchard can be under the control of a single corporate, which in some situations may also undertake packing activities.
- Owner/operators who use contracted labour – Approximately 30% of orchards are owned and operated by owners who use contract labour.
- Owner/operators who have permanent staff – Approximately 10% of orchards work in clusters with other growers and have permanent staff. In some situations, the owner may undertake many management tasks themselves.

¹¹ This report is unpublished. The data is limited as the forecasting tool is still continuing to be developed.

1.3.2. Orchard management

Roles in the typical orchard management model in the kiwifruit industry:

- Orchard manager – Has overall management control for approx 50 ha of orchard. This person plans and oversees the management of the orchard and is accountable for ensuring that orchard operations are managed effectively and production quality and volume optimised. Managers are full-time employees, often with extensive experience and sometimes tertiary qualifications. On owner/operator orchards, the owner often undertakes the role of orchard manager.
- Orchard supervisor – Oversees and has input into various orchard management tasks (e.g. pruning, harvesting, spraying and quality control). On smaller owner/operator orchards, the owner usually undertakes the role of orchard supervisor. Supervisors are normally full-time experienced workers.
- Orchard workers – Normally organised into teams of 10–15, led by a supervisor. If contract labour is used, the contractor usually provides the supervisor. Approximately 10% of orchard workers are employed on a permanent (staff member) basis or as permanent/casual employees (casual but provided with a full or nearly a full year's employment). Where permanent staff are employed, one person normally manages 5 ha.

An increasing percentage of non-permanent orchard workers are from overseas:

- Backpackers – Usually work as part of a holiday. They may be in New Zealand under the Working Holiday Scheme. They are typically educated with good levels of literacy and life skills, but may have limited English.
- Overseas workers – Often in New Zealand to work and earn as much money as possible. They may have a variation of conditions (VOC) to their work permit, which allows them to work longer. They could also be illegal workers. They often have limited literacy and English language skills but are usually highly motivated. Most are provided through contractors with ethnic community links.

The use of contractors to provide labour has increased over the last 10 years, principally as a mechanism to lower overall labour input costs by employing labour only when it is required rather than carrying a permanent workforce. Though effective in cutting costs, some operators question the use of contractors, as the quality of production and output may not be the best. New management models in which workers have the opportunity to work the same vines and see the 'fruits' of their labour have encouraging results.

1.4. Current employment issues in the industry

1.4.1. Labour supply

The current low levels of unemployment have led to a decline in the traditional pool of New Zealanders available for seasonal work. Many New Zealanders are more interested in permanent positions in other industries. This has meant an increased reliance on workers from overseas, which does not provide security of supply. Employers commented that New Zealanders employed seasonally often have a poor attitude to work and poor performance. To address this, some

corporate and owner/operators have increased the number of permanent or permanent/casual positions by organising a full programme of complementary tasks.

The increased employment of people who have English as a second language (or no English at all) creates problems in understanding standard provisions such as health and safety requirements, as well as in more specific skill development.

1.5. Training

1.5.1. Current training in the industry

Industry level training

At an industry level in December 2004, Kiwifruit Growers Inc (KGI) agreed to a labour development plan. This includes the development of skills, using the national Seasonal Labour Strategy objectives and other industry specific needs. KGI have underwritten the development of the Certificate in Kiwifruit Orchard Skills, which is being offered through the Bay of Plenty Polytechnic. It has 45 or 60 credits for the advanced certificate. This course is normally undertaken by full-time workers, often supervisors.

Workplace training

Most orchards provide some staff training. For orchard workers, this usually involves informal on-the-job orientation and feedback on specific tasks that they are involved in (e.g. picking, pruning). Training is usually provided by the orchard supervisor or manager. Those interviewed estimated that only 25% of workers had access to external training. Where a contractor is employed, they are usually responsible for training. Owners expect the workers that contractors provide are trained.

Specific training may include the following:

- Some of the larger corporate operators provide orientation training (approximately two hours) to give workers information about the industry, the company and their expectations.
- Orchards skills:
 - Picking – basic skill requiring little training.
 - Pruning – a higher level of skill is required, involving at least two days of close attendance and training. Ongoing supervision throughout the season occurs and includes feedback on performance. Pruning training is covered in the cadet programme and the National Certificate in Horticulture (Fruit Production) Level 4.
- Supervisors should ideally have supervisory management training. This appears to be limited, especially among those employed by contractors.
- Accreditation training (e.g. GrowSafe accreditation for the safe use of chemicals).
- Health and safety training. Although there is an obligation to train staff in this area, it appears that limited training is provided to seasonal workers.
- Where a contractor is employed, they do any on-the-job training as there are often language issues. Information on what to do is passed from the owner to the contractor and then to the workers.

1.5.2. Training issues in the industry identified by interviewees

Drivers for training

All kiwifruit produced for export markets is required to be produced following EurepGAP protocols. Under these protocols, the employer is responsible for training and the skills of workers, regardless of whether the employer is the grower or a contractor. Under the protocols, employers also need to ensure that workers are trained in health and safety and must promote a good work ethic.

A range of government regulations also require growers to undertake training and pass a test to show their understanding of best practice. These include requirements under the Hazardous Substances and New Organisms legislation, which requires those who use agrichemicals to complete and pass the GrowSafe course. Recently, Occupational Safety and Health and ACC have encouraged growers to undertake training on health and safety by providing discounts on ACC levies to those who pass a set course.

1.5.3. Training opportunities identified by interviewees

Specific skills:

- Pruning, especially vine work and its relationship with product quality.
- General skills to lift productivity.

General skills training:

- Training to ensure compliance with EurepGAP provisions.
- Life skills – to develop a good work ethic, adequate hygiene standards, address drug and alcohol issues and develop appropriate budgeting skills.

Targets:

- Supervisors also need training on how to communicate with and relate to people.

1.6. Barriers to training

Attitudes to providing training differed:

- Permanent vs. casual – Those interviewed showed a greater level of interest in and commitment to training permanent staff. The high turnover of casual staff meant that benefits gained from training were limited. Those interviewed believed that casual workers on contract rates had limited interest in training, as time spent on training meant less income.
- Seniority – The more senior the position and the greater the potential influence of the worker on the performance of the orchard, the greater the interest in investing in training.
- Corporate vs. owner/operator – Corporate operators may focus on staff development and have appropriate systems and resources to facilitate this. These systems typically operate down to orchard supervisor level and may encompass orchard workers. Owner/operators do not typically have such formal processes. Investment in training is determined by the individual operator's attitude. In some cases, this may result in a significant commitment to training for both permanent and casual staff.

- New Zealanders vs. overseas workers – Similar to permanent vs. casual. There was a greater interest in encouraging suitable New Zealand orchard workers into permanent positions

Other barriers:

- Facilities – Most kiwifruit orchards do not have an appropriate indoor area that can be used for classroom-style training.
- Time and money – Many growers and workers cannot see benefits from training, especially if it impacts on their ability to earn money. This is especially true for those on contract rates. Employers are not keen to pay staff while they are training because of the low profit margins in the industry.
- Lack of employer training skills – Many employers have had limited training themselves and do not have any support or experience in best practice in providing training.
- Attitude – Employers do not engage in training because they do not see it as an investment that adds value to the workforce.

Possible strategies identified by interviewees to overcome barriers:

- Ensure training is relevant to the work people do and to the specific task at hand, especially if it is training for seasonal workers.
- Provide certificates to show that people have completed training. This may make them more attractive to employers. Include monetary incentives.
- Deliver practical training on site – many tasks that employees are asked to do require practical demonstrations in the workplace.
- Recognise the inappropriateness of 'classroom' type training. Many orchard workers are kinaesthetic learners and may have limited literacy skills.
- Subsidise the costs of training as well as loss of income when workers are involved in training.

2. PIPFRUIT INDUSTRY

2.1. Industry background

New Zealand exports an extensive and unique range of apple and pears to countries all over the world.

Some statistics:

- Growers – In 2004, there were an estimated 917 growers, a decline from 1600 in 1994.
- Production area – In 2004, an estimated 12,150 ha were in production compared with 15,300 ha in 1994.
- Production regions – In 2002, the main pipfruit production regions were
 - Hawke's Bay – 6,200 ha
 - Tasman- Nelson – 3,261 ha
 - Otago – 862 ha.
- The apple industry employs about 10,700 people in total.
- Packhouses – The number of packhouses decreased from 150 in 1999 to 102 in 2004, but the size of the packhouses increased.
- Exporters – There were 109 exporters of apples in 2004, with 39 exporting more than 1,000 tonnes.
- Markets – In 2004, 67% of export apples by value went to EU countries (including UK), 20% to North America and 11% to Asia.
- World production of apples, which increased by almost 4% per annum during the 1990s, has slowed and the rate of increase dropped below 1% per year. China produces about 21 million tonnes each year, which is 36% of world production.¹²
- New Zealand is ranked second behind Chile among 28 apple producing countries in 2003, judged on 22 criteria: production efficiency, industry infrastructure and inputs, financial and market factors. France, Netherlands, Austria and Belgium were next in line (World Apple Review 2004).

2.1.1. Industry statistics

Season	1994	1999	2000	2001	2002	2003	2004
Crop volumes ('000 tonnes)							
Apples produced	393	547	620	486	502*	502	568
Fresh apples exported	201	309	330	282	315	312	367
General statistics							
Yield (tonnes/ha)	29.1	37.6	43.9	34.2	35.4	41.8	42.4
Area planted (ha)	15,300	14,541	14,114	14,200*	11,715	12,150	12,150*
Growers (no)	1,600	1,500	1,485	1,200*	1,000*	918	917
Packhouses (no)		150	130	125	125	125	102

* Estimate only. Sources: Statistics New Zealand, Pipfruit New Zealand Inc., Fruit Research Council of NZ.

¹² MAF Pipfruit Monitoring Report May 2005 at <http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/farm-monitoring/2005/pipfruit-2005.pdf>

2.1.2. Industry bodies

- New Zealand Fruit Growers Federation (now part of Horticulture New Zealand) represents 4,000 growers. Its role is to tackle generic issues for the benefit of the industry. The Federation ensures the quality of New Zealand fruit by its attention to food safety issues, and protects the environment by its promotion of sustainable horticulture. It encourages education and training within the industry, and promotes research and development. NZFF promotes access for New Zealand fruit to international markets. All fruit growers pay a levy based on their land area to fund NZFF and its activities.
- Regional fruit grower associations – 38 affiliated fruit grower associations represent the local needs of members. An example of a larger association is the Hawke’s Bay Fruit Growers Association, which has a voluntary membership. It was set up to promote, foster and protect the Hawke’s Bay fruit industry and to establish a closer bond of unity and co-operation among growers, particularly in the Hawke’s Bay district.
- Pipfruit New Zealand Inc – This is the industry body that co-ordinates, directs and manages a centrally co-ordinated research and development programme. It is also charged with developing and maintaining an effective programme of technology transfer to the nation’s pipfruit growers. It relies on regular input from growers and grower representatives, particularly the directors of companies, and the regional and research consultative groups. In turn, the Research Consultative Group (RCG) links to and feeds off information from regional consultation groups.

2.2. Employment

2.2.1. Background

The following table provides an outline of the main management tasks undertaken on a pipfruit orchard, the timing of these and the amount of work involved for each of them.

Activity	Basis	Units	Period (weeks)	Start (first week)	Finish (last week)
Thinning	Area	1.0 staff/ha	6 weeks	Nov 3rd week	Dec 4th week
Pruning – Summer	Area	1.0 staff/ha	6 weeks	Jan 1st week	Feb 2nd week
Pruning – Winter	Area	0.5 staff/ha	5 weeks	May 4th week	June 4th week
Harvest*	Volume	285 TCE/staff/week	20 weeks	Feb 1st week	June 4th week
Packhouse	Area	0.27 staff/week/ha#	20 weeks	Feb 1st week	June 4th week

* Harvest profile is based on two years average weekly yield from a large corporate orchard.

Based on a flat labour demand to fully staff packhouse lines at a rate of 11,800 TCE/worker/season throughput.

2.2.2. Seasonal work

The key tasks for seasonal workers:

- Harvesting – From February till the end of May. The fruit is picked in a series of harvests based on the colour and the maturity of the fruit. Workers are paid on a per-bin contract rate. Apple picking requires a higher level of skill than kiwifruit, with the picker responsible for the grade and quality of fruit harvested. The skill of the picker in meeting grade standards and the subsequent rejection rate are key determinants of the overall relative packing costs.
- Thinning – November and December. A percentage of the crop is removed to achieve optimal size for the remainder. The amount of work varies depending on the season, variety and relative effectiveness of chemical thinning. A moderate level of skill is required to thin fruit to achieve optimal crop loadings.
- Pruning – This may be undertaken by casual workers but many orchards undertake this key task with permanent or permanent/casual staff. It requires a high level of skill and has a significant impact on the level and quality of production.

One pruner is needed for every 10 harvesters and 4 thinners. There is also a high demand for workers in packhouses during and following the harvest.

The peak seasonal labour demand for the pipfruit industry in Hawke's Bay is approximately 16,500 person weeks in June, which corresponds to demand in the order of 4,125 persons. The peak seasonal labour demand for the pipfruit industry in Nelson-Marlborough is approximately 9,500 person weeks in June, which corresponds to demand in the order of 2,375 persons (BERL Forecasting Tool Report, 2005).¹³

2.2.3. Permanent work

Permanent jobs on pipfruit orchards include mowing, orchard maintenance and spraying. Pruning is often undertaken by permanent staff.

2.3. Management structures in the industry

2.3.1. Ownership and management units

The pipfruit industry was characterised by family-based small orchards (<10 ha). Over the last 10 years, the average size of orchards has increased and the total number of growers decreased as growers aim to achieve economies of scale.

The main types of orchard operation:

- Corporate operators – Large, typically vertically integrated production, packing, and marketing operations with a large area of orchards under their control. They make up approximately 10% of operators but control approximately 40% of production. They may use contracted labour but prefer to employ their own staff. Corporate operations normally have

¹³ This report is unpublished. The data is limited as the forecasting tool is still continuing to be developed.

several levels of management as well as support staff including human resource and administration managers.

- Medium-sized operators – Typically family-based operations that have expanded to achieve economies of scales. They make up approximately 20% of industry operators and may have over 50 ha of orchards. They normally have 1–3 full-time staff and are possibly the most dependent on contracted labour.
- Small-sized operators – Make up approximately 70% of operators and have relatively small (10–20 ha) family-owned orchards. Labour is usually provided by the family, with contracted labour brought in for peak work periods. A number of these businesses employ and use only their own staff.

Contracting firms operate on a similar basis to those in the kiwifruit industry.

2.3.2. Orchard management

Roles in the typical orchard management model in the pipfruit industry:

- Orchard manager – Has overall management control for an orchard or a group of orchards up to 110 ha. For SMEs, the owner/operator takes on this role. Managers are responsible for ensuring that all orchard operations are undertaken effectively to ensure optimal results. Employed managers are full-time, very experienced and often have tertiary qualifications.
- Orchard foreperson – In larger operations, a full-time foreperson may be employed to manage day-to-day orchard activities, staff training, quality control and orchard maintenance. On owner/operator orchards, a foreperson/leading hand may be appointed to assist the owner.
- Permanent orchard workers – Depending on the size of the orchard, 1–4 permanent workers may be employed. They undertake the full range of orchard management tasks (e.g. tractor driving, quality control) and often supervise casual workers. Some orchards hire more permanent workers in order to have more control over critical tasks such as pruning. Some are permanent workers, others are permanent casuals. Permanent staff are often recruited from the pool of New Zealand casual seasonal orchard workers.
- Casual seasonal orchard workers – These are employed at peak work periods and may be employed directly by the orchard or through a contractor. Over the last 10 years, there has been a significant change in the origin of these workers. Ten years ago, approximately 90% were New Zealanders – now approximately 30% are New Zealanders or New Zealand residents. Workers typically work in teams of 10–20 (optimal size 12–15) and are supervised either by a permanent worker/foreperson or, if provided by a contractor, by a supervisor.

Contractors are often used to provide seasonal labour and are expected to provide trained staff. They may have a small group of permanent employers who act as supervisors.

2.4. Current employment issues in the industry

The pipfruit industry has similar issues to the kiwifruit industry in relation to labour supply.

2.5. Training

2.5.1. Current training in the industry

Industry level training

The Horticulture ITO provides a level 4 orchard skills programme that is targeted at full-time workers. This recognises prior learning and is based on practical work assessments. Some managers may have undertaken the NZFF/Kellogg's leadership course.

Workplace training

Nearly all employers provide workplace staff training. However, the scope, intensity and quality vary between operators. On-orchard training is normally provided by managers, forepersons and supervisors, especially those involved in quality control. Training is often provided as feedback and coaching based on the quality or speed of the worker's activity. In addition to this informal feedback, most workers pick up better approaches to management from observation and feedback from other workers.

Larger orchards and corporates typically have in-house training programmes and systems in areas such as machinery and ladder use, harvesting and so on. Significant numbers of staff make this cost effective. Larger orchards are also more exposed to OSH risks than SMEs and take their health and safety obligations seriously. They may also have a short orientation course for all those starting work.

Contractors are responsible for providing trained staff, but the level of training provided and the subsequent quality of staff can vary.

Training provided by external providers is rarely available and typically only for permanent staff who are required to obtain work-related qualifications (e.g. first aid, forklift driving, GrowSafe, and health and safety accreditation).

2.5.2. Training issues in the industry identified by interviewees

- Compliance – Most pipfruit production is required to be managed under the EurepGAP protocols. This requires companies to maintain ongoing training and health and safety records.
- Increased quality – Currently neither picking nor thinning are reaching optimal standards. This has an impact on fruit quality/value and overall costs – the higher the rate of rejects, the greater the cost to the grower. (The cost per bin for grading is fixed, regardless of the level of rejects.)
- Labour efficiency – If more skilled contract pruners were available, it could be possible to employ more contract staff and decrease the number of full-time employees. But there are other benefits of having full-time staff – they tend to look after equipment better, know the orchard and feel 'ownership' over its performance.

2.5.3. Training opportunities identified by interviewees in this study

Specific skills:

- Technical skills need to be continually updated as technical requirements change (e.g. pruning).
- Familiarisation with new developments for market access and phytosanitary provisions, and the implications of these on orchard management (e.g. chemical use).
- Specific skill/knowledge gaps within the seasonal workforce:
 - Understanding grade and picking standards.
 - Understanding optimal fruit loading (and therefore a more informed approach to fruit thinning).
- More trained quality control staff.

General skills training:

- Management and supervision/people skills – These are important for effective staff management and dealing with employment issues. Administrative and computer skills are necessary to cope with paperwork.
- Literacy – Many employees come from different ethnic groups where English is not their first language. This means some are unable to read labels or receive information. These skills are important for enhancing orchard monitoring and crop protection.
- Monitoring – Workers are the eyes and ears in the orchard and if they see what is going on and report it down the chain, problems can be managed. Skills in observing, communicating and defining the problem would be valuable.

2.6. Barriers to training

Some of the identified barriers to training:

- A lack of English language skills is a barrier to training overseas workers. Though contractors often act as interpreters, the quality of their translation and the effectiveness of training is sometimes questionable.
- Employers' and employees' negative attitudes to training are often driven by a lack of understanding of the benefits associated with it. They believe that the skills required are relatively simple and do not require much training.
- High turnover of staff is a disincentive to most employers to providing anything but the most basic training. Lack of security for a long-term employment relationship or a return in future years compounds this.
- Senior managers are sometimes reluctant to support investment in training.
- The window of opportunity for training is very small – 70% more staff are employed at very short notice over the most stressful period of orchard activities. There is no time to spare – 70% more staff means 70% more compliance, 70% more training. Most permanent orchard staff work between 50–60 hours per week at this time of the year.
- The cost of training is a significant barrier. Larger operators or other industries may have the ability to pass on costs, but the margins in the pipfruit industry are very tight.

- Competition between growers and contractors for staff and the apparent lack of loyalty from staff is a disincentive to training.

The following were not seen as barriers:

- Backpackers are usually well qualified and do not need any training.
- Most orchards have an indoor room or a shed which could be used for training (this is a requirement under EurepGAP).
- Proximity to training facilities is not usually an issue for higher level courses as there is usually a polytechnic handy to the industry.

Strategies identified by interviewees to overcome barriers:

- Develop systems to review the effectiveness of training.
- Develop an industry standard and a picking video.

3. VITICULTURE INDUSTRY

3.1. Industry background

New Zealand wines have risen rapidly in quality and consumer acceptance during the last decade and are now acclaimed internationally as world-class, intensely flavoured wines. Of the 524 wineries, six are large, 40 medium sized and the rest are small. Half of the small wineries are often family run operations. Although export figures show impressive growth, the New Zealand wine industry is small in world terms, producing just 1 percent of world wine exports.

Some statistics:

- Production area – In 2004, an estimated 18,266 ha were in production compared with 6,110 ha in 1994.
- Sauvignon blanc (32%), chardonnay (19%) and pinot noir (18%) are the dominant varieties planted.
- In 2004, the main grape production regions were:
 - Marlborough – 8,539 ha
 - Hawke’s Bay – 3,873 ha
 - Gisborne – 1,810 ha
 - Otago – 844 ha
 - Wairarapa/Wellington – 737 ha
 - Canterbury – 716 ha.
- Production – The 2004 grape harvest was a record 162,100 tonnes, up from 74,822 tonnes in 2003 when unfavourable weather reduced yields. The 2002 vintage of 118,700 tonnes was the previous highest recorded.
- In 2004, the number of wineries increased to 463, up 42 on 2003.
- Wine valued at \$302 million was exported to 79 countries. Exports have increased from \$42 million in 1994, and were up 7% on 2003.
- UK (\$120 million), USA (\$80 million) and Australia (\$56 million) are the major markets, taking 85% of exports.¹⁴

3.1.1. Industry statistics

June year	Units	2003	2004	2005*	2006*	2007*	2008*
Production and exports							
Producing area	000 ha	15.8	18.2	20.5	21.8	22.1	22.8
Grapes crushed	000 t	76.4	165.5	150.0	180.9	183.4	189.2
Export volume	mil litres	27.0	30.8	48.5	58.4	69.4	74.4
Export prices							
UKP/NZD	UKP	0.329	0.361	0.373	0.366	0.341	0.328
USD/NZD	USD	0.522	0.628	0.696	0.678	0.608	0.574
AUD/NZD	AUD	0.891	0.881	0.922	0.895	0.844	0.819
FOB prices	NZ\$/litre	10.38	9.73	8.65	8.47	9.35	9.81

* Estimated. Sources: New Zealand Winegrowers Vineyard Surveys, Statistics New Zealand¹⁵

¹⁴ MAF Horticulture Monitoring Report 2005 at <http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/farm-monitoring/2005/horticulture/httoc.htm>

¹⁵ New Zealand Winegrowers Vineyard Surveys. See NZ Wine website <http://www.nzwine.com/statistics/> and Statistics New Zealand at

3.1.2. Industry bodies

New Zealand Wine Growers – This organisation was established on 1 March 2002 to promote, represent and research the interests of New Zealand grape growers and wine makers. It arose from what were previously the New Zealand Grape Growing Council (Inc), representing grape growers, and the Wine Institute of New Zealand (Inc), the controlling body of all licensed New Zealand grape winemakers. NZ Wine gets involved in encouraging training, working with the Horticulture ITO on viticulture training, identifying research projects, working with tertiary institutions, having input into course content and keeping in close contact with bodies such as the Marlborough Centre of Excellence. Regional associations such as the Hawke's Bay Grape Growers Association focus on research, information dissemination and education, for grape growers in the region.

3.2. Employment

The table below provides an outline of the main management tasks undertaken by seasonal workers on a vineyard. The timing of these varies regionally.

Months	Task	Work
February – March	Hand harvesting	8 hours per day 7 days per week
Early May – September	Winter pruning	8 hours per day 5 days per week
November – end of February	Canopy maintenance	8 hours per day 5 days per week

3.2.1. Seasonal work

The key tasks undertaken by seasonal casual workers:

- Pruning – This requires the most skill but workers normally get no more than a few days' training.
- Canopy management – Shoot picking, trimming, tying back, shoot thinning, wiring, leaf plucking.
- Harvesting – Most fruit is machine picked, although some higher value varieties (e.g. pinot noir) are hand harvested. Hand picking takes a lot of organisation and large numbers of people. (It takes 60 people to pick 12 tonnes in 7 hours. A machine will pick the same in less than 2 hours.)

The peak seasonal labour demand for wine grapes in the Hawke's Bay is approximately 7,750 person weeks in July and August, which corresponds to demand in the order of 1,875 persons. The peak seasonal labour demand for wine grapes in the Nelson-Marlborough area is approximately 20,000 person weeks in July and August, which corresponds to demand in the order of 5,000 persons (BERL Forecasting Tool Report, 2005).¹⁶

<http://www2.stats.govt.nz/domino/external/omni/omni.nsf/outputs/Production+statistics+-+grape+wine>

¹⁶ This report is unpublished. The data is limited as the forecasting tool is still continuing to be developed.

3.2.2. Permanent work

Work normally undertaken by permanent workers includes dropping vines, repairs, irrigation, netting and yield estimates.

Specialist support is normally brought in to assist with irrigation monitoring, pest and disease control.

3.3. Management structures in the industry

3.3.1. Ownership and management units

The main types of vineyard operations:

- Contract growers (covering just over 50% of grape production) - the owner/ operator is in a contractual supply relationship with a winery. The winery has a high degree of oversight and may have consultants who work with the vineyard. Approximately 20% of these vineyards are managed by a contractor who organises all the work and takes responsibility for production volume and quality. The average size of these operations is approx 7–10 ha.
- Winery controlled – Just under 50% of grape production is owned by wineries through their own vineyards. These are usually operated by a viticulturist or a consultant.

3.3.2. Vineyard management

Vineyard management typically involves the following personnel and roles:

- Vineyard manager – Has overall management control and is accountable for the volume and quality of production. Larger corporate growers normally have a manager looking after approx 50 ha. Contract growers typically provide this level of management oversight with the input of an external consultant. However, the area under their management is typically smaller than for corporate growers. Approximately 40% of smaller to medium-sized wineries with vineyards have vineyard managers, as the owner is mainly employed in wine production.
- Permanent staff – The levels of management depend largely on the size of the vineyard and the operating structure. Typical positions are vineyard forepersons and leading hands. Where outside labour is brought in, permanent vineyard staff will oversee them.
- Seasonal workers – Employed at the peak work periods. With the shortage of New Zealand workers, an increasing number are from overseas. For example, one contractor employed 30% New Zealand citizens or residents, of whom about 5% were former Work and Income clients. The remaining 70% were backpackers or people on temporary work permits.

Corporate, vertically integrated companies usually have other managers and specialist staff who liaise with contract growers and workers. These include human resources managers, regional viticulturists who oversee vineyard managers and grower liaison managers.

Contractors typically have a pool of valued full-time staff who are experienced and can train and supervise the large numbers of seasonal workers employed.

Small vineyards/wineries cannot afford to keep permanent staff, and they use contractors to fulfil their labour needs.

3.4. Current employment issues in the industry

Labour availability is an increasing problem, especially in Marlborough, where the scarcity of skilled and unskilled labour is driving up wages. Hawke's Bay has a larger supply of unskilled labour as it supports a more diverse horticultural sector. Marlborough is more isolated in terms of attracting seasonal labour and relies heavily on contractors.

3.5. Training

3.5.1. Current training in the industry

Industry level training

The Horticulture ITO provides a level 4 vineyard skills course, which is targeted at full-time workers. This 'earn while you learn' programme is practical and field based and recognises prior learning.

Approximately 10–15% of vineyards provide access to or use external training (e.g. GrowSafe type courses). Some Training Opportunities Programmes (TOPS) training is undertaken.

Workplace training

Nearly all employers provide some workplace training for their seasonal workers. Normally when a person starts a job they are taught what to do and paid on an hourly rate to ensure that they get the minimum wage. When they have adequately mastered the skill, they go onto a piece rate. This learning process is supervised, and training is done by a supervisor or an employee who is particularly good at the job.

The direct employer or contractor is responsible for training. If the employer is a contractor, the grower will show the contractor how they want the job done, and then the contractor is responsible for training staff. Part of the mark-up given to contractors is to provide supervision and training. In many cases, this does not happen. A number of employers are moving to employ directly, as contractors cost too much.

If the job is on an hourly rate, then growers expect a 'full' job. When work is paid on a piece rate, speed is less relevant to the grower. In these circumstances, contractors need to ensure their workers are skilled. If the grower is paying a piece rate and the contractor's workers do not earn enough to make the minimum wage, the contractor has to top up their pay out of their own pocket.

The larger operators have a higher rate and intensity of training than owner operators. The viticulturist will set out the work and how they want it to be done.

Permanent staff are more likely to receive training than casual or seasonal staff. Some big companies deliver their own training, which is tied to remuneration. Training is usually provided on the job, and it takes up to two years for a worker

to be fully trained. Permanent vineyard workers are expected to have management skills, hands-on experience, budgeting skills, and skills in working out spray schedules, driving tractors and training other staff.

Workers need reading and writing skills to fill out forms and read maps, labels and signs. Workers are helped in this by other staff, by translations and by pictures on signs.

3.5.2. Training issues in the industry

Drivers for training

The industry is focused on quality at present. New Zealand wines compete in premium markets so maintaining quality, and thus price, is essential for success. A loss of quality will force New Zealand wines to become commodity items competing only on price. This will lead to further reductions in grower returns. Having suitably trained workers is a key driver of quality.

Rapidly increasing production is a major issue for the industry. Many new hectares of grapes are being planted, which places pressure on the ability of New Zealand to market and sell this increased production profitably, especially given the limited availability of labour. This is creating an increasing interest in ways to improve labour productivity and use.

3.5.3. Training opportunities identified by the interviewees

- Primary production skills are easy to cover on short-term courses, but these can conflict with the need to provide training without removing people's opportunity to work.
- General training would be useful, especially with people who do not have English as their first language. Interviewees were concerned about the employment of illegal workers and exploitation by some contractors.
- Some tasks require a reasonable level of literacy, such as reading maps, block numbers, filing out hazard reports and reading signs.

3.6. Barriers to training

Barriers to training identified:

- Overseas workers' lack of English skills makes training difficult.
- Limited access to practical courses in some areas.
- The high turnover of seasonal staff creates a disincentive to investing in training.
- A lack of people means there is not enough time to invest in training, as everyone has to work hard.
- Some employers have a negative attitude to training as they do not see the benefit/value of it.
- The perception that training is not required, as staff have a good level of skills.
- People are not motivated or interested in training. Some people do not have the basic life skills needed to become reliable workers. Employers have problems with people wearing the wrong clothes, not bringing food and water to work, not being aware of health issues and having no life

skills. Work and Income clients sometimes fall into this category, and the industry is unable to carry unmotivated people.

- The industry is very sensitive to cost. In the last year, there were big sales but little profit due to tariffs and compliance costs.
- Limited strategic understanding of labour needs. Growers are planting more crops and expect that contractors will come up with the labour needed to prune and harvest them.

Possible strategies identified by interviewees to overcome barriers:

- Reduce the cost of training and provide compensation for training and downtime.
- Make regional co-ordinators a conduit between training institutions and growers, linking work and training.
- Increase the flexibility in the way qualifications are taught (e.g. night options – earn in the day, qualify at night).
- School-to-work pathways to get youth interested – ensure there are clear stepping stones to income and careers, and that the industry is profitable.
- Earn while you learn – minimise the opportunity cost of training by ensuring all training is on the job. Training needs to be practical, as that is the nature of the industry.

